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# Comparison of Windows 95 and Windows NT Workstation 4.0

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Provided by [Microsoft Product Support Services](#).

The information in this article applies to:

- Microsoft Windows NT Workstation version 4.0
- Microsoft Windows 95

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- Yes
- No
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## SUMMARY

This article discusses feature differences between Microsoft Windows NT Workstation version 4.0 and Microsoft Windows 95.

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## MORE INFORMATION

Both Windows 95 and Windows NT Workstation 4.0 are helping companies realize the benefits of a more reliable, more manageable operating system. Both run the latest versions of programs and take advantage of exciting new Internet technologies.

Choosing the right mix depends on the current needs of your organization. Windows 95 is the easiest way to a 32-bit desktop with a reduced set of requirements, comprehensive compatibility, and advanced mobile computing tools. **Windows NT Workstation 4.0 is the most powerful 32-bit desktop with its high performance and industrial-strength reliability and security.**

For a more detailed discussion of how to choose the right mix of Windows 95 and Windows NT Workstation, please refer to the Microsoft white paper "Choosing the Best Windows Platform From a Businesses' Perspective," available on the World Wide Web at:

<http://www.microsoft.com/windows/platform/info/how2choose-mb.htm>

Additional query words:

Keywords : NTWkst  
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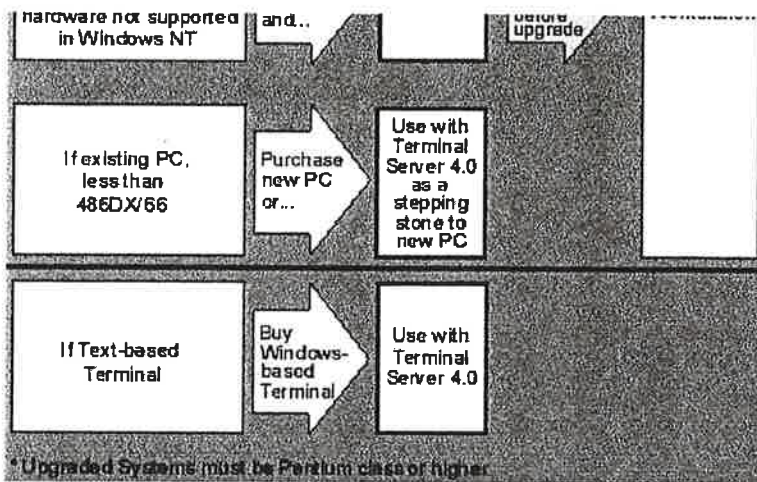
## Windows 95 Security: The Issues

Before you integrate Windows 95 security into your network security model, you should consider the following issues:

- What kind of logon security do you need? Do you want to require that users log on to Windows 95 and the network with the same password? Do you want to require alphanumeric or minimum-length passwords for the Windows 95 logon password? Do you want to require that users be validated by the network security provider before being able to log on to Windows 95?  
For both Windows NT and NetWare networks, you can use system policies to require validation by a Windows NT or NetWare server before allowing access to Windows 95 and to specify other Windows 95 password restrictions.
- What kind of resource protection do you need on Microsoft networks? If you allow users to enable peer resource sharing, then you must decide whether users can protect those resources with share-level or user-level security. User-level security provides greater security because the network security provider must authenticate the user name and password before access to the resource is granted. (Share-level security is not available for File and Printer Sharing for NetWare Networks.)
- What kinds of access rights will users have to resources protected by user-level security? You can specify the types of rights users or groups of users have to resources by setting Access Control properties in the Network option in Control Panel. For example, you can restrict other users to read-only access to files or give them read and write access to files.
- How do you want to enable user-level security? You can enable security in a setup script, in the Network option in Control Panel, or in system policies. If you enable user-level security in either a setup script or in the Control Panel, then Remote Administration is enabled by default for domain administrators on a Windows NT network and for supervisors on a NetWare network.
- Do you want to disable password caching for password-protected resources? You can use system policies to disable password caching and require users to type a password each time they access a password-protected resource.
- Do you want users to be able to configure system components, their desktops, applications, or network connections in Control Panel? You can use system policies to restrict users' ability to configure components.
- Do you need to control access to a computer's hard disk drive? Because Windows 95 uses network-based security instead of workstation security, an individual computer running Windows 95 is vulnerable to someone accessing data stored on the hard disk by starting the computer using Safe Mode or a floppy disk. If specific data requires greater levels of security, you should store critical files on a secure server. If computers require greater levels of security, Windows NT Workstation is recommended because it provides a means to protect resources on a hard disk based on a user's identity.
- Do you need to prevent users from modifying computer settings or from running certain applications? To implement this type of security, you should use system policies as described in Chapter 15, "User Profiles and System Policies."

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Microsoft recommends moving existing "optimized" desktops (i.e., Pentium-class CPU, 64 MB RAM, and compatible hardware and software) to Windows NT Workstation 4.0. This provides existing desktops with the same benefits as new PCs. Microsoft offers several tools for qualified IT professionals that automate the deployment of Windows NT Workstation 4.0. (Customers moving to Windows NT Workstation 4.0 from Windows 95 should be aware that machine and user specific settings and applications must be reapplied after installing Windows NT Workstation 4.0.)

Most desktops that cannot be moved to Windows NT Workstation 4.0 can benefit from the **Windows 98** operating system. Windows 98 is easier to deploy and support than Windows 95. In addition, because upgrade processes cannot easily replicate a user's personal settings and applications, it's often simpler to move capable Windows 95-based desktops to Windows 98. For upgrading to Windows NT Workstation 5.0, Microsoft plans an automated upgrade path from Windows 98 (and the Windows 95 operating system), but this will require additional steps when compared with upgrading from Windows NT Workstation 4.0. For more information on Windows 98, see Section III.

For desktops that cannot be upgraded to Windows NT Workstation 4.0 or Windows 98, Microsoft recommends purchasing **new PCs with Windows NT Workstation 4.0**. During the process of acquiring new PCs, **Windows NT Server 4.0, Terminal Server Edition** can be used as a stepping stone. Terminal Server eases the changeover by giving legacy desktop users the power of 32-bit Windows-based applications. *For more information on the benefits of Windows NT Server 4.0, Terminal Server Edition, see Section III.*

Businesses that use text-based terminals can purchase new **Windows-based Terminals**. This move provides "task users" access to 32-bit Windows-based applications in the secure, reliable environment of Windows NT Server 4.0.

Finally, except in rare instances, Windows 95 should not continue being deployed.



## COMPARING THE PLATFORMS

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Windows NT Workstation 4.0 and Windows 98 are both modern 32-bit desktop operating systems. While each operating system includes a unique set of core strengths, Windows NT Workstation 4.0 is considered the Microsoft "business" operating system and Windows 98 is considered the Microsoft "consumer" operating system. The following outlines a high-level summary comparing the different platforms. Additional details can also be found on <http://www.microsoft.com/windows/>

## WINDOWS NT WORKSTATION 4.0

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Windows NT Workstation 4.0 focuses on reliability, manageability, security, and performance. Its multithreaded, kernel-based architecture is optimized to run modern 32-bit Windows-based applications, while also supporting many leading MS-DOS-based and 16-bit Windows-based business applications. Windows NT Workstation 4.0 supports more than 4,000 hardware devices and peripherals. Portable users now can take advantage of Plug and Play and power management tools from third-party vendors. With a shared architecture, Windows NT Workstation 4.0 is also the best networking client to the scalability, manageability and performance of Windows NT Server 4.0.

Windows NT Workstation 4.0 core strengths, as compared with Windows 95, include:

- **Better manageability.** Windows NT Workstation 4.0 is designed to be the most manageable Windows desktop. The Zero Administration Kit (ZAK) takes full advantage of Windows NT Workstation 4.0 management capabilities, including shell lock down, managed applications and file access. A well-managed PC desktop running Windows NT Workstation 4.0 can reduce total cost of ownership (TCO) by up to 35 percent when used as a personal productivity platform, according to the Gartner Group, a leading industry research firm (<http://www.microsoft.com/windows/platform/info/gartnertco.htm>).
- **Faster performance.** From business productivity applications to high-end technical applications, Windows NT provides the fastest performance for today's standard desktop (32 or 64 MB RAM). For example, in performance testing using the SYSmark32 benchmark, the Business Applications Performance Corp. (BAPCo) found that PCs running Windows NT Workstation 4.0 (on the same Pentium and Pentium II-class systems and 32 MB RAM) improved performance by 13 to 29 percent over PCs running Windows 95.
- **Increased reliability.** Windows NT is designed to actively protect itself and applications from errors and external damage-whether accidental or deliberate-and to respond predictably to software and hardware errors. For example, every application (including legacy 16-bit applications) can be configured to use its own private memory space. This means that if one application fails, it does not impact the other applications or the operating system. Core system components (executive) run separately from the many subsystems, so back-door entry points cannot compromise security or damage the system in any way.
- **Better security.** Windows NT and security are synonymous. The operating system includes capabilities ranging from casual file protection on portables to

industrial-strength protection against malicious hackers. For example, Windows NT Workstation 4.0 supports multiple user profiles on the same machine, so system "owners" can govern which users may have access to various program groups, files, and menu commands. Unauthorized users cannot "log into" a machine. Different users authorized for a machine cannot view each other's data.

## WINDOWS 98

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Windows 98 is a smart upgrade for desktops that cannot be moved to Windows NT Workstation 4.0. In addition to thousands of refinements, Windows 98 is easier to deploy and support than Windows 95, and enables a new generation of innovative hardware. Highlights, as compared to Windows 95, include:

- **Easier to support.** Windows 98 features several troubleshooting wizards, including the System Information Utility, registry checking, Version Conflict Manager and a Maintenance Wizard. With such support tools in place, Microsoft estimates that Windows 98 will reduce Helpdesk calls as much as 15 percent compared to Windows 95, according to a soon to be released study.
- **Easier to deploy.** In addition to the operating system's new upgrade tools that provide an easy transition from Windows 95, a new Image Preparation Tool provides "disk image copying," which allows users to create a standard desktop setup.
- **Support for new hardware.** Windows 98 natively supports the new generation of hardware including Universal Serial Bus (USB) and OnNow, as well as the latest generation of Plug and Play and power management hardware devices.

**ABSTRACT**

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This document provides Microsoft's operating system deployment recommendations for business desktops--today and for the next few years. Supporting information describes how Microsoft arrived at these deployment recommendations. Keep in mind that every business and desktop environment is unique, so these recommendations should be considered general guidelines. Systems should be tested before deploying.

**DEPLOYMENT RECOMMENDATIONS SUMMARY**

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Most importantly, Microsoft recommends that businesses move to **32-bit Windows®-based applications**. Modern 32-bit applications offer greater reliability, better performance, lower total cost of ownership (TCO), better productivity, and more security than 16-bit Windows-based and MS-DOS®-based applications. In addition, 32-bit applications are best poised to take advantage of hardware and operating system innovations.



**WHEN PURCHASING NEW PCS**

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For companies buying new PCs--desktops or portables--Microsoft recommends using the **Microsoft® Windows NT® Workstation 4.0** operating system. As the Microsoft "business" operating system, Windows NT Workstation 4.0 focuses on reliability, security, performance, and manageability. New portables should include manufacturer-supplied Plug and Play as well as power management capabilities. To take full advantage of the new generation of applications, newly purchased PCs should have a minimum of **64 MB RAM** and include hardware management features such as Advanced Configuration and Power Interface (ACPI). With its shared registry and common architecture, Windows NT Workstation 4.0 promises to be the easiest path to Windows NT Workstation 5.0. For details on Windows NT Workstation 5.0, see Section III.

**WHEN UPGRADING EXISTING SYSTEMS**

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