

# Novell NetWare<sup>®</sup> 6.5

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December 19, 2003

UNIVERSAL PASSWORD DEPLOYMENT  
GUIDE



**Novell**<sup>®</sup>

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NetWare 6.5 Universal Password Deployment Guide

[December 19, 2003](#)

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# About This Guide

The *NetWare® 6.5 Universal Password Deployment Guide* provides information on how to prepare for and enable Universal Password.

- ♦ **Chapter 1, “Deploying Universal Password,” on page 9**

## Documentation Updates

For the most recent version of the *NetWare 6.5 Universal Password Deployment Guide*, see the [Universal Password Deployment Guide Web site \(http://www.novell.com/documentation/lg/nw65/universal\\_password/data/front.html\)](http://www.novell.com/documentation/lg/nw65/universal_password/data/front.html).

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

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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 your software.





# 1

## Deploying Universal Password

This section describes how to deploy Universal Password.

### Background

As Novell® executed on its One Net vision of integrating heterogeneous systems and allowing for native systems to interoperate, the traditional Novell password has proven troublesome for integration with these heterogeneous systems. With NetWare® 6.5, Novell introduces Universal Password, a way to simplify the integration and management of different password and authentication systems into a coherent network.

As part of Novell eDirectory™, Universal Password specifically addresses two problems:

- ♦ Management of multiple types of password authentication methods from disparate systems.
- ♦ Uniform Password policy enforcement across multiple authentication systems (such as Native File Access).

This is accomplished in NetWare 6.5 by moving all services to utilize a common password, or Universal Password, in the system. Backwards compatibility is maintained to support legacy systems in the network.

This deployment guide outlines the steps necessary to prepare for and support Universal Password.

Universal Password is *not* turned on by default in NetWare 6.5. This is primarily to avoid the need to validate an organization's full network for cryptographic key distribution issues at the time you are installing NetWare 6.5. It is also to postpone the migration from existing NDS® passwords that do not correctly support international characters until the administrator is fully aware of the issues.

### Deployment Steps

#### Step 1 - Review the Services You Currently Use and Understand their Current Password Limitations

The following table outlines current services in NetWare products and password limitations they have. These limitations are addressed by Universal Password:

Service	Description	Limitations
Novell Client™ for Windows* NT*/2000/XP versions prior to 4.9 and Novell Client for Windows 95/98 versions prior to 3.4.	The Novell Client software for file and print services. Uses the NDS® password, which is based on the RSA public/private key system.	<ul style="list-style-type: none"> <li>◆ Limited support for passwords with extended characters</li> <li>◆ Passwords inaccessible from non-Novell systems</li> <li>◆ Password is stored in such a way as to prevent extraction, thus disallowing interoperability with simple password</li> </ul>
Windows Native Networking (CIFS) in NetWare 6 and NetWare 5.1 (NFAP add-on pack for NetWare 5.1)	Novell's CIFS server as part of the Native File Access Protocols. It allows Windows* clients to access Novell services using the built-in Windows Client Networking Services.	<ul style="list-style-type: none"> <li>◆ Uses a separately administered password called the simple password</li> <li>◆ Has no expiration or restriction capabilities for the simple password</li> <li>◆ Attempts to synchronize with NDS password, but can get out of sync</li> </ul>
Macintosh* Native Networking (AFP) in NetWare 6 and NetWare 5.1 (NFAP add-on pack for NetWare 5.1)	Novell's AFP server as part of the Native File Access Protocols. It allows Macintosh clients to access Novell services using the built-in Macintosh Client Networking Services.	<ul style="list-style-type: none"> <li>◆ Uses a separately administered password called the simple password</li> <li>◆ Has no expiration or restriction capabilities for the simple password</li> <li>◆ Attempts to synchronize with the NDS password, but can get out of sync</li> </ul>
LDAP	Novell's LDAP services allow a user to bind using username and password across a Secure Sockets Layer (SSL) connection.	<ul style="list-style-type: none"> <li>◆ Limited interoperability with the Novell Client Services (NDS password) for extended character or international versions</li> <li>◆ Attempts to utilize the simple password if bind is not a simple bind (that is, the bind is using an encrypted password).</li> </ul>
LDAP User Import	Uses ICE or other tools to import users from foreign directories into eDirectory. Passwords are also brought in.	<ul style="list-style-type: none"> <li>◆ Passwords are imported into the simple password system.</li> <li>◆ Mutually exclusive of NFAP solutions (Windows and Macintosh Native File Access)</li> <li>◆ Password is in its encrypted native format</li> </ul>
Web-Based Services	Novell Web-based services (Apache Web server) authentications. This includes eGuide, Novell Portal Services, and other Web-based applications.	<ul style="list-style-type: none"> <li>◆ Limited interoperability with the Novell Client services (NDS password) for extended character or international versions</li> <li>◆ Not designed to check simple password</li> </ul>
RADIUS Services	Novell RADIUS Authentication Services	<ul style="list-style-type: none"> <li>◆ Limited interoperability with the Novell Client services (NDS password) for extended character or international versions</li> <li>◆ Not designed to check simple password</li> </ul>
NetWare Remote Manager	Novell's Web-based server health and management interface.	<ul style="list-style-type: none"> <li>◆ Limited interoperability with the Novell Client services (NDS password) for extended character or international versions</li> <li>◆ Not designed to check simple password</li> </ul>

Service	Description	Limitations
NDS for NT	Novell eDirectory™ Services for Microsoft Windows NT 4 Server domains.	<ul style="list-style-type: none"> <li>♦ Uses a separate value for storing the NT password</li> <li>♦ Synchronized only with the NDS password by the Novell Client and the ConsoleOne® and NWAdmin snap-in tools</li> </ul>
DirXML® Password Synchronization for Windows 1.0 and DirXML Starter Pack	Enables synchronization of passwords for NT, Active Directory*, and eDirectory accounts.	<ul style="list-style-type: none"> <li>♦ eDirectory password changes made outside of the Novell Client will not be synchronized. For example, an eDirectory password change made through eGuide would not be synchronized to Active Directory or NT.</li> </ul> <p>See <a href="http://www.novell.com/documentation/lg/dirxmlstarterpack/jetset/data/aktnwz0.html">Sample Password Scenarios (http://www.novell.com/documentation/lg/dirxmlstarterpack/jetset/data/aktnwz0.html)</a> for detailed information about DirXML Password Synchronization for Windows.</p>

## Step 2 - Identify Your Need for Universal Password

If you answer yes to any of the following questions, you should plan to deploy and use Universal Password:

- ♦ Do you currently use Native File Access and desire to enforce policies such as password expiration and/or password length?
- ♦ Do you use or plan to use Native File Access (Windows and/or Macintosh)?
- ♦ Do you plan to have international users access Novell Web-based services and/or use the Novell Client for Windows NT/2000/XP or the Novell Client for Windows 95/98 to access Novell file and print services?
- ♦ Do you plan to use Novell Nsure Identity Manager 2, powered by DirXML, with its enhanced password policy and password synchronization capabilities?

## Step 3 - Verify That Your SDI Domain Key Servers Are Ready for Universal Password

- 1 Verify that the SDI Domain Key servers meet minimum configuration requirements and have consistent keys for distribution and use by other servers within the tree.

- 1a From a NetWare server console, load `sdidiag.nlm`.

From a Windows server, open a command prompt box and run `sdidiag.exe`.

**NOTE:** The `sdidiag.nlm` ships with NetWare 6.5 or later. The `sdidiag.exe` ships with the Windows version of eDirectory 8.7.3 or later. Both files are available as part of a security patch (`sdidiag21.exe`) associated with [Novell TID 2966746 \(http://support.novell.com/severlet/tidfinder/2966746\)](http://support.novell.com/severlet/tidfinder/2966746).

- 1b Log in as an Administrator by entering the tree name, the server, the context, the user name, and the password.

- 1c Enter the command `CHECK -v >> sys:system\sdinotes.txt`

The output to the screen will display the results of the `CHECK` command.

If no problems are found, go to “[Step 4 - Upgrade At Least One Server in the Replica Ring to NetWare 6.5 or later or eDirectory 8.7.1 or later](#)” on page 13.

or

If problems are found, follow the instructions written to the `sys\system\sdi\notes.txt` file to resolve any configuration and key issues.

## 2 Verify that the SDI Domain Key Servers are Running NICI 2.4.2 or later

We recommend that NetWare 6.5 be installed on your SDI Domain Key servers. However, this is not required. At a minimum, you need to install NICI 2.4.2 or later on these servers.

You can verify if NICI 2.4.2 is installed on these servers:

### 2a From the server console, execute the NetWare command **M NICISDI.NLM**.

The version must be 24212.98 or later.

If the version is earlier, you must do ONE of the following:

- ◆ Update the servers' NICI to version 2.4.2, which requires eDirectory 85.1 or later.  
**NOTE:** You can download NICI version 2.4.2 from the [Novell Free Download site \(http://download.novell.com\)](http://download.novell.com). Select Novell International Cryptographic Infrastructure from the Choose a Product drop-down list, then click Submit Search. NICI 2.4.2 requires eDirectory 85.1 or later.  
  
Also, you must reinstall NICI 2.4.2 or later if you install an eDirectory upgrade after installing NICI. This issue will be resolved with the Consolidated Support Pack 10.
- ◆ Update the SDI Domain Key servers to NetWare 6.5.
- ◆ Remove the servers as SDI Domain Key Servers and add a server that meet these requirements.

*To remove a server as an SDI Domain Key Server:*

1. At the server console, load SDIDIAG.
2. Log in as an Administrator that has management rights over the Security container and the W0.KAP.Security objects by entering the tree name, the server, the context, the user name, and the password.
3. Enter the command **RS -s servername**

For example, if server1 exists in container PRV in the organization Novell within the Novell\_Inc tree, you would type `.server1.PRV.Novell.Novell_Inc` for the servername.

*To add a server as an SDI Domain Key Server:*

1. At the server console, load SDIDIAG.
2. Log in as an Administrator by entering the Tree name, the Server, the Context, the User name, and the password.
3. Enter the command **AS -s servername**

For example, if server1 exists in container PRV in the organization Novell within the Novell\_Inc tree, you would type `.server1.PRV.Novell.Novell_Inc` for the servername.

### 2b After completing one of the options above, you might want to rerun the SDIDIAG check command. See [Step 1c on page 11](#).

## Step 4 - Upgrade At Least One Server in the Replica Ring to NetWare 6.5 or later or eDirectory 8.7.1 or later

- 1 Identify the container that holds the User objects of those users who will be using Universal Password.
- 2 Find the partition that holds that container and the User objects.
- 3 Identify at least one server that holds a writable replica of the partition.
- 4 Upgrade that server to NetWare 6.5 or later or eDirectory 8.7.1 or later.

You do not need to upgrade all servers in your tree in order to enable Universal Password, but we recommend that you eventually upgrade them all. Plan to upgrade the servers that hold writable replicas first, followed by those with read-only replicas or no replicas. This allows Universal Password support for services on all those servers.

**NOTE:** If you have LDAP and CIFS (Windows Native Networking) and/or AFP (Macintosh Native Networking) servers that you want to use Universal Password, you must upgrade those servers to NetWare 6.5.

## Step 5 - Check the Container for SDI Key Consistency

Check to ensure that all instances of cryptographic keys are consistent throughout the tree. Sdidiag ensures that each server has the cryptographic keys necessary to securely communicate with the other servers in the tree.

- 1 From a NetWare server console, load `sdidiag.nlm`.  
From a Windows server, open a command prompt box and run `sdidiag.exe`.
  - 2 Enter the command **CHECK -v >> sys:system\sdi notes.txt -n container DN**
- For example, if user Bob exists in container PRV in the organization Novell within the Novell\_Inc tree, you would type `.PRV.Novell.Novell_Inc` for the container DN.
- This reports if there are any key consistency problems among the various servers and the Key Domain servers.
- The output to the screen displays the results of the **CHECK** command.
- 3 If no problems are reported, you are ready to enable Universal Password. Go to **“Step 6 - Turn on Universal Password” on page 13**.

or

If problems are reported, follow the instructions in the `sdi notes.txt` file.

In most cases, you will be prompted to run the command **RESYNC -T -n container DN**.

This command can be repeated any time NMAS reports -1418 or -1460 errors occur during authentication with Universal Password.

For more information on SDIDIAG options and operations, refer to [Novell TID 10081773](http://support.novell.com/servlet/tidfinder/10081773) (<http://support.novell.com/servlet/tidfinder/10081773>).

## Step 6 - Turn on Universal Password

- 1 Start Novell iManager.
- 2 Under Roles and Tasks > NMAS Management, click Universal Password Configuration.
- 3 Type in or browse to select the container, then click View.

The current setting should read Disabled.

**4** Click the radio button next to Enable.

**5** Click Apply.

**IMPORTANT:** When you enable Universal Password on a container, it is enabled on all existing subcontainers as well. If you enable Universal Password at the Tree level, all subcontainers you create after enabling Universal Password will be enabled for Universal Password. However, if you enable Universal Password on a container below the Tree level, such as, on an Organization (O) or an Organizational Unit (OU), and then create a new subcontainer, you must enable Universal Password on that subcontainer. It is not automatically enabled.

**NOTE:** If you are using Novell Nsure Identity Manager 2, you use Password Management plugins to turn on Universal Password and configure Password Policies. These plugins replace the Universal Password Configuration task referred to in [Step 2](#).

## Step 7 - Deploy Novell Client Software

You can deploy the Novell Client for Windows NT/2000/XP version 4.9 or Novell Client for Windows 95/98 version 3.4 prior to enabling Universal Password, but the client does not take advantage of these services until you enable Universal Password (see “[Step 6 - Turn on Universal Password](#)” on page 13). The new Novell Client software automatically starts using the Universal Password when it is turned on. Users will see no differences in the client.

**NOTE:** You must manually install Client NCI 2.6 for Windows or later and NMAST<sup>TM</sup> Client 2.2 in order for Novell Client for Windows 95/98 to start using the Universal Password services.

## Backwards Compatibility

Universal Password is designed to supply backwards compatibility to existing services. Passwords changed with this service will automatically be synchronized to the simple and NDS passwords on the User object. This way, NetWare 6 and 5.1 servers running Native File Access protocols for Windows and Apple\* native workstations will continue to have their passwords function properly. Novell Client software prior to the Novell Client for Windows NT/2000/XP version 4.9 or the Novell Client for Windows 95/98 version 3.4 will also have their passwords continue to function properly.

The exception to this is the use of international characters in passwords. Because the character translations are different for older clients, the actual values will no longer match. Customers who have deployed Web-based or LDAP services and who use international passwords have already seen these problems and have been required to change passwords so they do not include international characters. We recommend that all servers be upgraded to NetWare 6.5 and all Novell Client software be upgraded in order for full, system-wide international passwords to function properly.

Novell's NetWare Storage Management Services<sup>TM</sup> (SMS) infrastructure is used for Novell and third-party backup and restore applications. Additionally, the Novell Server Consolidation utility, Distributed File Services Volume Move, and Server Migration utilities use SMS as their data management infrastructure. The system passwords used by these Novell and third-party products cannot contain extended characters if they are to function in a mixed environment of NetWare 4, 5, 6, and 6.5 servers. However, when all servers are upgraded to NetWare 6.5, extended character passwords can be used.

**NOTE:** Please refer to [Novell TID 10083884](http://support.novell.com/servlet/tidfinder/10083884) (<http://support.novell.com/servlet/tidfinder/10083884>). It shows which applications/services are Universal Password-capable, as well as which applications/services are extended character-capable. Many applications/services can use extended characters without Universal Password.

The following table shows the expected behavior of Universal Password when it interacts with older services.

<b>Password Change Method</b>	<b>Passwords Synchronized</b>
Novell Client software prior to Novell Client for Windows NT/ 2000/XP version 4.9 or Novell Client for Windows 95/98 version 3.4 to any server version	NDS password only.
Native File Access (Windows or Macintosh) on NetWare 5.1 or NetWare 6	Simple password and NDS password. The password change is successful only if the old NDS and simple passwords were in sync.
Native File Access (Windows or Mac) on NetWare 6.5	Universal, simple, and NDS passwords are changed. All are synchronized, even if old ones were out of sync.
LDAP (standard) to NetWare 5.1 or 6	NDS password only.
LDAP (extended) to NetWare 5.1 or 6	Simple password or NDS password is changed (extensions specify which one).
LDAP (standard) to NetWare 6.5 (or NetWare 5.1, 6 running eDirectory 87.1)	Universal, simple, and NDS passwords are changed. All are synchronized even if old ones were out of sync.
LDAP (extended) to NetWare 6.5	Universal, simple, or NDS password changed (extensions specify which one).
NetWare Administrator (run on a workstation with a client prior to version 4.9) to any user object in any container	NDS password only.
NetWare Administrator (run on a workstation with the version 4.9 client) to a User object in a container that has a R/W replica on a NetWare 6.5 server (or NetWare 5.1 or 6 running eDirectory 87.1)	(Untested and unsupported) Universal, simple, and NDS passwords are changed. All are synchronized even if old ones were out of sync.
ConsoleOne (run on a workstation with a client prior to version 4.9) to any User object in any container	There is a separate change password page for NDS password and simple password.
ConsoleOne (run on a workstation with the version 4.9 client) to a User object in a container that has a R/W replica on a NetWare 6.5 server (or NetWare 5.1 or 6 running eDirectory 87.1)	Universal, simple and NDS passwords are changed. All are synchronized even if old ones were out of sync.
ConsoleOne (run on a workstation with the version 4.9 client) to a User object in a container that has no R/W replicas on any NetWare 6.5 servers, or NetWare 5.1 or 6 with eDirectory 87.1 (only R/W replicas on NetWare 5.1 or NetWare 6 servers with eDirectory versions older than 87.1)	There is a separate change password page for NDS password and simple password.
Novell iManager 1.5 (NetWare 5.1 or NetWare 6 only) to any user object in any container	NDS password only.
Novell iManager 2.0 (NetWare 6.5 only) to a User object in a container that has a R/W replica on a NetWare 6.5 server (or NetWare 5.1 or 6 running eDirectory 87.1)	Universal, simple and NDS passwords are changed. All are synchronized even if old ones were out of sync.
Novell iManager 2.0 (NetWare 6.5 only) to a User object in a container that does not have any R/W replica on any NetWare 6.5 server, or NetWare 5.1 or 6 servers running eDirectory version 87.1	NDS password only.

Password Change Method	Passwords Synchronized
NetWare Remote Manager running on a NetWare 6.5 server to a User object in a container that has a R/W replica on a NetWare 6.5 server, or NetWare 5.1 or 6 servers running eDirectory version 87.1	Universal, simple, and NDS passwords are changed. All are synchronized, even if old ones were out of sync.
NetWare Remote Manager running on a NetWare 6.5 server to a User object in a container that does not have a R/W replica on a NetWare 6.5 server, or NetWare 5.1 or 6 servers running eDirectory version 87.1	NDS password only.
NetWare Remote Manager NDS change password running on a NetWare 5.1 or NetWare 6 server	NDS password only.
NetWare Remote Manager simple password management (NetWare 5.1 and 6 only with Native File Access installed)	Simple password only.

## Password Management

You can use the following methods to administer Universal Password:

- ◆ **iManager:** Administering passwords by using Novell iManager automatically sets the Universal Password to be synchronized to simple and NDS password values for backwards compatibility. The NMAS task in iManager does allow for granular management of individual passwords and authentication methods that are installed and configured in the system.
- ◆ **ConsoleOne:** The NDS password tab in ConsoleOne run on a NetWare 6.5 server, or on a Windows workstation with the Novell Client for Windows NT/2000/XP version 4.9 or the Novell Client for Windows 95/98 version 3.4 installed automatically sets the Universal Password and synchronizes for backwards compatibility.
- ◆ **NWAdmin32:** The same results should be seen when using NWAdmin32 as with ConsoleOne, although Novell does not plan to test this case.
- ◆ **LDAP:** Changing passwords via LDAP on a NetWare 6.5 server also sets the Universal Password and synchronizes the others for backwards compatibility.
- ◆ **Third-party Applications:** Third-party applications that are written to Novell's Cross Platform Libraries and that perform password management will also set the Universal Password and synchronize the others if the newer libraries are installed on the Novell Client for Windows NT/2000/XP version 4.9 or the Novell Client for Windows 95/98 version 3.4 workstation or NetWare 6.5 server.

**NOTE:** If you are using Novell Nsure Identity Manager 2, you can use Password Policies to specify how Universal Password is synchronized with NDS, Simple, and Distribution Passwords. In addition, an iManager task is provided that lets an Administrator set a user's Universal Password.

## Issues to Watch For

- ◆ In a mixed environment of Novell Client software prior to the Novell Client for Windows NT/2000/XP version 4.9 or the Novell Client for Windows 95/98 version 3.4 (including Native File Access servers on NetWare 5.1 and NetWare 6), if passwords are changed from those older systems, only the older values will be changed, driving the NDS and/or the simple password out of synchronization with the Universal password. This might be an issue only for users who log in to their account from both older Novell Client workstations (prior to Client for Windows NT/2000/XP version 4.9 or Novell Client for Windows 95/98 v3.4) and from



newer Novell Client workstations (Novell Client for Windows NT/2000/XP version 4.9 or Novell Client for Windows 95/98 version 3.4). If so, the problem will only occur if users are either using international characters in passwords or if they change the password from the older workstation.

- ◆ When you disable a user's NDS password, the NDS password is set to an arbitrary value that is unknown to the user. The following describes how some login methods handle this change.
  - ◆ The Simple Password method is not disabled if the NDS password is disabled. The Simple Password method uses the Universal Password if it is enabled and available. Otherwise, it uses the simple password. If Universal Password is enabled but not set, then the Simple Password method sets the Universal Password with the simple password.
  - ◆ The Enhanced Password method is not disabled when the NDS password is disabled. The enhanced password does not use the Universal Password for login. However, it can be configured to set the Universal Password, if the Universal Password is enabled, when the user changes the enhanced password.
  - ◆ The NDS Password method is not disabled when the NDS password is disabled. The NDS Password method will use the Universal Password if it is enabled and available. Otherwise, it will use the NDS password. If the Universal Password is enabled but not set, then the NDS Password method will set the Universal Password with the NDS password.

