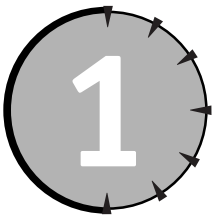
SESSION



Introducing Windows XP

Session Checklist

- ✔ Introducing new and redesigned Windows features
- ✔ Understanding the differences between Windows XP Professional and Home Versions
- ✔ Buying Windows XP at a discount

30 Min. To Go

Microsoft Windows XP is the newest addition to the Windows home and small business line of operating systems. (It's also a very popular operating system in large businesses, as I discuss in Session 14.) It is very stable, and the computer seldom has to be completely restarted. In this session you'll find out what an operating system is, what it does, and why you need one. You'll take a brief look at some of the new features in Windows XP, along with some redesigned features from previous versions of Windows.

What Is an Operating System?

The operating system is the most important program that runs on a computer. Every general-purpose computer must have an operating system to run other programs. Operating systems perform basic tasks such as recognizing input from the keyboard, sending output to the display screen, keeping track of files and directories on the hard drive, and controlling peripheral devices such as disk drives and printers. In order for a computer to accept input in the form of keyboard commands or mouse commands, an operating system must be loaded and functional.

Session 3 covers the Windows XP operating system in more detail. For an introduction to computer hardware, see the companion Web site for this book at `www.wiley.com/compbooks/nicholson`**.**

Microsoft Windows

Microsoft Windows is the most popular operating system in use today. Microsoft has offered many versions over the years, some more popular than others. Although Versions 1 and 2 did exist (introduced in 1985 and 1987, respectively), they were only used by people who wanted a graphical user interface (GUI). They were not stable and were unacceptable for most home or business use. The following list points out some of the major strengths and weaknesses of various versions of Windows.

- **Versions 3.0, 3.1, and 3.11:** Version 3.0 (1990) of Windows was the first widely popular GUI-based operating system. Although Windows 3.0 was quite unstable, having to be restarted several times a day, most users were willing to sacrifice stability for ease of use. Users just saved their work every few minutes in case the system crashed.

  One of the main drawbacks of Version 3.0 was that it could not run on a local area network (LAN). The introduction of Version 3.11 remedied this problem. In its various incarnations, Version 3.x was popular for several years.
- **Windows 95 (1995):** The introduction of Windows 95 launched one of the world's largest marketing campaigns. Windows 95 went on sale at midnight, and computer stores all over the United States had pajama parties with thousands of dollars worth of gifts given away at each store. Windows 95 was a major upgrade in terms of ease of use, stability, and software availability at the time of introduction. Since the introduction of Windows 95, each new version of Windows has been an incremental upgrade rather than the giant leap from Version 3 to Windows 95.

  While earlier versions of Windows allowed you to switch between programs, *multitasking* was not available. Multitasking is the ability of an operating system to work on more than one application at the time. For example, you could use your computer to play a game, download a file over the Internet, and listen to music all at the same time. The introduction of multitasking drove a need for updated hardware, increased random access memory (RAM), and even larger displays (so that you could see more applications on the screen at one time).
- **Windows 98 (1998) and ME (2000):** Following Windows 95, Microsoft released Windows 98, Windows 98 Second Edition (SE) (1999), and Windows ME. Each of these releases included increased stability and many bells and whistles. Although few users upgraded their existing machines to these versions, new computers came with the upgraded versions already installed.

  Home versions of these Windows operating systems were designed primarily to run games and other multimedia applications. The systems designed for business use were less capable of working with multimedia applications and played few of the popular games. They were designed to run powerful word processors, spreadsheets, databases, and programs that were designed specifically for a company.
- **Windows NT 3.1 (1993) and Windows NT Workstation 4.0 (1996):** Most large businesses have standardized on Windows NT for several years. Version 3.51 was extremely popular and the introduction of Version 4.0 resulted in a business standard that has lasted for many years. In all likelihood, the popularity of Windows NT for business use will continue for many additional years. Standardization on Windows 4.0 was a combination of three things: increased stability, all the perceived features that businesses wanted, and certification by Microsoft [Microsoft Certified

System Engineer (MCSE)] helped ensure that Network Administrators were properly trained.

- **Windows 2000 (2000):** Windows 2000 can be thought of as Windows NT version 5. It took nearly 3 years after the release of Windows 2000 to standardize on that operating system. The release of Windows 2000 was delayed for several months while Microsoft attempted to develop a version that could be used equally well at home and at the office. Eventually, Microsoft changed direction and released Windows 2000 to the business sector and Windows ME to home users. Windows 2000 was an incredible upgrade to the business community. In fact, it was so large that it took businesses several years to fully adapt to it. Moving to 2000 was a large investment in hardware, software, and training. While 2000 looked basically the same on the surface, it was immensely more powerful, and thus more complex. Since most business didn't want to spend the money for a complete upgrade, many decided to remain with NT.

All About Windows XP (Well, Almost)

Microsoft has tried for years to develop a Windows-based operating system that could be used equally well at home, in a small business, or in a large business. The constraining factor has been that home users wanted games and multimedia. Prior to the introduction of Windows XP, this simply was not practical. Games and multimedia applications wanted to take direct control of the central processing unit (CPU), Random Access Memory (RAM), sound card, and video card, among other pieces of hardware, rather than allowing the CPU to assign rotating use of hardware facilities. For example, one application may set aside a specific area of RAM for use and, while multitasking, another application tries to overwrite data in memory, because it uses the same area of RAM. These collisions caused computer crashes.

In Windows NT and Windows 2000, Microsoft set up a gatekeeper that does not allow any application direct access to the hardware. This results in a much more stable system, a priority of nearly all businesses. The release of Windows 2000 was well overdue (Microsoft had announced release dates as early as 1999), mostly because of Microsoft's attempts to release an operating system that would work with games and multimedia and remain as stable as the operating systems used in businesses. Finally, in about mid-2000, Microsoft released the Windows 2000 operating system for businesses and the ME version of Windows for home use. Windows 2000 was moderately successful, but Windows ME was a fiasco, one of the least stable systems since Windows 3.0.

Windows XP (2001) is what Microsoft has been wanting for many years: An operating system that is stable enough for businesses, and yet capable of handling games and multimedia applications. Windows XP is only a client-operating system. There is no version of XP capable of actually running a network. (Microsoft Windows 2003 Server, released in the third quarter of 2003, is the successor to Windows 2000 Server.) One of the ways that Microsoft was able to accomplish this feat was to convince game and multimedia developers that XP was the operating system of the future, and would be shipped on all new home and non-server business computers. If the game and multimedia developers didn't develop for XP, they would be missing a huge market share in the near future. Today, most new software is specifically designed to run on the XP operating system.

20 Min. To Go

New and improved Windows XP features

Windows XP offers many improvements over previous versions of Windows. Take a look at just a few of these.

Visual design

The default Windows XP color scheme is brighter and bolder than in previous versions of Windows. The desktop is less cluttered, the buttons and windows display a 3-D realism, and the icons are sharper. Icons used to be available only in 32×32 pixels (a pixel is the distance between like-colored dots on a monitor), but are now available in three different sizes, including the jumbo 48×48 pixel size. You can change the icons to the larger size by following these steps:

1. Right-click any open area of the desktop. In the context menu, click Properties to show the Display Properties dialog box (shown in Figure 1-1).

Figure 1-1 *The Display Properties dialog box allows you to modify the way various objects are presented on the screen.*

2. Click the Appearance tab.
3. Click the Effects button.
4. Click Use large icons to place a checkmark in the box.

The small square to the left of each option is called a check box. Check boxes are examples of *toggles*. A toggle is a feature with two states, on and off. In the case of check boxes, the option is toggled on or off by clicking the check box. A checkmark means the option is on, no checkmark means the option is off.

5. Click OK twice.

To revert to regular-sized icons, repeat the above steps, making sure there is no checkmark in the Use large icons check box.

When you first install Windows XP from scratch, you will notice the desktop is uncluttered. In fact, this is one of the negatives for users of previous versions of Windows. The icons they expect to see aren't there. A few clicks of the mouse will display those icons for users who are lost without them.

1. Right-click any open area of the desktop, and click Properties on the pop-up menu to show the Display Properties dialog box (shown in Figure 1-2).
2. Click the Desktop tab.
3. Click the Customize Desktop button.

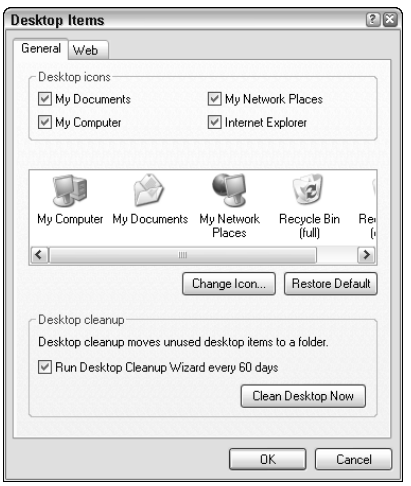


Figure 1-2 *The General tab of the Desktop Items dialog box is used to select which desktop icons will be displayed by default.*

4. In the Desktop icons pane of the General tab, make sure that any icons you want displayed have a checkmark next to them.
5. Click OK twice.

User switching

In previous versions of Windows, if you wanted to change users you had to log off and then load the settings for the new user. In Windows XP, multiple user settings can be held in memory at the same time. To switch between users, simply click Start ➪ Log Off. Figure 1-3 shows the revamped Start menu. Notice the left column shows your commonly used and most recently used programs, while the right column displays the options commonly seen in earlier versions of Windows.

Figure 1-3 *The redesigned Start menu allows you quick access to commonly used programs as well as the ability to log off quickly to switch between users.*

Internet Connection Firewall

Today, there are three basic ways that home users connect to the Internet. The first is through a device called a *modem*. A modem allows you to connect to the Internet using your regular telephone line. You are only connected to the Internet when you actually dial your Internet Service Provider (ISP). This is a relatively slow way of connecting to the Internet, but much less costly than the other two options.

The other two options are connecting to the Internet through your cable television service (cable), or connecting through specialized telephone wire run between the nearest telephone switching site and your house [digital subscriber line (DSL)]. Both ways are expensive compared to using a standard modem, but the speeds can be 20 or more times faster using cable or DSL.

In reality, cable and DSL connections also require modems. However, when we talk about connecting to the Internet through a modem we are normally talking about using a standard telephone line for the connection.

In the case of a cable or DSL connection, your computer is constantly connected to the Internet. This exposes your computer to the possibility of being *hacked*. Hacking is when an unauthorized person attempts to gain control of your computer for purposes of stealing data or causing malicious damage. One step that can be taken to deter hackers is placing a hardware or software *firewall* between your computer and the Internet. All messages entering or leaving the computer pass through the firewall, which examines each message and blocks those that do not meet the specified security criteria. Although a hardware firewall is always considered to be more effective than a software firewall, it is considerably more expensive. To save Windows XP users from having to invest additional money for basic security, Microsoft has included a software Internet Connection Firewall (ICF) that can be used without additional charge.

Internet Connection Sharing

Although Internet Connection Sharing (ICS) has been available in every edition of Windows since the Windows 98 Second Edition, the version included in Windows XP streamlines the setup process and adds the capability for remote users to start and stop a dial-up connection on the host PC. The purpose of ICS is to allow multiple computers to connect to the Internet through a single Internet connection at the host computer.

Since the ICF is not very effective and in reality the ICS tends to be difficult to actually get to work, many users bypass both features and invest about $100 to purchase a router. The router not only gives the advantage of better, programmable security but makes hooking multiple computers to the Internet a matter of plugging in a few connections.

Windows Media Player

Although Windows Media Player has been available in many versions of Windows, it has been greatly enhanced in version 8, included with Windows XP. Figure 1-4 shows the latest version of Windows Media Player.

Figure 1-4 *Version 8 of Windows Media Player allows you access to online multimedia material, hundreds of radio stations, as well as the ability to copy to and from CDs.*

Many users prefer RealPlayer from Real One Networks or Apple's QuickTime, particularly to view streaming media over the Internet. However, it's a good idea to have all three applications available on your computer since some Web sites offer multimedia material only for a specific player.

A few final words about Windows XP features

Some of the Windows XP features are most helpful to those users new to computers, while others will appeal to more experienced users. Similarly, some sections of this book are especially useful for readers setting up their first computers, while other parts provide detailed information for readers migrating to XP from other operating systems. If you're new to computers, I suggest moving forward chapter by chapter. If you're already familiar with another Windows system, you may prefer to jump around as you explore the new and updated features of XP.

10 Min. To Go

Windows XP Professional or Windows XP Home Edition?

Windows XP comes in two basic variations: Windows XP Professional and Windows XP Home Edition. If Windows XP has already been installed on your computer and you're not sure which version you have, here's a quick way to tell.

1. Start your computer.
2. Click Start ➪ Control Panel ➪ Performance and Maintenance ➪ System. This displays the System Properties dialog box. On the General tab, under System, the first line tells you that you are using Windows XP; the second tells you the version you are using.

If in step 2 above you went from clicking Control Panel to seeing all of the icons, you need to switch to the Category View. Do this by clicking the Switch to Category View option in the left pane.

If you do not see a left pane in the window, that indicates you are in the Classic view. The text and figures in this book correspond to the Common Tasks view. To correctly set the Control Panel view, click Tools ➪ Folder Options. On the General tab in the tasks area, click Show Common Tasks in folders and make sure the option is checked. Click OK to close the window.

If you have a Windows logo key on your keyboard (it should be located between the Ctrl key and the Alt key, to the left of your spacebar), press and hold the Windows logo key and tap the Break key (probably located at the right of the very top row of keys on your keyboard). This immediately brings up the System Properties dialog box.

Following are some significant differences between Windows XP Professional and Home Edition. If you need the functionality of the extra features, buy Professional; otherwise, the Home Edition should satisfy your needs.

Cost

After checking a dozen online stores, I found the Home Edition consistently costs about $100 less. This price difference is the same whether you are buying the full retail or the upgrade-only package. There is no difference in functionality between the full retail version and the upgrade-only version. The only difference is that if you purchase the upgrade-only edition, you will be required to supply, during the installation, the original CD from the

previous version of Windows in order to install the upgrade edition of XP. Otherwise, the two versions are identical.

If you are upgrading to Windows XP Home Edition from an older version of Windows you must have the original CD for Windows 98, Windows 98 SE, or Windows Me. (CDs from earlier versions of Windows do not allow you to install the upgrade-only version of XP.) If you are upgrading to Windows XP Professional, the original CD for any of the previous versions will work, as well as the CD from Windows NT 4 Workstation, Windows 2000 Professional, or Windows XP Home Edition. Because this is a book for beginner and intermediate users, rather than Network Administrators, upgrades from Server software are not discussed. Additional information can be found at `www.microsoft.com`.

Remote desktop

Windows XP Professional provides the Remote Desktop feature, allowing you to access your computer from any other Windows-based computer. Remote Desktop is not just a program that allows you to download files from other computers, but actually allows you to work on the remote computer. For example, you could connect to your work computer from your home office and what you would see on your home monitor would be identical to what you would see if you were at work.

Remote Desktop works best when the two computers are connected by modems. Although it can work through an Internet connection, you must be able to see the IP addresses for both computers. Explaining IP addresses is beyond the scope of this book. For additional information, contact your network administrator.

Network size

In general, Windows XP Professional is the operating system of choice for client computers on a large network. Home networks and small local area networks would probably not benefit from the extra money invested in the Professional version of Windows. Most of the advanced networking features for multiple PC environments would simply be wasted on a small network or a lone desktop machine.

Getting Windows XP at a Discount

Your computer cannot start without an operating system. One of the ways that some businesses may try to save money is by selling you a computer either without an operating system or one that includes a *pirated* version of the operating system. Pirated means that a legal license to include the operating system has not been purchased by the seller. One of the ways that you can make sure you have a legal copy of the operating system is to check for the license that comes with the original CD.

If you are a student or a teacher, you may find it less expensive to purchase a computer without an operating system and then purchase Windows XP at an educational discount.

Protecting sensitive files

One of the major features available in XP Professional that is lacking in the Home version is the ability to encrypt individual files and folders. The Professional version contains a feature called the Encrypting File System (EFS). EFS allows you to encrypt your files and folders for added security against theft or hackers. Restricted File Access is an additional feature found only in Professional, allowing you to restrict access to selected files, applications, and other resources.

Recovery from catastrophic failure

The capability to back up and recover data from a total system failure is more robust in XP Professional than in the Home version.

CPU

The Home Edition of Windows XP is only capable of handling a single 32-bit CPU and a single video display terminal. Professional can work with two CPUs at the same time (of course, your motherboard must be designed to accept two CPUs). This makes processing much faster. Professional can also handle the 64-bit Intel Itanium processor (again, this greatly increases the speed of processing in the computer).

Video display

Windows XP Professional is capable of using up to 10 video display terminals (monitors) at one time. You can stack monitors (for example, three wide by three high) and display a single desktop across all nine monitors. Or, if you have a spreadsheet with many columns, you can set Professional to display different sets of columns on each monitor. You can also display a different file or application on each monitor. Realistically, most users barely have room for one monitor on their desktop, but if you are in a special situation, this option is available for your use.

To use two monitors, you don't need any special hardware. You need a video card with dual connections, or two separate video cards. To use more than two monitors, you will require special video hardware. For more information, go to `www.microsoft.com` and search for *dualview*.

Done!

Review

- Microsoft Windows XP is an operating system. Operating systems perform basic tasks, such as recognizing input from the keyboard, sending output to the display screen, keeping track of files and directories on the hard drive, and controlling peripheral devices such as disk drives and printers.
- All versions of Windows beginning with Windows 95 are capable of multitasking.
- The visual design is one of the most apparent changes to Windows XP.
- Windows XP comes in two editions: Professional and Home Edition. The Professional edition provides several features not included in the Home Edition, including remote use, greater networking capability, and some security features.
- You can install the full retail version of Windows XP, or upgrade from an older Windows operating system to XP.

QUIZ YOURSELF

1. Which version of Microsoft Windows was first able to operate on a network? (See *Microsoft Windows* section.)
2. What is a business's primary concern when considering an operating system? (See *Microsoft Windows* section.)
3. Which feature in Windows XP makes it more attractive to home users than previous business-oriented versions of Windows? [See *All About Windows XP (Well, Almost)* section.]
4. In previous versions of Windows, screen icons were only available in a 32×32 pixel size. What is the largest size screen icon available in Windows XP? (See *Visual design* section.)
5. What does a modem allow you to do? (See *Internet Connection Firewall* section.)
6. How can you tell if you have the XP Professional or Home Edition? (See *Windows XP Professional or Windows XP Home Edition?* section.)
7. What feature, found in XP Professional but not in XP Home Edition, allows you to protect sensitive files and folders ? (See *Protecting sensitive files* section.)