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What's New in NetWare 3.2

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Over the past few years, Novell has placed a lot of emphasis on the advanced capabilities of its intraNetWare and NetWare 5 (Moab) operating systems. However, the company has not forgotten the large installed base of NetWare 3 users. A significant portion of our customer base is made up of small businesses, many of whom are still using NetWare 3. In addition, many of Novell's Fortune 500 customers use NetWare 3 alongside intraNetWare on their enterprise networks.

To address the needs of NetWare 3 users who have chosen not to upgrade to intraNetWare at this time, Novell has developed NetWare 3.2 as a comprehensive upgrade and enhancement package for current NetWare 3.x networks. The NetWare 3.2 product ships in three basic forms:

- NetWare 3.2 Enhancement Pack, an upgrade for NetWare 3.12 users
- NetWare 3.2 Upgrade, an upgrade for NetWare 3.11 users
- NetWare 3.2, a full product for new server installations

NetWare 3.2 offers improved system reliability, better performance, and easier administration of existing NetWare 3 systems. Enhancements also include Year 2000 updates that have been fully tested to ensure a smooth, uninterrupted operation through the turn of the century and beyond. To help customers evaluate the benefits of intraNetWare, the package includes a two-user evaluation copy of intraNetWare, the most advanced operating system for Internet connectivity and intranet applications.

This AppNote provides an overview of what's new in NetWare 3.2. It discusses several issues that customers need to be aware of in planning for an upgrade to NetWare 3.2, and provides availability and price information.

Additional information on NetWare 3.2 is available on the Internet at *http://www.novell.com/intranetware/netware3/*.

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Introducing NetWare 3.2

Novell's NetWare 3.11 and 3.12 operating systems have dependably served many customers for years. Even after more than seven years on the market, NetWare 3 still commands the loyalty of a huge installed

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base of some 1.5 million servers worldwide. While upgrades to intraNetWare have been steadily increasing over the past several years, NetWare 3 remains a popular choice for companies needing a networking solution for independent workgroups and departments throughout their organization. Additionally, Novell market research indicates that customers who do upgrade to NetWare 4 often keep their prior NetWare 3.x servers up and running for an indefinite period of time. Whatever reason customers have for staying with NetWare 3, many have expressed a desire to continue to receive new enhancements for their NetWare 3.x servers.

In response to these customer requests, Novell has introduced NetWare 3.2, a comprehensive upgrade designed to help NetWare 3.x users leverage their existing network investments while gaining the benefits of the most recent operating system updates and product enhancements. The primary target market for NetWare 3.2 is NetWare 3.11 and 3.12 customers with small, non-complex networks. In general, these customers have fewer than 100 employees all working at a single location. This customer segment typically has only 1 or 2 servers in a homogeneous computing environment.

What's Included in NetWare 3.2?

NetWare 3.2 consists of the following components:

- *NetWare 3.12.* Before you can install the NetWare 3.2 Enhancement Pack, you will need to upgrade to NetWare 3.12. For this purpose, NetWare 3.2 includes the software and documentation necessary for a NetWare 3.12 installation or upgrade. The software is provided on CD-ROM or diskettes.
- *NetWare 3.2 Enhancement Pack*. The Enhancement Pack is available either in combination with the NetWare 3.12 components listed above (for NetWare 3.11 users as well as for new installations), or separately (for customers who already have NetWare 3.12 installed on their servers). The Enhancement Pack contains:
- NetWare 3.2 product CD, containing all updates and patches, new administration utilities, updated drivers, and installation files for NetWare 3.2. It also contains Netscape Navigator versions 3.01 (international) and 4.04 (English only).
- *NetWare 3.2 Overview and Installation* manual
- *Installing and Using Novell Online Documentation* manual
- intraNetWare Clients product CDs, containing updated client software for DOS, Windows 3.1x, Windows 95, Windows NT, OS/2, and Macintosh workstations
- intraNetWare evaluation CD, a fully functional, two-user version of intraNetWare to offer customers a hands-on look at Novell's advanced networking services, including Novell Directory Services (NDS), the Novell Application Launcher (NAL), and so on.

See the section on "NetWare 3.2 Availability and Pricing" for details on how to order NetWare 3.2 or the Enhancement Pack.

NetWare 3.2 Features and Benefits

This section discusses the features and benefits of migrating your existing NetWare 3 networks to NetWare 3.2.

Convenient Way to Update Server Software. One of the more challenging aspects of network administration is keeping your server software current. NetWare 3.2 contains all of the software updates that have been created for NetWare 3.12, along with the latest LAN, WAN, and disk drivers all in one convenient package. This is much less time-consuming than trying to download and apply all of the critical updates separately from Novell's product support site on the World Wide Web.

New Administrative Utilities. In addition to updates and patches, NetWare 3.2 also provides new administrator tools, including a Windows-based SYSCON utility that provides a graphical interface for

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performing various network administration tasks from a Windows 3.1x, Windows 95, or Windows NT workstation.

In addition to this new version of SYSCON, NetWare 3.2 includes the following helpful administrator tools:

CRON.NLM	Lets you schedule server console commands, including the loading and unloading of server NLM programs such as SBACKUP. The schedule is stored in a file named CRONTAB in the SYS:ETC directory.
CONFIG.NLM	Gathers server configuration information and stores it in a CONFIG.TXT file in the SYS:SYSTEM directory.
Config Reader for Windows 95/NT	Helps you analyze the contents of the CONFIG.TXT file and provides helpful suggestions for optimizing and managing the server.
TBACKUP.EXE	Backs up trustee assignments and Inherited Rights Masks for files and directories (useful for server migration). Creates a TRESTORE.BAT file for the server which can be run later to restore trustee assignments and Inherited Rights Masks.
TCOPY.EXE	Copies user file system trustee assignments from one directory structure to another (also useful for server migration).

The files and modules necessary to run these tools are automatically copied to the server when you install the NetWare 3.2 Enhancement Pack. Documen tation for these utilities is located on the NetWare 3.2 CD, except for SYSCON for Windows and the Config Reader for Windows 95/NT which are documented in their online help.

Optimized Client Software. NetWare 3.2 includes the latest 32-bit intraNetWare clients for Windows 3.1x, Windows 95, and Windows NT. Optimized for maximum speed and throughput of network data, this client software can significantly improve overall performance.

NetWare Link Services Protocol. NetWare 3.2 also includes a new NetWare Link Services Protocol (NLSP) suite, which provides reduced overhead and more efficient use of wide-area network bandwidth.

Year 2000 Updates. The coming of the year 2000 will present serious challenges for those whose systems are unprepared to deal with it. Novell has expended considerable effort in testing its core server files, utilities, and client software to ensure that they will correctly perform date transitions in the year 2000 and beyond. During this testing, it was discovered that NetWare 3.12 requires updates to several server and client software files in order to function properly in the year 2000 and beyond. NetWare 3.2 contains all of these Year 2000 updates for both the server and the client software.

Network Reliability and Compatibility. Because NetWare 3.2 uses the same core operating system as NetWare 3.12, it ensures data integrity with the built-in fault tolerance features that NetWare is well known for. The software updates and patches in NetWare 3.2 ensure system reliability as applications are added or upgraded.

Current applications that run on NetWare 3.12 will run without modification on NetWare 3.2. There are no changes in hardware or RAM requirements from NetWare 3.12. In addition, the NetWare 3.2 Enhancement Pack has been tested and found compatible with Novell's core products, including intraNetWare (NetWare 4), BorderManager, GroupWise, and ManageWise.

Latest intraNetWare Clients. Included with NetWare 3.2 are the latest versions of the intraNetWare Client software, including:

- intraNetWare Client v2.2 for DOS/Windows 3.x
- intraNetWare Client v2.2 for Windows 95
- intraNetWare Client v4.11 for Windows NT

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- intraNetWare Client v2.12 for OS/2
- intraNetWare Client v5.11 for Mac OS

This client software is provided in English, French, Italian, German, Spanish, and Portuguese.

Although the clients that shipped with earlier versions of NetWare 3.x are completely compatible with NetWare 3.2, Novell recommends using the new clients that are provided, especially for Year 2000 readiness. The Windows client software can be easily upgraded using NetWare's Automatic Client Upgrade (ACU) process. This allows you to set up your network so that users will be prompted to initiate the client software upgrade when they log in, eliminating the need for system administrator intervention.

Enhanced Internet Access. The Internet is fast becoming an essential business tool. To help users take advantage of the wealth of resources available on the Internet, NetWare 3.2 comes with today's most popular and full-featured browser)Netscape Navigator. You can choose from versions 3.01 and 4.04, available for the following workstation platforms:

- 32-bit Windows (Windows 95/NT)
- 16-bit Windows (Windows 3.x)
- Mac OS on Power PC
- Mac OS on Motorola 68000

The number of Navigator licenses you receive is limited to the number of users allowed by your NetWare license. In other words, if you have a 100-user NetWare server, you have a 100-user license for Netscape Navigator.

For additional information, language enhancements, or product updates regarding Netscape Navigator, visit the Netscape Web page at *http://home.netscape.com*.

IntraNetWare Evaluation CD. The decision of whether to upgrade networking system software is not always a simple one, as it involves many factors. In most cases, Novell recommends that customers upgrade to intraNetWare to take advantage of great new features such as NDS and full intranet capabilities. By including a two-user version of intraNetWare with the NetWare 3.2 Enhancement Pack, Novell is allowing customers to fully evaluate the benefits and impact on their business, then make the upgrade decision at their own pace. Users with an earlier version of NetWare 3.x can thus extend and enhance their investments in their current network as they evaluate and prepare to upgrade to intraNetWare in the future. Novell provides numerous migration tools to make it easy to upgrade from NetWare 3.2 to intraNetWare or beyond when the customer so chooses.

Issues to Be Aware of with the NetWare 3.2 Enhancement Pack

To help you assess what is involved in upgrading to NetWare 3.2, this section presents some of the issues you should be aware of. These issues, as well as the actual installation steps, are covered in detail in the *NetWare 3.2 Overview and Installation* guide, in the NetWare 3.2 readme file, and in the FAQ available on Novell's NetWare 3 Web site at *http://www.novell.com/ intranetware/netware3*.

NetWare 3.2 Can Only Be Installed on NetWare 3.12 Servers

If your server is not yet running NetWare 3.12, you will need to upgrade it to NetWare 3.12 before you proceed with installing the NetWare 3.2 Enhancement Pack. New servers must have NetWare 3.12 installed first, then the Enhancement Pack.

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NetWare 3.11 users can move to NetWare 3.2 via the NetWare 3.2 Upgrade. This includes both the NetWare 3.11-to-3.12 upgrade and the 3.12-to-3.2 upgrade in one package.

Once NetWare 3.12 is running on the server, the NetWare 3.2 Enhancement Pack is installed using the same familiar install process (the Product Options menu selection in the INSTALL.NLM utility). This process is very fast; it takes only a few minutes on a Pentium processor-based server. After the NetWare 3.2 installation is complete, you will need to close all applications and connections, bring down the server, and reboot it to update all files.

Server Hardware Requirements

The server must boot from a hard disk, not from diskette. Also, the command REMOVE DOS must not have been used prior to installing this product. If DOS has been removed, you must reboot the server to restore it, first ensuring that it is not automatically removed by a command in the AUTOEXEC.NCF file.

Installation of NetWare 3.2 requires 15 MB of free space on the server's SYS volume and 2 MB of free space on the server's DOS partition. If you are not sure how much space is available on the server's DOS partition, you can check the amount of free space using DOS after bringing down the server.

Backup Precautions

As a precaution, you should back up all data on the server volumes and DOS partitions prior to performing the NetWare 3.2 upgrade. Several files in the SYSTEM, PUBLIC, and LOGIN directories are overwritten during NetWare 3.2 installation. As an extra precaution, a BACKUP.BAT file is provided on the NetWare 3.2 CD to back up these files. No files in the DOS partition are backed up, except for SERVER.EXE.

Installation Methods

You can install the NetWare 3.2 Enhancement Pack either directly from the NetWare 3.2 product CD (the server must have a CD-ROM drive), or by copying the installation files to a workstation and running the installation from there. The workstation must have a CD-ROM drive. You must be able to log in to the target server as Supervisor and map a drive to a volume with at least 15 MB of free space. Installation diskettes are also available for those who want them.

Year 2000 Issues

Year 2000 readiness is an important issue addressed by NetWare 3.2. As mentioned earlier, NetWare 3.12 requires updates to several server and client software files in order to function properly in the year 2000 and beyond. NetWare 3.2 contains all of the necessary Year 2000 update files for the server, and they are automatically installed as part of the NetWare 3.2 installation.

The included client software for DOS, Windows 3.x, Windows 95, Windows NT, OS/2, and Macintosh workstations has been tested by Novell as Year 2000 ready. Novell recommends that you install the Year 2000-ready client software on every workstation. This installation is handled separately from the server installation. (See "Upgrading Client Software" below for more information.)

For updated information about the year 2000 readiness of NetWare software, visit *http://www.novell.com/p2000/*.

Note: These Year 2000 updates are also available separately from Novell's main web site at *http://www.novell.com*.

New LAN Drivers Included with NetWare 3.2

If you are upgrading from NetWare 3.11, Novell recommends that you update your LAN drivers to those provided with NetWare 3.2. These drivers were written to meet ODI version 3.31 specifications and have been certified by Novell's DeveloperNet Labs. Older LAN drivers were written to the previous ODI specification and are incompatible with NetWare 3.12 and 3.2. Drivers supplied with NetWare 3.12 will

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continue to work with NetWare 3.2 and should be updated only if you need to upgrade their ODI compliance to 3.31 specifications.

Note: If the driver you need is not supplied on the NetWare 3.2 CD, contact the driver's manufacturer for updated drivers.

Installing Online Documentation

NetWare 3.2 online documentation has two components: the online documentation collections (consisting of NetWare 3.12 manuals and intraNetWare Client manuals) and the DynaText documentation viewer. The documentation collections are viewed through the DynaText viewer. The viewer on the CD is the same version that is shipped with NetWare 3.12. If you're upgrading from 3.12 to 3.2 and already have the viewer, you do not need to reinstall the viewer. If you do install the online documentation, you will need 9 MB of space for the viewer, 46 MB for the 3.12 documentation collection, and 14 MB for the clients collection.

Upgrading Client Software

The NetWare Clients that originally shipped with NetWare 3.12 are still available and work in a NetWare 3.2 environment. However, Novell recommends that you use the latest clients that ship with NetWare 3.2. The installation files are located on the intraNetWare Clients CD 1. CD 2 contains diskette images for creating diskettes to install the client on workstations without CD-ROM drives. If you need to install the client software from diskettes, a MAKEDISK.BAT file is included on the CD Client Diskette Images CD 2. Simply run this batch file and follow the on-screen prompts to make the diskettes.

Upgrading Multiple Clients. If you have many workstations to upgrade, use the Automatic Client Upgrade (ACU) process to set up your network so that users will be prompted to upgrade their own workstation clients when they log in. Information on how to do this can be obtained from the following sources:

Windows 3.1x	See "Installing a Windows 3.1x Client" in *IntranetWare Client for DOS and Windows 3.1x Supervisor Guide.* ACU information is a subset of "Installing IntranetWare Client over the Network."
Windows 95	See "Installing the Client" in *IntranetWare Client for Windows 95 Supervisor Guide.*
Windows NT	See "Automatic Client Upgrade" in the online help for IntranetWare Client for Windows NT.
DOS	DOS workstations can be upgraded using the ACU process; however, doing so is not recommended because all features are not available with the DOS ACU. See "Installing a DOS Client" in *IntranetWare Client for DOS and Windows 3.1x Supervisor Guide.*

NetWare 3.2 Availability and Pricing

NetWare 3.2 and the Enhancement Pack are available now. While a NetWare 3.2 server will coexist with any other server running another version of NetWare or intraNetWare, Novell recommends that you upgrade all of your NetWare 3.x servers to NetWare 3.2 in order to reap the full benefit of NetWare 3.2.

The NetWare 3.2 Enhancement Pack is offered as a per-server license, so you must purchase a separate Enhancement Pack for each NetWare 3.x server. There is no pricing stratification based on user count for the Enhancement Pack. The NetWare 3.2 and NetWare 3.11 to 3.2 Upgrade products are licensed by user number stratification at the same prices and stratifications as previous NetWare 3.12 products.

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The following chart will help you determine which path to take in obtaining this upgrade.

Current NetWare 3.12 customers who purchased NetWare 3.12 prior to November 5, 1997	Purchase the NetWare 3.2 Enhancement Pack for $349 per server (MSRP)
Current NetWare 3.12 customers who purchased NetWare 3.12 or 3.12 Upgrade between November 5, 1997 and April 3, 1998	Apply for a NetWare 3.2 Enhancement Pack for the price of handling, postage, and taxes. Refer to *http://www.novell.com/intranetware/netware3* for upgrade forms. Forms must be sent in before May 1, 1998.
Current NetWare 3.11 customers	Purchase the NetWare 3.11 to 3.2 Upgrade, which includes NetWare 3.12, the NetWare 3.2 Enhancement Pack, and the 2-user evaluation copy of intraNetWare
Customers with existing NetWare 3.x networks who need to add new 3.2 servers	Purchase the full NetWare 3.2 product (which includes NetWare 3.12 and the NetWare 3.2 Enhancement Pack) for each new server
Customers with upgrade protection on VLA, CLA, or MLA contracts	Will receive the NetWare 3.2 upgrade free of charge. Contact your account representative for details.

For more information or product purchases, customers should contact their local authorized Novell reseller, or contact Novell through one of the following means:

Phone (U.S. and Canada)	888-321-4272
Phone (outside the U.S.)	801-228-4272
Fax (U.S. and Canada)	800-209-3500
Fax (outside the U.S.)	801-861-3030
World Wide Web	*http://www.novell.com*

Summary

NetWare 3.2 is Novell's primary effort to provide up-to-date enhancements and improved performance for its loyal NetWare 3.x users. The NetWare 3.2 Enhancement Pack offers improved system reliability, enhanced performance, and easier administration for existing NetWare 3.x systems, along with Year 2000 updates that have been fully tested to provide a smooth transition to the Year 2000 and beyond. The upgrade is easy and convenient to implement, allowing customers to extend the investments they've made in NetWare 3.x while evaluating their long-term needs.

Novell will continue to support NetWare 3.x as long as customers require it. Although there are currently no plans to enhance NetWare 3.x beyond version 3.2, Novell is always looking for better ways to serve its loyal customers and will continue to provide the networking solutions that the market place requires.

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