
Workstation Upgrade: WinNT to Win2000

In the majority of cases, upgrading from Windows NT to Windows 2000 Professional will be easier and less time-consuming than installing from scratch.

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For the most part, the complexity of moving to Windows 2000 is not in the upgrade itself, but in the planning stage beforehand. This particular upgrade is one-way only; Windows 2000 does not include an uninstall program. Reverting to the previous version of Windows is not possible without completely reinstalling the old operating system and its applications.

The performance of Windows 2000 Professional is as good as if not better than its predecessor, Windows NT Workstation 4.0. Usability is also improved, thanks to the Windows 98-style interface and support for plug and play. Minimum requirements necessary to run Windows 2000 Professional include a 133 MHz Pentium-compatible CPU, 64 MB of RAM (32 MB min - 4 GB max), plus a 2 GB hard disk with a minimum 650 MB of available space. For CPU-intensive applications, such as graphics rendering and certain database operations, Windows 2000 Professional can support up to two CPUs.

Third Way

There are three ways to install Windows 2000 Professional:

- As a fresh install: Windows 2000 Professional is installed from scratch as the only operating system on a freshly formatted or empty hard drive.
- As a dual-boot: Windows 2000 Professional is installed alongside another operating system - typically Windows 9x or NT Workstation - in a dual-boot environment.
- As an upgrade: Windows 9x, or Windows NT Workstation 3.51 or 4.0, is upgraded to Windows 2000 Professional.

This third way, the upgrade option, has many benefits over a clean install. Most if not all applications are left intact, while existing settings are retained along with groups, users, rights and permissions. When upgrading from NT Workstation, there is no need to create a new computer account on the server.

A typical upgrade installs the Client For Microsoft Network client, the File And Print Sharing For Microsoft Network service, and the TCP/IP protocol. Though it is, of course, possible to create a custom network connection so that clients, services and protocols can be added separately. Unfortunately, it is not possible to choose the upgrade option if more than one operating system is installed on the computer. Upgrading one operating system can cause problems with files shared by other operating systems, and is therefore not permitted.

Preparation

In most cases, workstations are upgraded to Windows 2000 last, as part of the local domain's final migration strategy. The vast majority of upgrades, of course, take place without any major glitches, but every now and then fate has a habit of surprising even the most conscientious staff. Hence, it is essential to back up the workstation prior to the upgrade. It is also a good idea to utilise the Windows NT Diagnostics tool to print out the computer's configuration details. Information concerning Direct Memory Access (DMA), Interrupt ReQuest (IRQ) lines and the various port settings are handy things to have around should things suddenly go belly-up.

Other bits and pieces must be recorded manually. By far the most important of these is the network configuration, including the computer account, network

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The upgrade itself occurs in several stages. Even so, the exact order of the upgrade may vary slightly due to circumstances and the unique configuration of the existing system. For the most part, however, when upgrading from Windows NT Workstation 4.0 you should accept the default responses to the setup program's prompts. After selecting the Upgrade To Windows 2000 option, you will be prompted to accept the Windows 2000 licence agreement and to enter the 25-character product key. Setup will not continue until this stage is complete. Users will then be invited to visit the Windows Compatibility Web site, after which the Provide Upgrade Packs screen appears. Any upgrade packs required to make an application work properly with Windows 2000 Professional should be added at this time.

Although some upgrade packs are provided on the installation CD, usually these will need to be sourced directly from the software vendor. If it is not known whether any upgrade packs are needed at this time, click Next, and setup will create a report later.

If installing the new operating system to a FAT partition, users will be prompted to convert it to NTFS 5.0. Be aware that converting to NTFS will not affect existing programs and files, and that conversion occurs only on the drive to which Windows 2000 Professional is being installed. Thus, in most cases it will be better to select the Yes, Upgrade My Drive option button since NTFS is superior to FAT. An existing NTFS 4.0 partition is usually converted to NTFS 5.0 automatically.

Remote Installation

Windows 2000 Professional can also be installed from a server using the Remote Installation (RI) service. By configuring RI service for helpdesk personnel, for example, the cost of deploying operating systems can be reduced considerably.

During installation, the RI service first asks for the location of any operating system installation files. It then copies these files from the source - typically a CD-ROM - to a location on the server. These files are given a name and a description, and converted into an installation routine to be used for client installations.

The RI service is actually a boot server that responds to client requests for boot images. It works in the main with clients that support Pre-Boot Execution Environment (PXE) architecture, although some non-compliant systems can emulate a PXE client using a special boot disk. RI assigns the PXE client two TCP/IP addresses from DHCP. One address is for itself and the other for its boot server, with the client using the Trivial File Transfer Protocol (TFTP) to download the boot image.

Once the client logs on and authenticates to Active Directory, an installation menu called OSChooser appears. The options available on this menu will depend on the user's permissions: for example, a user with full permissions sees the maximum number of four options.

- Automatically setup this computer.
- Customize the setup of this computer.
- Restart a previous setup attempt.
- Maintenance and troubleshooting tools.

Choosing the "Automatically setup this computer" option presents the name and description of any operating system installation set made available to the computer. Having chosen the source file, the installation of the operating system can then proceed automatically. Alternatively, the "Customize the setup of this computer" option offers a higher level of control over the installation process.

By default, Windows 2000 servers are not installed with RI. It can, however, be installed at any time from the server desktop: simply double-click My Computer, Control Panel, and the Add/Remove Programs icon. Click Add/Remove Windows Components and select the Remote Installation Services option. Note that the server needs a separate disk partition for the RI service, with a recommended 2 GB of free space.

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Report

The Upgrade Report then scans the computer and displays any components that are not Windows 2000-compatible (see Figure 2). Upgrade packs may be recommended in certain situations, in which case you should click the Provide Files button to update the files necessary for a successful install. Click Next to proceed with the upgrade. The Save Upgrade Report now appears, giving users the option to save the report to disk or to print out a hard copy of the report. It is also possible at this point to scroll down the viewing window to see a detailed report on any software or hardware issues that are known to exist on the machine about to be upgraded.

In most cases, the setup process can continue even though the upgrade report may show several errors. Very often these difficulties are of a minor nature and can be resolved on completion of the upgrade. It must be stressed, however, that the upgrade should continue only if the problems reported will not hamper the machine's ability to function in a proper manner once the upgrade is complete.

Click Next, and Setup offers one last chance to quit the upgrade. Be aware that there is no going back if you choose to continue after this stage. Click Continue, and Setup then copies a number of files required to install Windows 2000 Professional to the workstation's hard disk. Watch out for a line at the bottom of the screen during this phase, advising the user to press F6 if any third-party SCSI or RAID drivers are required. The machine will reboot a couple of times and, if applicable, the disk partition is converted to NTFS.

Options

The next phase depends somewhat on the unique configuration of the upgrade. Either now or on completion of setup, Windows 2000 Professional needs to be informed whether the machine will be joined to a workgroup or a domain. Select the workgroup option if the machine is part of a workgroup or a standalone machine, and type the computer's name in the Computer Name text box. Then type the local administrator password in the Administrator Password text box. Choosing the domain option during setup requires a computer account in the domain, which should have been set up by the administrator beforehand. The process of joining a domain when upgrading from Windows NT, however, is simplified owing to setup using the existing computer account.

After assigning date and time settings and any custom network configurations that may be required, Setup then goes about installing essential components such as the Start menu, application upgrades and system settings. During this phase, Setup registers each component, saves important registry settings, and removes all temporary files it created during the setup process. Setup is now complete.

The machine will reboot one last time. However, before Windows 2000 can start properly, the Network Identification Wizard requires some additional information. You can choose whether users must enter a user name and password each time they use the computer, or whether to instruct Windows 2000 to assume that the same user always logs onto the computer.

Final Checks

Following the upgrade, verify that all services that were operational under Windows NT are still operational under Windows 2000. Apart from the usual places to look, such as the device manager and the event viewer, it is also important to ensure that the computer still has access to the network's shared resources. This latter test is simple enough to achieve: open the new My Network Places folder on the desktop, which replaces the Network Neighborhood folder, and double-click the Entire Network icon. From here, users can search for any shared computers, printers, files and folders available on the network. Alternatively, double-click the Computers Near Me icon to narrow the search down to computers available in the same workgroup.

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Further Information

www.microsoft.com/hcl
Microsoft hardware compatibility list

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Latest application compatibility information

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www.microsoft.com/hwdev
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