ations. Not only does it come with no password assigned, but it's also not limited in any way. It gives you free powers over every file, which is just what you may need to troubleshoot your computer.

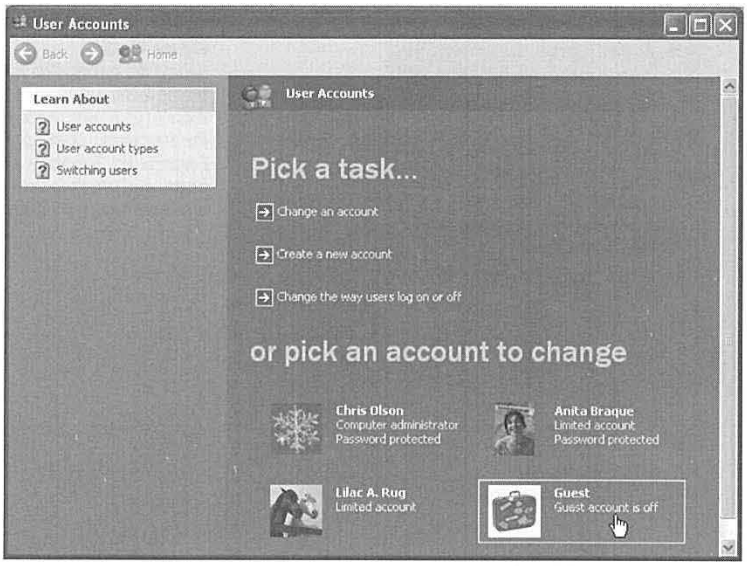

Figure 16-12: *There's not really much to learn about the Guest account; it's exactly the same thing as a Limited account, except that it requires no password at all.*

All About Profiles

As you've read earlier in this chapter, every document, icon, and preference setting related to your account resides in a single folder: the one bearing your name in the Local Disk (C:)→Documents and Settings folder. This folder is technically known as your *user profile*.

The All Users Profile

Each account holder has a separate user profile. But your PC also has a couple of profiles that aren't linked to human beings' accounts.

Have you ever noticed, for example, that not everything you actually see in your Start menu and on your desktop is, in fact, in *your* user profile folder?

The solution to this mystery is the All Users profile, which also lurks in the Documents and Settings folder (Figure 16-13). As you can probably tell by its name, this folder stores the same kinds of settings your profile folder does—except that anything in All Users appears on *everybody's* Start menu, desktop, and so on.

All of this is a long-winded way of suggesting another way of making some icon available to everybody with an account on your machine. Drag it into the corresponding folder (such as Desktop or Start Menu) in the All Users profile folder.

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Whose software is it, anyway?

The All Users folder also offers a handy solution to the "Whose software is it, anyway?" conundrum: the burning question of whose Start menu and desktop reflects new software that you've installed using your own account.

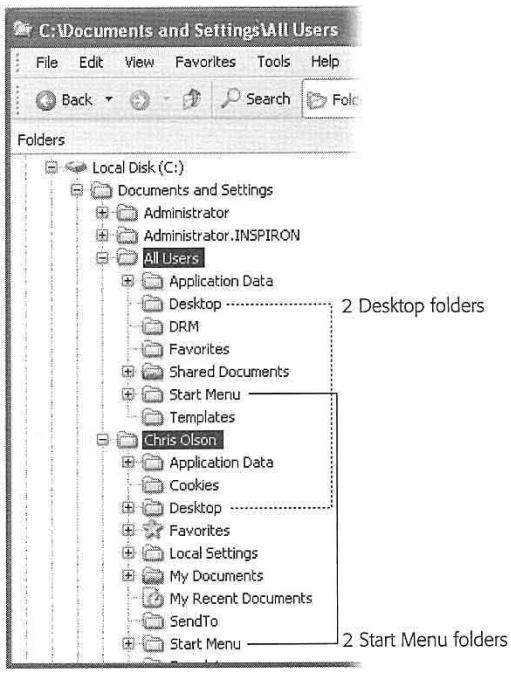

Figure 16-13:
Behind the scenes, Windows XP maintains another profile folder, whose subfolders closely parallel those in your own. What you see is the contents of the Start menu, Desktop, Shared Documents folder, Favorites list, Templates folder, and so on is a combination of what's in your own user profile folder and what's in the All Users folder.

As noted in Chapter 5, some software installers ask you if you would like the new program to show up only in your Start menu, or in *everybody's* Start menu. But not every installer is this thoughtful. Some installers automatically deposit their new software into the All Users folder, thereby making its Start menu listing available to everybody when they log on.

On the other hand, some installers may deposit a new software program only into *your* account (or that of whoever is logged in at the moment). In that case, other account holders won't be able to use the program at all, even if they know that it's been installed, because their own Start Menu and Desktop folders won't reflect the installation. Worse, some people, not seeing the program's name on their Start menus, might not realize that you've already installed it—and may well install it *again*.

The solution, of course, is to open the Start Menu→Programs folder in your user profile folder, copy the newly installed icon, and paste it into the All Users→Start

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Menu→Programs folder. (Repeat with the Desktop folder, if you'd like everyone to see a desktop icon for the new program.) You've just made that software available and visible to everybody who logs onto the computer.

The Default User Profile

When you first create a new account, who decides what the desktop picture will be—and its Start menu configuration, assortment of desktop icons, and so on?

Well, Microsoft does, of course—but you can change all that. What a newly created account holder sees is only a reflection of the Default User profile. It's yet another folder—this one usually hidden—in your Documents and Settings folder, and it's the common starting point for all profiles.

NOSTALGIA CORNER

The Windows 2000 User Accounts Control Panel

You're supposed to do most of your account-editing work in the User Accounts program of the Control Panel, which is basically a wizard that offers one option per screen. That requirement may not thrill veteran Windows 2000 fans, however, who are used to the much more direct–and more powerful–User Accounts screen.

Actually, it's still in Windows XP. To make it appear, choose Start→Run; type *control userpasswords2*, and then press Enter. You see the program shown here.

Most of the functions here are the same as what you'd find in the new XP User Accounts program–it's just that you don't have to slog through several wizards screens to get things done. Here you can add, remove, or edit accounts all in a single screen.

This older control panel also offers a few features that you don't get at all in the new one. For example, you can turn off the checkbox called, "Users must enter a user name and password to use this computer." When you do so, you get a dialog box called Automatically Log On, where you can specify a user name and password of one special person. This lucky individual won't have to specify any name and password at logon time, and can instead turn on the PC and cruise directly to the desktop. (This feature works only at *startup time*. If you choose Start→Log Off, the standard Logon dialog box appears, so that other people have the opportunity to sign in.)

This automatic-logon business is ordinarily a luxury enjoyed by solo operators whose PCs have only one account and no password. By using the secret User Accounts method, however, you can set up automatic logon even on a PC with several accounts, provided you appreciate the security hole that it leaves open.

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If you'd like to make some changes to that starting point, start by tweaking a regular account—your own, for example. Make its desktop picture, Start menu, Web favorites, and other decorations look just the way you'd like the new default to be.

Then you need to fire up a little program called Profile Manager, whose job is to copy, move, and delete items among user profiles. Figure 16-14 has full instructions.

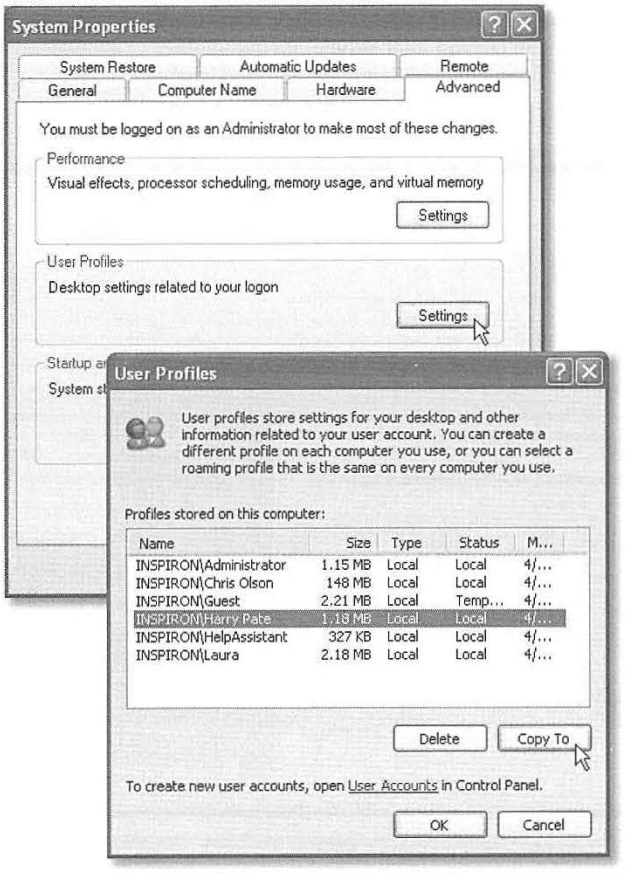

Figure 16-14:
Top: To open Profile Manager, open the System program in the Control Panel. Click the Advanced tab, and then click the Settings button in the User Profiles section, as shown here.

Bottom: To copy the settings from a person's profile into the Default User profile, highlight the name of the account whose settings you want to copy. Then click Copy To; in the next dialog box, click Browse, and then navigate to, and select, the My Computer→Local Disk (C:)→Documents and Settings→Default User folder. Click OK—and the deed is done.

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CHAPTER
17

Setting Up a Network

When you connect computers so that they can access one another's files and equipment, you create a *network*. As millions of PC fans buy second and third computers for their homes and offices, small networks are becoming increasingly common.

When it comes to simplicity, setting up a network has a long way to go before it approaches, say, setting up a desk lamp. It involves buying equipment, installing adapters, and configuring software. Fortunately, Windows XP's Network Setup Wizard makes the software part as painless as possible.

And the payoff is considerable: Once you've created a network, you can copy files from one machine to another just as you'd drag files between folders on your own PC. Everyone on the network can consult the same database, phone book, or calendar. When workday's done, you can play games over the network. Most importantly, you can share a single laser printer, cable modem or DSL, fax modem, or phone line among all the PCs in the house.

Kinds of Networks

You can connect your PCs using any of several different kinds of gear. Most of the world's offices are wired with *Ethernet cable*, but all kinds of possibilities await, including networking systems that rely on the phone or power lines already in your walls, and even wireless systems that don't need cables at all. Here's an overview of the four most popular networking systems.

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Note: Be sure that whatever networking gear you buy is compatible with Windows XP. The best way to do so is check the compatibility list at *www.microsoft.com/hcl*. Networking is complicated enough without having to troubleshoot some gadget that's not designed for XP.

Ethernet

Ethernet is the world's most popular networking protocol. It gives you fast, reliable, trouble-free communication that costs very little and imposes few limitations on where you can place the PCs in a home or small office.

In addition to the computers themselves, an Ethernet network requires three components:

- **Network adapters.** You need an adapter for each computer. (You may also hear a network adapter called a *network interface card* or NIC ["nick"].)

  The network adapter provides the jack, shown in Figure 18-1, where you plug in the network cable. If you have a desktop PC that doesn't already have an Ethernet jack, you can buy a network adapter either in the form of a PCI card (which you must open up your computer to install) or a USB box (which connects to the back of the computer and dangles off of it).

  If you have a laptop, you can use one of these USB adapters or a PC Card that slips into your computer's PC Card slot.

Tip: You can generally order a new PC with an Ethernet card preinstalled, often for less than what it would cost to buy one at your local computer store.

- **A hub.** An Ethernet network also requires an Ethernet *hub* (also shown in Figure 18-1), the nexus into which you plug the network cable from each PC. Hubs come in different sizes; five- and eight-port hubs are popular for home networking.

Tip: Buy a hub with a few more ports than you need. You may eventually add another computer to the network, not to mention shared network equipment like laser printers or a *router* (which lets you share a cable modem among all of the PCs on the network).

Of course, you can always expand your network by adding on *another* hub when the time comes, thanks to a special connector called an *uplink port* that lets you hook one hub into another.

  If you have a cable modem or DSL connection to the Internet, you may want consider buying a combination *router/hub* instead of a standard hub. (The dialog boxes in Windows XP call these boxes *residential gateways,* although almost no one else does.) In addition to serving as a hub, a special connector on this gizmo also accommodates your cable modem or DSL box, so that all of the PCs on your network can share the high-speed magic of just one Internet connection. (You can also purchase a router and hub separately.)

- **Ethernet cables.** The cables used for most Ethernet networks look something like telephone cables, but they're not the same thing—and they're definitely not inter-

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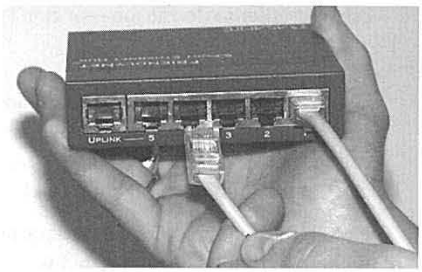
changeable. Both the cable itself (called *10BaseT, 100BaseT cable,* or *Cat 5* cable) and the little clips at each end (called an *RJ-45* connector) are slightly fatter than those on a phone cable (Figure 18-1). You can buy ready-made Ethernet cables (that is, with the connectors already attached) in a variety of lengths and in many different colors. Each computer must be connected to the hub with a cable that's no longer than 100 yards or so long.

Tip: Ethernet gear can be shockingly inexpensive; a search at *www.buy.com,* for example, reveals Ethernet cards for $10 and five-port Ethernet hubs for $30 from no-name companies. If you're willing to pay slightly more—$20 for the card, $50 for the hub, for example—you can get brand-name gear (like Microsoft, Netgear, 3Com, or LinkSys) whose support with installation, phone help, and driver updates through the years may reward you many times over. Setting up an Ethernet network generally goes very smoothly—but in the few cases where trouble arises, cheapo equipment is often the problem.



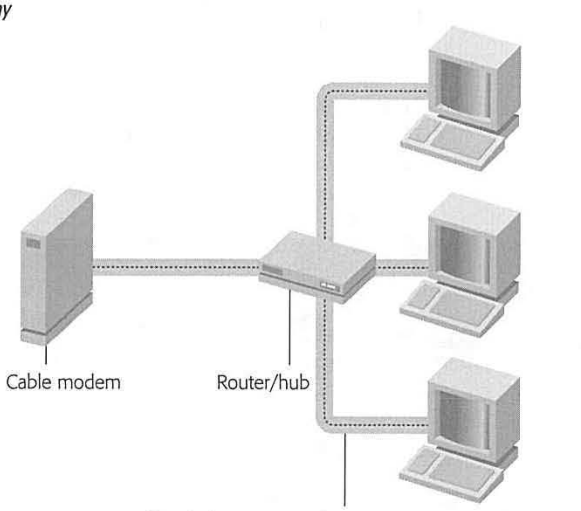


Figure 17-1:
Top: The Ethernet cable is connected to a computer at one end, and the hub or router (shown here) at the other end. The computers communicate through the hub; there's no direct connection between any two computers. The front of the hub has little lights for each connector port that light up only on the ports that are in use. You can watch the lights flash as the computers communicate with each other.

Bottom: Here's what a typical "I've got three PCs in the house, and I'd like them to share my cable modem" setup might look like.

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Network Hookups

On paper, the hardware part of setting up the network is simple: Just install a network adapter in each computer, and then connect each one to the hub using an Ethernet cable. It's that "using an Ethernet cable" part that sometimes gets sticky. Depending on where your PCs are and how concerned you are about the network's appearance, this wiring process may involve drilling holes in floors or walls, stapling cables to baseboard trim, or calling in an electrician to do the job.

When all of your computers are in the same room, you can run the cables along the walls and behind the furniture. Buying cables that are the same color as your walls or floors can help to hide the installation. If you have to run cables between rooms, you can secure the cables to the floor or baseboards using staples (use the round kind that won't crush the cables) or plastic raceways with an adhesive backing.

Of course, you might not be thrilled about having *any* exposed cables. In that case, the installation can be much more complicated. You should probably hire a professional cable installer to do the job—or don't use cables at all. Read on.

Phone line networks

Consider using the wiring that's already *in* your house—telephone wiring. That's the idea behind a kind of networking gear called HomePNA. With this system, you can use the network even when using the modem or talking on the phone, although you can't make a modem and voice call simultaneously.

Unfortunately, the average American household has only two or three phone jacks in the *entire house*, meaning that you don't have much flexibility in positioning your PCs. If you're trying to avoid the plaster-dust experience of installing additional wiring, consider one of the networking types described next.

Power outlet networks

Here's another way to connect your computers without rewiring the building: use the electrical wiring that's already in your walls. Unlike phone jacks, electrical outlets are usually available in every room in the house.

UP TO SPEED

Network Devices Have Speed Limits

Ethernet cards and hubs are sold with different speed specifications. The most common are *10BaseT* (10 megabits/second) and *100BaseT* (100 megabits/second, sometimes cleverly called *Fast Ethernet*).

If you bought a *dual-speed* hub (often labeled "10/100"), each networking card will run at its own maximum speed. But if your hub operates only at 100BaseT speed, then 10BaseT cards won't work at all. (On the other hand, all 100BaseT *cards* work with either 10BaseT or 100BaseT *hubs*.)

The moral: If you find auto-sensing, 10/100 Ethernet cards at almost the same price as 10BaseT cards, buy them, even if all you have is a 10BaseT hub. Later, if you upgrade to a 100BaseT hub (when the price drops, as all computer device prices do), you won't have to buy and install new Ethernet cards.

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If you buy *Powerline adapters* (also called HomePlug adapters), you get very fast speeds (14 megabits/second), very good range (1,000 feet, although that includes the twists and turns your wiring takes within the walls), and the ultimate in installation simplicity: You just plug the Powerline adapter from your PC's Ethernet or USB jack into any wall power outlet. Presto—all of the PCs are connected.

This isn't the cheapest avenue; at this writing, Powerline adapters cost about $100 apiece. But they afford a great deal of convenience, and a five-year-old could perform the installation.

Wireless networks (WiFi or 802.11)

All of the networking methods described so far involve various schemes for wiring your computers together. Millions of people, however, have embraced the flexibility of a networking system that involves no wires at all—a cordless networking technology that's based on a standard called *WiFi* or *802.11* ("eight-oh-two dot eleven"). (Your Macintosh friends probably call the same thing *AirPort*.)

GEM IN THE ROUGH

Two-Computer Ethernet—and Direct Cable Connections

If your network has modest ambitions—that is, if you have only two computers you want to connect—you can ignore all this business about hubs, routers, and wiring. Instead, you just need an Ethernet *crossover cable*, costing about $10 from a computer store or online mail-order supplier. Run it directly between the Ethernet jacks of the two computers. Everything else in this chapter works exactly as though you had purchased a hub and were using a "real" Ethernet network.

Of course, even that solution requires a networking card in each PC. If that expenditure is a stretch for you, there's yet another way to connect two machines: a direct connection. You can create this kind of miniature homemade network only if (a) the computers are close to each other, (b) they both have parallel or USB ports, and (c) you've bought a high-speed DirectParallel or USB Net-LinQ cable from *www.lpt.com*.

To begin, open the Network Connections icon in your Control Panel. Click the "Create a new connection" link to start the New Connection Wizard.

Click Next. On the second screen, click "Set up an advanced connection," and then click Next. Click "Connect directly to another computer," and hit Next again.

Now Windows wants to know if the computer you're using will be the *host* (the machine whose files will be shared) or the *guest* (the one that will be accessing shared resources on the other machine). Choose Host (an option only if you're using an Administrator account), and then click Next.

On the next wizard screen, specify the port you're using to connect the machines (from the list of unused USB, serial, parallel, or infrared ports). Select USB or Parallel, as appropriate. Plug in the cable, if you haven't already.

Click Next again to view the list of user accounts; turn on the checkboxes of the people who should be allowed to tap into your machine via this direct-connect cable. Click Next, then Finish. The host computer starts "listening" for the guest to visit it.

Repeat all of this on the other machine, this time designating it the Guest (you don't need an Administrator account this time).

Once the two machines are connected by cable, you can open the My Network Places window on the guest machine. You'll see the shared folders, disks, and printers, just as though they were connected by a "real" network, as described in the next chapter.

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To create a WiFi network, you equip each PC with a special network adapter (about $60) whose little antenna pokes out of the computer. If all of your equipment is wireless, that's it: your PCs can now communicate with one another.

If you want to be able to get onto the Internet with them via a shared cable modem or DSL connection, though, you also need an *access point* (about $100)—a box that connects to your network router or hub and lets your wireless computers communicate with the cabled network. The usual gang—LinkSys, Netgear, 3Com, and others—sell these access points (also called base stations).

802.11 equipment has a range of about 150 feet, even through walls. In concept, this setup works much like a cordless phone, where the base station is plugged into the wall phone jack and a wireless handset can talk to it from anywhere in the house.

Wireless networking is not without its downsides, however. You may get intermittent service interruptions from 2.4-gigahertz cordless phones and other machinery, or even the weather. Furthermore, big metal things, or walls *containing* big metal things (like pipes) can sometimes interfere with communication among the PCs, much to the disappointment of people who work in subways and meat lockers.

Wireless networking isn't as secure as a cabled network, either. If you drive around a typical middle-class American neighborhood these days with your wireless-equipped laptop turned on, you'll be surprised at how many home wireless networks you can

UP TO SPEED

802.11 Networks: Regular or Supersized?

Wireless gear comes in several flavors, each offering different degrees of speed, distance, and compatibility. They have such appetizing-sounding names as 802.11b, 802.11a, and 802.11g.

So what's the difference? Equipment bearing the "b" label transfers data through the air at up to 11 megabits per second; the "g" system is almost five times as fast. (Traditionally, geeks measure network speeds in megabits, not megabytes. Here's a translation: The older "b" gear has a top speed of 1.4 megabytes per second, versus more than 6 megabytes per second for the "a" and "g" stuff.)

The beauty of 802.11g gear, though, is that it's backwards-compatible with the older "b" gear. If your laptop has an 802.11b card, you can hop onto an 802.11g base station simultaneously with people using "g" cards. And if you have an 802.11g card, you can hop onto older base stations. You won't get better speed, of course, but at least you won't need a separate base station.

(That's not true of "a" equipment, though. 802.11a cards require 802.11a base stations, and vice versa, and have much shorter range. Word to the wise: Don't buy "a" gear. In fact, you should go for "g" whenever possible.)

But don't buy faster equipment thinking that you're going to speed up your email and Web activity important, though. A cable modem or DSL box delivers Internet information at only about *half* a megabyte per second. So the bottleneck is the Internet connection, not your network.

Instead, the speed boost you get with "g" gear is useful only for transferring files between computers on your own network–and playing network games.

Finally, the great thing about wireless networking is that it all works together, no matter what kind of computer you have. There's no such thing as an "Apple" wireless network or a "Windows" wireless network. All computers work with any kind of access point.

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get onto, piggybacking onto other people's cable modems because they failed to turn on the optional password feature of their wireless systems.

Still, nothing beats the freedom of wireless networking, particularly if you're a laptop lover; you can set up shop almost anywhere in the house or in the yard, slumped into any kind of rubbery posture. No matter where you go within your home, you're online at full speed, without hooking up a single wire.

FireWire Networks

Not many PCs have FireWire jacks (often called, unpoetically, *IEEE-1394* connectors). If yours has a FireWire card, you probably bought it because you wanted to edit video you've captured on a DV camcorder.

But if you have a handful of computers with FireWire cards installed, Windows XP offers one of the world's simplest and fastest methods of connecting them in a network: just hook them together with six-pin-to-six-pin FireWire cables. That's it—no hubs or boxes to buy. (Because a typical FireWire card has *two* jacks, you can link several computers together this way, like a chain.)

Of course, this arrangement connects your computers only. It won't help if you want two computers in your house to be able to share a single cable modem or laser printer. Furthermore, FireWire cables can't be longer than 15 feet, which may cramp your networking style.

Installing Drivers

Regardless of which kind of networking cards you install, your next obligation is to install their software drivers. If you're lucky, the Plug and Play feature, or the installer that came with the card, takes care of this for you. If you weren't so lucky, see Chapter 14 for advice on what to do when Plug and Play fails.

Internet Connection Sharing

If you have cable modem or DSL service, you're a very lucky individual. Not only do you get spectacular speed when surfing the Web or doing email, but your connection is on full time. You never have to wait for some modem to dial (screeching all the way), and wait again for it to disconnect. It's just too bad that only one PC in your household or office can enjoy these luxuries.

Fortunately, it doesn't have to be that way. You can spread the joy of high-speed Internet to every PC on your network in either of two ways:

- **Buy a router.** A *router* (also called a *residential gateway*) is a little box, costing about $80, that connects directly to the cable modem or DSL box. In some cases, it doubles as a hub, providing multiple Internet jacks into which you can plug your PCs. As a bonus, a router provides excellent security, serving as a firewall to keep out unsolicited visits from hackers on the Internet.

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- **Use Internet Connection Sharing (ICS).** ICS is a feature of Windows XP. Like a router, it distributes a single Internet signal to every computer on the network. Unlike a router, it's free. You just fire it up on the *one* PC that's connected directly to your cable modem or DSL box—or, as networking geeks would say, the *gateway* or *host* PC.

  But there's a downside: If the gateway PC is turned off, nobody else in the house can go online. Furthermore, you have to install *two* Ethernet cards into the gateway PC: one that goes to the cable modem or DSL box and another that connects it to the hub.

  Most people think of ICS in terms of expensive Internet accounts like cable modems and DSL. But it offers advantages even for PCs with standard dial-up modems. For example, more than one PC can be online at the same time, which can be a sanity saver in certain households. ICS also lets you park PCs in rooms that don't actually have phone jacks.

Even if you don't intend to share an Internet connection in this way, it's important to have some understanding of these concepts before running the Network Setup Wizard. Many of the questions it will ask pertain to the notion of connection sharing.

Tip: If you do intend to use Internet Connection Sharing, you need to make sure the gateway PC can already get onto the Internet, on its own, before you attempt to run the Network Setup Wizard. (The gateway PC should also be running Windows XP, although the other computers can be running earlier versions of Windows.)

The Network Setup Wizard

Once you've set up the networking equipment, you have to inform Windows XP about what you've been up to. You also have to configure your computers to share their files, folders, printers, modems, Internet connections, and so on. Fortunately, the Network Setup Wizard handles this duty for you. (You must have an Administrator account to run this wizard.)

To launch the wizard, choose Start→Control Panel, and then open Network Connections. In the task pane at the left side of the window (Figure 17-2), click the link that says, "Set up a home or small office network."

Tip: If you've chosen to hide your task pane, you can choose Start→All Programs→Accessories→Communications→Network Setup Wizard instead.

A welcome message appears; click Next. The remaining screens of the wizard are as follows:

"Before you continue"

The screen contains a link called "Checklist for creating a network." If you click it, you see a help page that guides you through the steps of setting up a network. It incorporates much of the information you've read so far in this chapter.

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It also reminds you that if you plan to use Internet Connection Sharing, described earlier, you should ensure that your gateway Windows XP machine can get online *before* proceeding with the wizard. When you're finished reading the checklist, close its window, and then click Next.

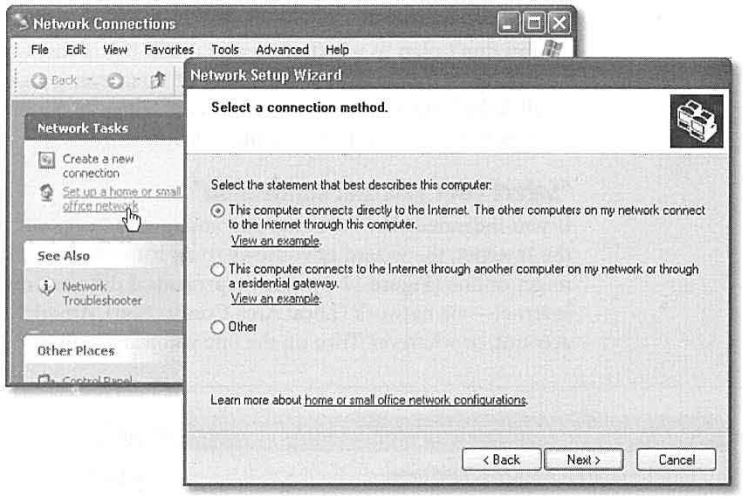

Figure 17-2:
Left: Start the Network Setup Wizard by clicking this link.

Right: Select the option that best describes this computer's relationship to the Internet. If the PC will be the gateway to the Internet for other PCs on the network, choose the first option. Otherwise, just choose Other to tell the wizard as much.

"Select a connection method"

The next wizard window starts the process of setting up Internet Connection Sharing (see Figure 17-2, right).

Your next step depends on your plans for your network and Internet use:

- **Each PC will go online independently.** If sharing a single Internet connection isn't the point of your networking efforts, click the Other button (Figure 17-2); on the next screen, click "This computer connects to the Internet directly or through a network hub." In other words, your various networked PCs will each connect directly to the Internet. No connection sharing is involved.
- **This is the computer with the connection.** If the computer you're at now is the one connected to the Internet—that is, if it's the gateway computer—click the first option: "This computer connects directly to the Internet. The other computers on my network connect to the Internet through this computer" (Figure 17-2).

Tip: If your DSL service is for *multiple fixed IP addresses,* then your computers can share the connection without having to choose one single computer as the host.

- **This isn't the computer with the connection.** If you like the idea of sharing a PC's Internet connection, but the machine you're using now isn't the gateway machine,

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choose the second option: "This computer connects to the Internet through another computer on my network or through a residential gateway."

- **You have a router.** If you've bought a router (residential gateway) box, you won't be needing the built-in Windows Internet Connection Sharing feature. Once again, you should click the second option ("This computer connects to the Internet through another computer on my network or through a residential gateway").
- **You don't plan to use the Internet at all.** If you just want to set up connections among your computers—but none of them ever goes online—click Other, then click the Next button, and then turn on "This computer belongs to a network that does not have an Internet connection."

"Select your Internet connection"

If you indicated that the computer you're setting up will indeed be connecting to the Internet, the wizard now shows you a list of the ways you've set up for your PC to get online (Figure 17-3). Each represents a different method of getting onto the Internet—via network (Local Area Connection), America Online dialup, your DSL account, or whatever. Turn on the one you want to use, and then click Next.

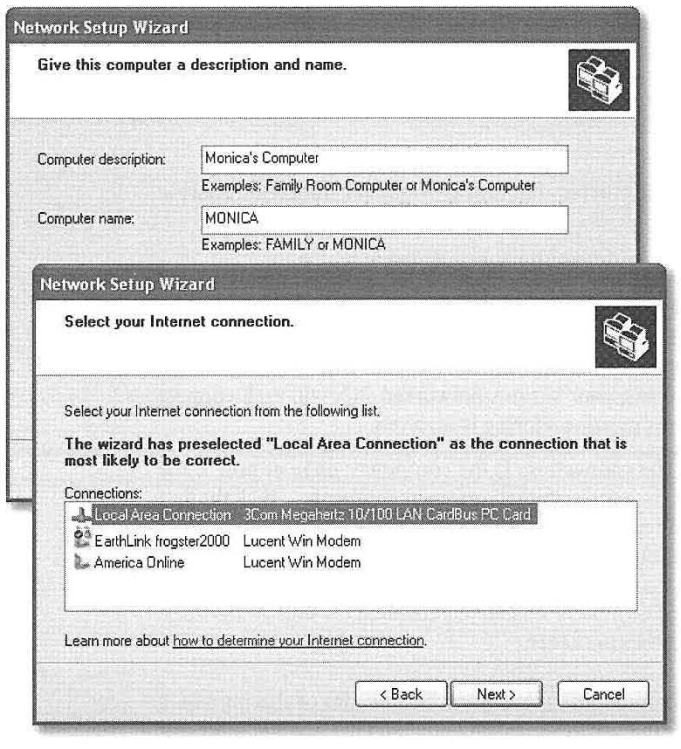

Figure 17-3:
Top: Every computer on a Windows network (even a big network in a business environment) must have a unique name. Computer names and workgroup names are limited to 15 characters, without spaces. Hyphens and apostrophes are OK, but most other punctuation is forbidden.

Bottom: Tell the wizard how this machine connects to the Internet. See Chapter 9 to find out how these account names got here.

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"Give this computer a description and name"

On this wizard page (Figure 17-3), you see a place to give your PC its own, unique name. For example, if you have a laptop and a desktop PC, you might give them names like *Portegé* and *Millennia* (or *Kirk* and *Spock,* for all Windows cares). Of course, you already gave your computer a name when you installed Windows XP; that should be the name you see here.

"Name your network"

On the screen, you're supposed to make up a name for your *workgroup* (mini-network). Every PC on your network should have the same workgroup name (it doesn't have to be *MSHome,* much as Microsoft might like it).

"Ready to apply network settings"

Click Next. On the next wizard screen, you see a summary of your settings. If it all looks good, click Next, and wait a few minutes while the wizard scurries around, applying various internal settings.

"You're almost done"

Your first PC may now be correctly configured to be part of an office network, but it faces the problem of the first telephone owner: Who ya gonna call?

Your next step, therefore, should be to run the Network Setup Wizard again on each of your other PCs. As indicated by the wizard screen before you now, getting the wizard onto those other machines depends on what version of Windows they're using:

- **If the next PC has Windows XP.** Click the bottom option here, "Just finish the wizard." Click Next, and then click Finish.

  Now move to the next computer; start the Network Setup Wizard on *it*, exactly the way you did on the first machine.

- **If the next PC has some earlier version of Windows.** You still need to run the XP version of the networking wizard. XP offers you two ways to go about it: First, you can insert your Windows XP CD-ROM in each of the other PCs. When the Windows Setup program opens up, click the link at the left side called "Perform additional tasks"; on the next screen, click "Set up home or small office networking." The wizard appears, and you're ready to go.

  Second, you can create a *networking setup disk* for your older computers. That is, the wizard will transfer a copy of itself to a floppy disk that you can carry to the non-XP machines on your network.

  If you select this option and then click Next, you're instructed to put a blank formatted disk in the floppy drive. Click Next again to create the disk, which takes only a moment or two. Then eject the disk; for best results, label it for easy identification.

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Now insert the disk into the floppy drive on the older PC. Open the My Computer icon on your desktop, double-click the floppy drive icon, and double-click the Setup.exe icon. The by-now-familiar Network Setup Wizard appears.

No matter how you get the wizard onto the other machines, the experience of using it is precisely as described on the preceding pages—with two exceptions:

TROUBLESHOOTING MOMENT

Troubleshooting Internet Connection Sharing

The Internet Connection Sharing (ICS) feature of Windows XP is worth its weight in gold—or, to be more precise, it's worth $80. That's about how much you would spend on a piece of equipment called a router, which you would otherwise need to share one Internet connection among all the PCs on your network.

If you have a high-speed connection like a cable modem or DSL, keeping your shared Internet system working is fairly simple. Just remember that the gateway PC must be turned on—and turned on *before* the other computers on the network—in order for the other PCs to get online. Remember, also, that the Windows Firewall feature (page 320) should be turned off for all PCs *except* the gateway computer. (Otherwise, they may not be able to talk to each *other*.)

If you use a dial-up modem, however, you may wind up having to do a little more fine-tuning. For example, if you open your Web browser on a *client* computer (that is, not the one with the Internet connection), the host computer dials. Unfortunately, dialing and connecting take time; before the host computer has finished making the connection, your Web browser may already have reported that the Web page can't be opened. Similarly, your email program may report that "the server isn't available," simply because it took an especially long time for the host computer to make the connection.

In either case, simply wait a moment and then try again: in your Web browser, click the Refresh button; in the email program, click the Send/Receive button again. This time, your PC should find the connection and succeed in getting online.

Another typical problem: The host computer insists on connecting to your Internet service provider 24 hours a day, tying up the household phone line all day long, redialing every time it loses the connection.

Fortunately, it's easy enough to give Internet connection sharing some behavior-modification therapy. On the gateway PC, open the Network Connections icon in your Control Panel. Right-click the connection icon for your Internet service provider; from the shortcut menu, choose Properties, and click the Options tab. Make sure "Redial if line is dropped" is turned off, and set "Idle time before hanging up" to a reasonable number—say, ten minutes.

While you're here, you may as well turn off "Prompt for name and password" and "Prompt for phone number" to streamline the connection process, so that Windows XP won't bother you for this information every time you try to connect.

Also while you're here, you may as well visit the Advanced tab. On the gateway PC—the one connected directly to the Internet—all of these checkboxes should be turned on. On the other machines, these checkboxes should be turned off.

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- If you've decided to set up the first computer as the gateway for Internet Connection Sharing, you don't see the complex array of choices illustrated in Figure 17-2. Instead, you see only the simplified options of Figure 17-4.

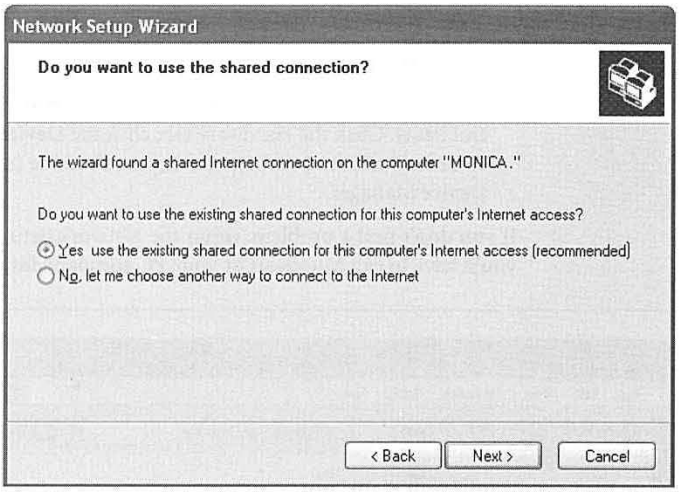

Figure 17-4: *If you're using Internet Connection Sharing, the second, third, and subsequent PCs you set up automatically detect the presence of the first one (the gateway computer). Instead of the dialog box shown in Figure 17-2, you get this far simpler version—and in general, you'll want to select the first option.*

- There's no need to create a network setup floppy disk on the final wizard screen.

When it's all over, Windows lets you know that you should restart the computer. At that point, each PC you've visited is ready for network action.

Testing the Network

After all of this setup, here's how you can find out whether or not the gods are smiling on your new network. Seated at your Windows XP machine, choose Start→My Network Places.

The network window opens, revealing the folders and disks that your machine can "see" (detect) on other computers of the network. The first time you try this experiment, there may not be much to see here.

Tip: All recent generations of Windows can "see" each other and work joyously side-by-side on the same network. On the older machines, you would open the equivalent window by double-clicking the My Network Places or Network Neighborhood icon on the desktop instead of using the Start menu.

But if you click "View workgroup computers" in the task pane at the left side of the window, you should see the names and icons of the other computers you've set up (see Figure 17-5). In the next chapter, you'll find out how to burrow into these icons,

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using the files and folders of other networked PCs exactly as though they were on your own computer.

If you don't see the icons for your other computers, something has gone wrong. Check to see that:

- Your cables are properly seated.
- Your Ethernet hub (if any) is plugged into an outlet.
- Your networking card is working. To do so, open the System program in the Control Panel. Click the Hardware tab; click the Device Manager button. Look for an error icon next to your networking card's name (see Chapter 14 for more on the Device Manager).

If you don't find a problem, rerun the Network Setup Wizard. If that doesn't work, you'll have to call Microsoft or your PC company for help.

Figure 17-5: *We have network! Your My Network Places window should reveal the presence of other PCs in your network, complete with the names you gave them when plowing through the Network Setup Wizard. This illustration shows Tiles view for clarity, but Windows starts out in Details view.)*

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CHAPTER
18

Using Your Network

After you've installed your networking cards, connected the cables, and run the Network Setup Wizard (see Chapter 17), the fun begins. You're now ready to share the following components among the various PCs on the network.

- **Your Internet connection.** Having a network means that all the PCs in your house can share a single connection. This is a *huge* feature, one that can save you hundreds of dollars a year if you have a cable modem or DSL. It's called Internet Connection Sharing, and it's described in Chapter 17.
- **Printers.** Another excellent justification for creating a small network is that all of the PCs can share a single printer. Or, if you've bought several printers—say, a high-speed laser printer for one computer, a color printer for another—everyone on the network can use whichever printer is appropriate to a particular document. You'll find step-by-step instructions starting on page 413.
- **Files, folders, and disks.** No matter what PC you're using on the network, you can open the files and folders on any *other* networked PC (and its mounted disks), as long as the other PCs' owners have made these files available for public inspection. That's where *file sharing* comes in, and that's what this chapter is all about. (Even if you don't do the networking thing, you'll need file sharing to access your files and folders using a laptop on the road.)

Note: Your network may include only one Windows XP computer, along with a Windows 95 or 98 machine or two. That's perfectly OK; all of these PCs can participate as equals in this party. This chapter points out whatever differences you may find in the procedures.

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Simple File Sharing

Windows XP Home Edition makes it very easy for anyone on the network to make certain folders available to everybody else on the network. Some people, in fact, will probably find it *too* easy. To understand why, it helps to have some background on how file sharing works in Windows 2000, whose engine drives Windows XP.

File Sharing in Windows 2000

In Windows 2000, the software controls for sharing files on the network are designed for maximum flexibility—and maximum security—in corporations.

In Windows 2000, for example, you might begin by burrowing through your hard drive, specifying which folders you want to make available on the network. Then you specify *who*, on your network, has access to these folders. Then you have to determine how *much* access each person gets. Sometimes you want people to be able to open documents but not change them, sometimes you want a "drop box" effect (people can put things in a folder, but can't see what else is there), and so on. You can even assign passwords that are required to access these files or folders—different ones for each person on the network.

But that's just the warm-up. To make matters even more complex, you can create *groups*—lists of people who all have the same amount of access. You can assign certain people to the Accounting group, others to the Marketing group, and still others to the Power Users group, for example. That way, you can give folder-sharing permissions to a whole group of people en masse, rather than having to assign permission levels to dozens of individuals, one at a time.

In short, setting up such a system is like solving a four-dimensional Rubik's cube. No wonder network administrators earn the big bucks.

File Sharing in Windows XP Home Edition

None of this control is available in Windows XP Home Edition. Life on the network is infinitely simpler: A folder is either available on the network or it's not. It's shared either with everybody or with nobody.

UP TO SPEED

Even More Networking Terminology—and Home Edition Differences

A computer running Windows XP Home Edition can't be part of a corporate *domain*—a common corporate arrangement in which one master computer stores the accounts, passwords, and settings for all other machines on the network. Technically, a Home Edition machine can be part of such networks, and can even access shared folders and other resources on them—but you'll have to plug in a name and password each time you want access.

Instead, the form of networking described in this chapter is called *peer-to-peer* networking, in which each PC maintains its own database of account information.

This piece of trivia has been brought to you for the benefit of people who work in corporations, or people who are used to using Windows 2000. Now you'll know what to reply when someone asks you whether you have a *domain* network or the *peer-to-peer* variety.

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Note: In Windows XP *Professional,* you have your choice of either sharing method–the complex, flexible way or the simple way.

This setup is almost perfect for PCs that are, in fact, at home. If it's just you and your spouse, or you and a co-worker, then you probably want maximum convenience and minimum protection from each other. If you need a peek at the spreadsheet that Harold was working on yesterday, no big deal—you just open up his My Documents folder from across the network.

If you want to establish individualized control for each person on your network, an upgrade to Windows XP Professional may be in your future. In the meantime, savor the simplicity of the Home Edition approach.

The Shared Documents Folder

In the following pages, you'll learn how to *share* certain folders—how to make them public, designating them as available to every PC on the network.

But if you live in a household full of technophobes, you might never need to bother with that business. You're already blessed with a special folder that's ready for this kind of sharing: the Shared Documents folder. It makes a perfect family (or small office) bulletin board.

To have a look at the Shared Documents folder on your own PC, just choose Start→My Computer. There it is, sitting among the other icons in the Files on This Computer section (Figure 18-1).

To peek into the Shared Documents folders on *other* people's computers, putting your network to productive use for the first time, choose Start→My Network Places. (If your Start menu doesn't list My Network Places, take a moment to put it there yourself. Right-click the Start button; from the shortcut menu, choose Properties. Click the Customize button, and then click the Advanced tab. In the scrolling list, turn on "My Network Places." Finally, click OK twice.)

Note: Technically, and maybe confusingly, the Shared Documents folder on your own PC actually represents the contents of the Local Disk (C:)→Documents and Settings→All Users→Shared Documents folder.

As shown in Figure 18-1 at bottom, you've just opened up a window that contains one icon for every shared folder on the network—including the Shared Documents folder on each computer.

At this point, you might consider dragging the Documents folders to your desktop for easier access, for example, where they become something like folder shortcuts. While you're at it, consider renaming them so you know which computers they came from. Or drag these icons directly into your Start menu or onto your Quick Launch toolbar.

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In any case, you can open and work with whatever you find inside just as though they were your own documents. The difference, of course, is that these are actually public documents sitting on other people's computers.

Tip: If you see an error message claiming that the file is in use by "another user," then, sure enough, somebody else on the network is probably working on that same document at this very moment. You'll have to wait until that person closes the document before it's your turn.

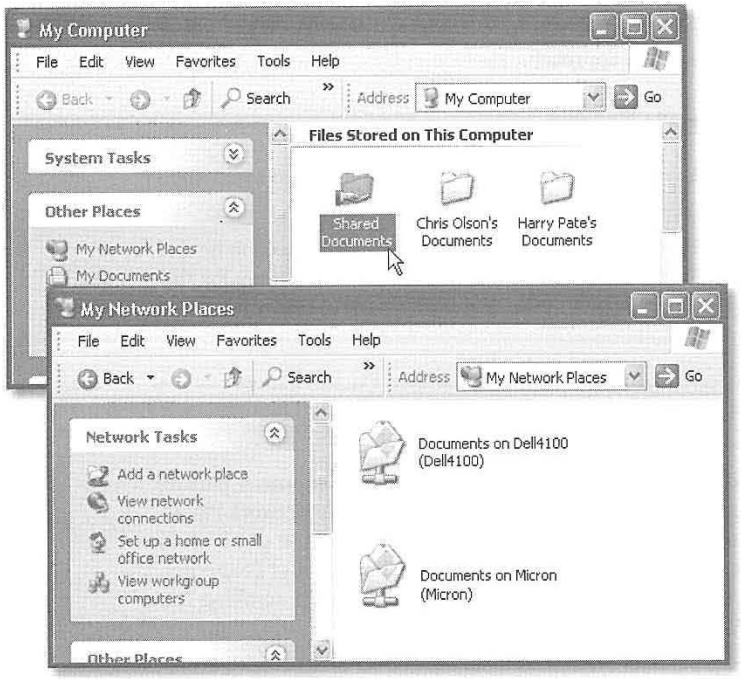

Figure 18-1: *Top: Your own Shared Documents folder resides in the My Computer window. To "publish" a document so that everybody else on the network can work with it, just drag its icon into this folder.*

Bottom: Here's how you access the Shared Documents folders on other computers on your network. (They show up named Documents when viewed across the network, even though they're called Shared Documents when you view them "in person.")

Sharing Your Own Folders

The Shared Documents folder is all very well and good, but it's generic. When you feel ready to flex your technical muscles ever so slightly, it's easy enough to "publish" *any* of your folders or disks for inspection by other people on your network. The trick is to use the Properties dialog box, like so:

1. **Locate the icon of the folder or disk that you want to share.**

   Your disk icons, of course, appear when you choose Start→My Computer. You can share any kind of disk—hard drive, floppy, CD-ROM or Zip drive, and so on.

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Sharing an entire disk means that every folder on it, and therefore every file, is available to everyone on the network. If security isn't a big deal at your place (because it's just you and a couple of family members, for example), this feature can be a timesaving convenience that spares you the trouble of sharing every new folder you create.

On the other hand, people with privacy concerns generally prefer to share individual *folders*. By sharing only a folder or two, you can keep *most* of the stuff on your hard drive private, out of view of curious network comrades.

For that matter, sharing only a folder or two does *them* a favor, too, by making it easier for them to find files you've made available. This way, they don't have to root through your entire drive looking for the appropriate folder.

2. **Right-click the disk or folder icon; from the shortcut menu, choose Sharing and Security.**

   The Sharing tab of the Properties dialog box opens (Figure 18-2). (The shortcut menu includes the Sharing command only if you've set up the computer for networking, as described in the previous chapter. And if you don't see a Sharing and Security command, just choose Properties from the shortcut menu—and then, in the resulting dialog box, click the Sharing tab.)

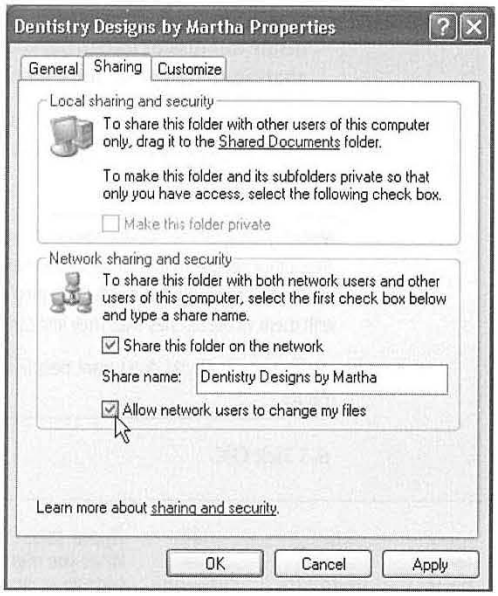

Figure 18-2:
Here's the Sharing tab for a disk or folder. (The dialog box refers to a "folder" even if it's actually a disk.) You can turn on "Share this folder on the network" only if "Make this folder private" is turned off; after all, if a folder is private, you certainly don't want other network citizens rooting around in it.

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If you're trying to share an entire disk, you now see a warning to the effect that, "sharing the root of a drive is not recommended." Click the link beneath it that says, "If you understand the risk but still want to share the root of the drive, click here" and then proceed with the next step.

3. **Turn on "Share this folder on the network" (see Figure 18-2).**

   The other options in the dialog box spring to life.

4. **Type a name for the shared disk or folder.**

   This is the name other people will see when they open their My Network Places windows.

   Make this name as helpful as possible. For example, you may want to name the kitchen computer's hard drive *Kitchen Documents Drive.*

Tip: If any of the other PCs on your network aren't running Windows XP, the shared folder's name can't be longer than twelve characters, and most punctuation is forbidden. You can type it here, all right, but—as a warning message will tell you—the other machines won't be able to see the shared disk or folder over the network.

---

5. **Turn off "Allow network users to change my files," if you like.**

   If the "Allow network users to change my files" checkbox is turned *off*, you create a "look, don't touch" policy. Other people on the network can open and read what's inside this disk or folder, but won't be able to save changes, rename anything, delete anything, or deposit any new files.

   Otherwise, your co-workers can theoretically run wild, trashing your files, renaming things at random, and painting a mustache onto your face in the JPEG family photo.

Note: Turning off the "Allow network users to change my files" checkbox isn't much of a security safeguard. True, other people on the network won't be able to change what's *in* your folder—but there's nothing to stop them from copying stuff *out* of it. Once they've saved copies of your files on their own hard drives, they can do with them whatever they like. They just can't copy the changed files back *into* your shared folder or disk.

In other words, if you don't want people to see or distribute what's in your folders, turn off the sharing feature.

---

6. Click OK.

Figure 18-3:
When you share a folder or a disk, a tiny hand cradles its icon from beneath—a dead giveaway that you've made it available to other people on the network.

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As shown in Figure 18-3 and 18-4, the icon changes for the resource you just shared. It's also gained a new nickname: you may hear shared folders geekily referred to as *shares*.

Notes on Sharing

The preceding steps show you how to make a certain folder or disk available to other people on the network. The following footnotes, however, are worth skimming, especially for Windows 2000 veterans:

- You can't share individual files—only entire folders or disks.
- The "Share this folder on the network" checkbox is dimmed for *all* folders if your PC is not, in fact, on the network—or, more specifically, if you haven't experienced the thrill of the Network Setup Wizard described in the previous chapter.
- Unless you specify otherwise, sharing a folder also shares all of the folders inside it. Your "Allow network users to change my files" setting gives permission to change files in all of those folders, too.

  If you right-click one of these inner folders and inspect the Sharing tab of its Properties dialog box, you'll find the Sharing checkbox turned off, which can be a bit confusing. But you'd better believe it—those inner folders are actually shared, no matter what the checkbox says.
- On the other hand, it's OK to right-click one of these inner folders and *change* its sharing settings. For example, if you've shared a folder called America, you can make the Minnesota folder inside it off-limits by making it private (page 496). Similarly, if you've turned *off* "Allow network users to change my files" for the America folder, you can turn it back *on* for the Minnesota folder inside it.
- You're not allowed to share important system folders like Windows, Program Files, and Documents and Settings. If you've set up your PC with multiple user accounts (Chapter 16), you can't share folders that belong to other people, either—only your own stuff.

POWER USERS' CLINIC

Un-Hiding Hidden Folders

As sneaky and delightful as the hidden-folder trick is, it has a distinct drawback: *You* can't see your hidden folder from across the network, either. Suppose you want to use another computer on the network—the one in the upstairs office, for example—to open something in your hidden My Novel folder (which is downstairs in the kitchen). Fortunately, you can do so—if you know the secret.

On the office computer, choose Start→Run. In the Run dialog box, type the path of the hidden folder, using the format *Computer Name**Folder Name*.

For example, enter *kitchen**my novel*$ to get to the hidden folder called My Novel$ on the PC called Kitchen. (Capitalization doesn't matter, and don't forget the $ sign.) Then click OK to open a window showing the contents of your hidden folder. (See page 537 for more on the Universal Naming Convention system.)

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Hiding Folders

If a certain folder on your hard drive is really private, you can hide it so that other people on the network can't even *see* it. The secret is to type a $ symbol at the end of the share name (see step 4 on page 532).

For example, if you name a certain folder My Novel, anyone else on the network will be able to see it. But if you name the share My Novel$, it won't show up in anybody's My Network Places window. They won't even know that it exists. (It still shows up on *your* machine, of course. And it will also be visible to other network computers if you shared the *disk* on which the folder sits.)

Accessing Other Computers

So far in this chapter, you've been reading from the point of view of the person doing the sharing. You've read the steps for preparing a PC for sharing by other people on the network.

This section details how to be one of *them*—that is, how to connect to other PCs whose disks, folders, and printers have been shared.

Fortunately, doing so is extremely easy.

Method 1: My Network Places

Most people view their network contents using a special window:

- **In Windows XP or Windows Me:** Choose Start→My Network Places.
- **In earlier versions:** Double-click the desktop icon called Network Neighborhood or My Network Places.

The very first time you open the network window, you see icons that correspond to the shared folders and files on the computers of your network (including those on your own machine). Just double-click one to open it, in readiness to work with its contents.

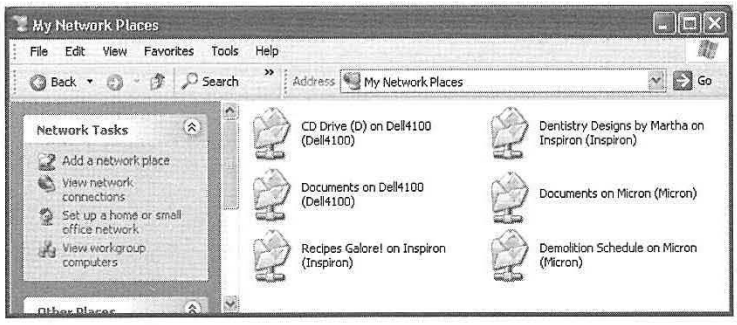

Figure 18-4: *Shared disks and folders automatically show up in the My Network Places window—including shared disks and folders on your own PC, which can be a bit confusing. Here, the network-wire logo replaces the usual sharing-hand icon.*

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"View workgroup computers"

If you find the My Network Places window overwhelmingly crowded as your network grows, you might find clarity in the "View workgroup computers" link at the left side of the window. It shows you the icons of the *computers* on your network—not every last shared folder on all of them. Double-click one of these computer icons to see a list of the shared folders and printers on it (Figure 18-5).

Figure 18-5: *Top: If you know that the folder or file you're looking for resides on a particular PC, it's often more convenient to start your quest at this window. Double-click one of these computers to see a list of its shared resources (folders, disks, and printers), as shown here at bottom.*

Figure 18-6: *This workgroup has four computers. The Entire Network icon lets you drill down from the workgroup to the computers—but because you see the networked workgroup PCs immediately, there's not much reason to do so.*

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Older PCs: Network Neighborhood

If you're using a networked PC that's still running Windows 95 or Windows 98, you won't find a My Network Places icon on the desktop. Instead, you get its ancestor: Network Neighborhood.

When you open Network Neighborhood, Windows displays an icon in the window for each computer it finds on the workgroup (see Figure 18-6), along with an Entire Network icon. (If you're on a corporate *domain* network, you may see a list of domains here; click the one you want.) Just double-click a computer's icon to see the shared disks, folders, and printers attached to it. (Once again, you may have to type in the correct password before you're given access.)

Method 2: Windows Explorer

Instead of using the My Network Places or Network Neighborhood icon on the desktop, some people prefer to survey the network landscape using Windows Explorer. (See page 108 for details on opening Windows Explorer.)

The left pane of the window lists an icon for My Network Places or Network Neighborhood. As shown in Figure 18-7, you can click the + button to see a list of the computers and shared resources on them.

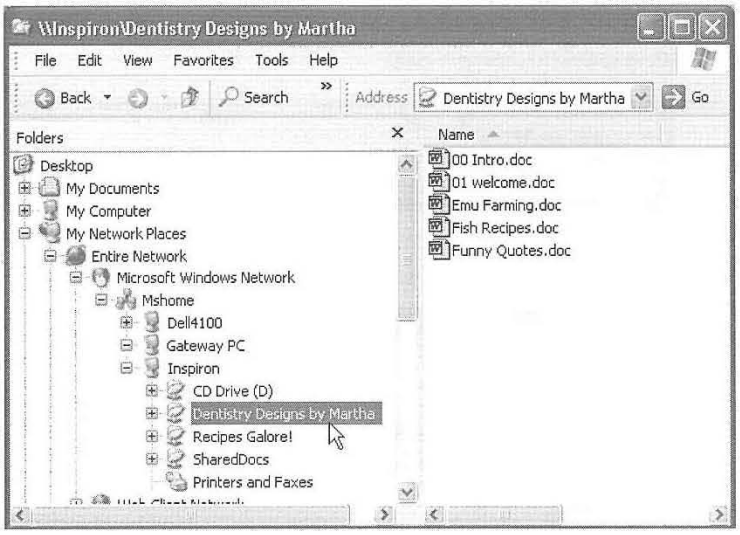

Figure 18-7: *The advantage of using Windows Explorer to look over your network is that you can simultaneously access folders and files on your own computer from this window, making it easier to copy files between the PCs. You get a good overview of the network all at once.*

Method 3: Universal Naming Convention (UNC)

For hard-core nerds, that business of burrowing into the My Network Places folder is for sissies. When they want to call up a shared folder from the network, or even a

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particular document *in* a shared folder, they just type its UNC code into the Address bar of any folder window, or even Internet Explorer—and then press Enter.

It might look like this: *\\laptop\shared documents\salaries 2002.doc.*

Tip: Actually, you don't have to type nearly that much. The AutoComplete feature proposes that full expression as soon as you type just a few letters of it.

This path format (including the double backslash before the PC name and a single backslash before a folder name) is called the Universal Naming Convention (UNC). It was devised to let network geeks open various folders and files on networked machines without having to use the My Network Places window.

You can use this system in all kinds of interesting ways:

- Open a particular folder like this: *\\PC name\folder name*
- You can also substitute the IP address for the computer instead of using its name, like this: *\\192.1681.44\my documents*
- You can even substitute the name of a shared *printer* for the folder name.
- As described in the following paragraphs, Windows XP can even access shared folders that sit elsewhere on the Internet (offline backup services, for example). You can call these items onto your screen (once you're online) just by adding *http:* before the UNC code and using regular forward slashes instead of backwards slashes, like this: *http://Computer Name/Folder Name.*

Tip: A great place to type UNC addresses is in the address bar that you can bring to the top of any desktop window.

Working with Network Files

Now that you know how to open shared drives and folders from across the network, you can start using the files you find there. Fortunately, there's nothing much to it. Here are some of the possibilities:

At the Desktop

When you're working at the desktop, you can double-click icons to open them, drag them to the Recycle Bin, make copies of them, and otherwise manipulate them exactly as though they were icons on your own hard drive. Chapter 3 contains much more detail on manipulating files. (Of course, if you weren't given permission to change the contents of the shared folder, as described earlier in this chapter, you have less freedom.)

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Tip: There's one significant difference between working with "local" icons and working with those that sit elsewhere on the network: When you delete a file from another computer on the network (if you're allowed to do so), either by pressing the Delete key or by dragging it to the Recycle Bin, it disappears instantly and permanently, without ever actually appearing in the Recycle Bin.

Using Start→Search

As noted in Chapter 1, the Windows XP Search program stands ready to help you find files not just on your own machine, but also elsewhere on the network. When the Search window opens up (choose Start→Search), open the "Look in" drop-down list and choose Browse. You will be offered a list of disks and folders to search—and one of them is My Network Places. Click it and then click OK. You've just confined your search to the shared disks and folders on your network. In the Search Results list, you'll be able to see, along with each found file, the name of the PC that holds it.

Inside Applications

When you're working in a program, opening files that sit elsewhere on the network requires only a couple of extra steps. Just summon the Open dialog box as usual (choose File→Open) and then, when it appears, click the My Network Places icon in the left-side panel (or choose My Network Places from the "Look in" drop-down menu.)

Now just double-click your way to the folder containing the file you want to use. Once you've opened the file, you can work on it just as though it were sitting on your own computer.

At this point, using the File→Save command saves your changes to the original file, wherever it was on the network—unless you weren't given permission to make changes, of course. In that case, you can choose File→Save As and then save a copy of the file onto your own PC.

Shared Folders Online

One of Windows XP's slickest features is its ability to treat hard drives out on the Internet as though they were directly connected to your system. You can create shortcuts that bring servers like these directly onto your screen, where they appear in standard folder windows:

- FTP sites (private, password-protected sets of folders on the Internet).
- Web sites that have been specially prepared to serve as online "folders." Certain data-backup Web sites work this way for example; they provide you with a 50 MB hard drive in the sky—actually on the Internet—that you can use to store whatever files you like.
- Folders on corporate intranets.

The trick to bringing these servers online is the "Add a network place" link, which you'll find in the task pane at the left side of the My Network Places window.

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Tip: There's actually a quicker, simpler way to immortalize a server as a shortcut on your desktop: just drag its icon out of the Address bar of Internet Explorer or an open folder, as shown in Figure 18-8.

Bringing an FTP or Web Server Online

To view the contents of an FTP server or an offline backup service, start by double-clicking the "Add a network place" link. When the wizard appears (see Figure 18-9), click Next. Wait while your PC goes online. Then, on the second screen, click "Choose another network location." Click Next.

Tip: You can also use this wizard to sign up for one of the above mentioned Web-based "offline disk" services. The second wizard screen lists, for example, the MSN Communities service ("Share your files with others, or store them for your personal use"). In theory, Microsoft may add other, similar services to this screen.

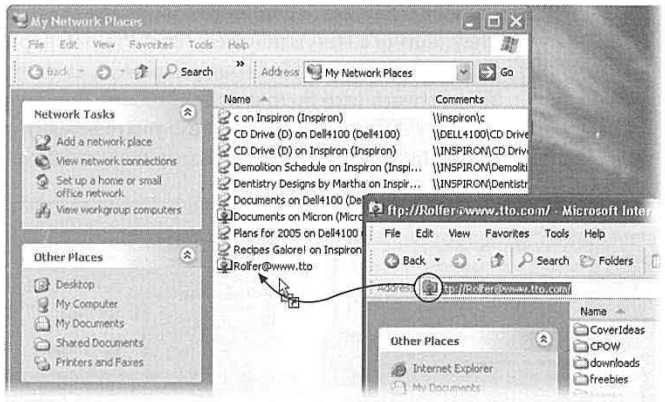

Figure 18-8: *If you've already connected to some network server—whether on your network or on the Internet—here's a very quick way to create a shortcut to it on your desktop for faster access next time. Just drag the tiny folder icon out of the Address bar. (You can put it on your desktop or, if it feels more consistent to do so, into your My Network Places folder.)*

Finally you arrive at the critical screen, where you can type in the address of the Web site, FTP site, or other network location that you'll want your new shortcut to open.

Into the first text box, you can type any of these network addresses:

- **The UNC code.** As described earlier in this chapter, a UNC code pinpoints a particular shared folder on the network. For example, if you want to open the share named FamilyBiz on the computer named Dad, enter *\\dad\familybiz*. Capitalization doesn't matter. Or, to open a specific file, you could enter something like *\\dad\finances\budget.xls*.

Tip: Remember that you're specifying the *share name,* which isn't necessarily the same as the actual folder name. If you get an error message when you try to add a folder or file to your My Network Places window, this distinction may be at the heart of the problem.

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- **http://website/folder.** To see what's in a folder called Customers on a company Web site called BigBiz.com, enter *http://bigbiz.com/customers.* (You can't just type in any old Web address; it has to be a Web site that's been specifically designed to serve as a "folder" containing files.)
- **ftp://ftp.website/folder.** This is the address format for FTP sites. For example, if you want to use a file in a folder named Bids on a company site named WeBuyStuff.com, enter *ftp://ftp.webuystuff.com/bids.*

What happens when you click Next depends on the kind of address you specified. If it was an FTP site, you're offered the chance to specify your user name. (Access to every FTP site requires a user name and password; you won't be asked for the password until you actually try to open the newly created folder shortcut.)

Click the Finish button to complete the creation of your network shortcut, which now appears in the My Network Places window. To save you a step, the wizard also offers to connect to, and open, the corresponding folder.

The beauty of all this is that these remote folders appear in everyday, ordinary Windows folder windows (or in Windows Explorer), as shown at bottom right in Figure 18-9. You can work with them exactly as though they were sitting on your own hard drive. The only difference is that because you're actually communicating with a hard drive via the Internet, the slow speed may make it feel as if your PC has been drugged.

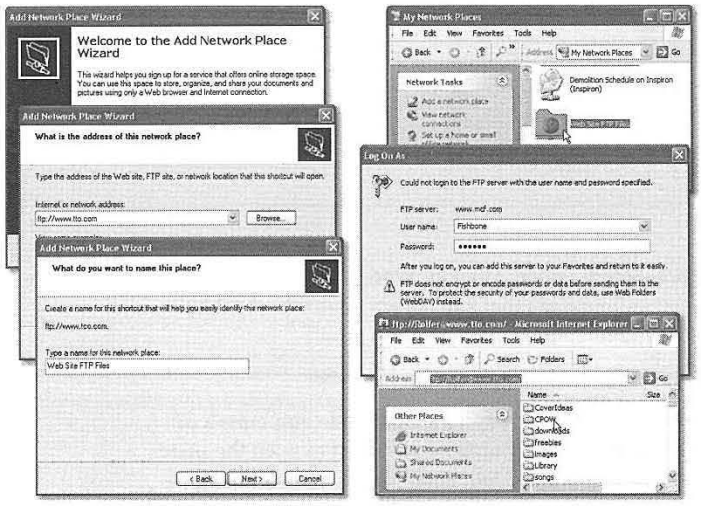

Figure 18-9: *Left: The Add Network Place Wizard (top) walks you through the process of setting up a desktop icon for your Web, FTP, or intranet site, including (middle) entering the location of the folder or file—in this case, an FTP server that contains the files for a Web site.*

Right: When you double-click the newly created FTP icon in My Network Places (top), you'll be asked for your password (middle). Thereafter, the files in the FTP folder show up on your screen as though they were sitting on a very, very slow floppy disk (bottom).

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Tip: If you or someone you love uses an iDisk (a free, 20 MB, Internet-based "hard drive" that Apple provides to its Macintosh customers), you can connect to it from your Windows machine using the same wizard. Just use the address *http://idisk.mac.com/YourName* (substitute the Mac owner's account name for YourName, of course); after a moment, the iDisk opens up on your desktop as though it were an ordinary hard drive. You've just given yourself a terrific way to shuttle files back and forth between a Mac and your PC.

Mapping Shares to Drive Letters

If the networking bug has really bitten you, you may want to consider the advanced technique called *mapping shares*. Using this trick, you can assign a *letter* to a particular shared disk or folder on the network. Just as your hard drive is called C: and your floppy drive is A:, you can give your Family Stuff folder the letter F: and the Jaz drive in the kitchen the letter J:.

Doing so confers two benefits. First, these disks and folders now appear directly in the My Computer window, where getting to them can be faster than navigating to the My Network Places window. Second, when you choose File→Open from within a program, you'll be able to jump directly to a particular shared folder instead of having to double-click, ever deeper, through the icons in the Open File dialog box.

To map a drive letter to a disk or folder, open any folder or disk window. Then:

1. **Choose Tools→Map Network Drive.**

   The Map Network Drive dialog box appears, as shown in Figure 18-10.

2. **Using the drop-down list, choose a drive letter.**

   You can select any unused letter you like.

3. **Indicate which folder or disk you want represented by this letter.**

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Automatic Reconnections of Mapped Shares Can Be Tricky

If you select "Reconnect at logon" when mapping a shared disk or folder to a letter, the order in which you start your computers becomes important. The PC containing the shared disk or folder should start up before the computer that refers to it as, say, drive K:. That way, when the second computer searches for "drive K:" on the network, its quest will be successful.

On the other hand, this guideline presents a seemingly insurmountable problem if you have two computers on the network, and each of them maps drive letters to folders or disks on the other.

In that situation, you get an error message to the effect that the permanent connection is not available. It asks if you want to reconnect the next time you start the computer. Click Yes.

Then, after all the computers have started up, open My Computer or Windows Explorer. You can see the mapped drive, but there's a red X under the icon. Ignore the X. Just double-click the icon; the shared folder or disk opens normally (because the other machine is now available), and the red X goes away.

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You can type the UNC code into the Folder box, choose from the drop-down list of recently accessed folders, or click the Browse button. (Most people use the mapping function for disks and drives elsewhere on the network, but there's nothing to stop you from mapping a folder that's sitting right there on your own PC.)

4. **To make this letter assignment "stick," turn on "Reconnect at logon."**

   If you don't use this option, Windows will forget this assignment the next time you start the PC. (Use the "Connect using a different user name" option if your account name on the shared folder's machine isn't the same as it is on this one.)

5. **Click the Finish button.**

   A window opens to display the contents of the folder or disk. If you don't want to work with any files at the moment, just close the window.

That shared disk or folder now appears in your My Computer list alongside the disks that are actually in your PC, as shown at bottom in Figure 18-10.

Tip: If you see a red X on one of these mapped icons, it means that the PC on which one of the shared folders or disks resides is either off the network or turned off completely.

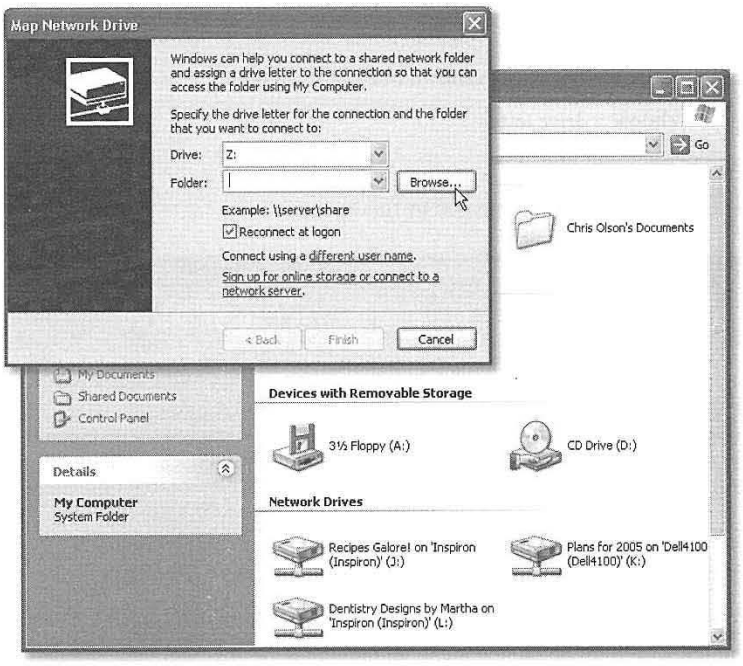

Figure 18-10: *Top: The "Reconnect at logon" option tells Windows to locate the share and map this drive letter to it every time you start your computer.*

Bottom: Once you've mapped a few folders or disks to their own letters, they show up in the Network Drives group within your My Computer window. (Note the drive letters in parentheses—in this example, J:, K:, and L:.)

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Three Ways to Dial In from the Road

If you're a road warrior, armed with a laptop, you may come to treasure the long list of avenues Windows XP provides for connecting to your home machine (or office machine) from the road. Each of these systems requires a good deal of setup and some scavenging through the technical underbrush, and each offers slightly different features. But when you're in Tulsa and a spreadsheet you need is on your PC in Tallahassee, you'll be grateful to have least one of these systems in place.

The remaining pages of this chapter cover all three systems, but here's a quick summary:

- **Dialing direct.** You can dial directly from your laptop to the PC at home, modem to modem, and join your home network. At that point, you can access shared folders exactly as described in this chapter. The downside: Your PC at home has to have its own phone line that only it answers. Otherwise, its modem will answer every incoming phone call, occasionally blasting the ears of hapless human callers.
- **Virtual private networking.** Using this system, you don't have to make a direct phone call from your laptop to your PC at home. Instead, you use the Internet as an intermediary. This way, you avoid long distance charges, and your PC at home doesn't have to have its own phone line.
- **Remote Desktop.** This feature, new in Windows XP, doesn't just connect your laptop to the network at home. It actually turns your laptop *into* the PC at home, filling your screen with its screen image. When you touch the trackpad on your laptop, you're actually moving the cursor on your screen at home, and so on.

  To make this work, you have to dial *into* a computer that's running Windows XP Professional. But the machine doing the dialing needs only Windows XP Home Edition.

Tip: The world is filled with more powerful, more flexible products that let you accomplish the same thing, from software programs like LapLink, Carbon Copy, and PC Anywhere to Web sites like *www.gotomypc.com*. But Remote Desktop is free.

Note, by the way, that these are all methods of connecting to an *unattended* machine back home. If somebody is sitting at the PC back home, you might find it far more convenient to dial in using Windows Messenger, described in Chapter 11. It's easier to set up and doesn't require XP Professional on one end, yet offers the same kind of "screen sharing" as Remote Desktop.

Dialing Direct

To set up your home PC to make it ready for access from the road, you first must prepare it to answer calls. Then you need to set up the laptop to dial out.

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Setting up the home PC

If your PC at home has its own private phone line—the lucky thing—here's how to prepare it for remote access.

1. **Choose Start→Control Panel. In the Control Panel window, double-click Network Connections.**

   You see the icons for the various network connections you've created.

2. **In the task pane at the left side of the window, click "Create a new connection."**

   As you might have predicted, something called the New Connection Wizard appears (Figure 18-11, top).

3. **Click Next. On the next screen, click "Set up an advanced connection," and then click Next.**

   Now the Advanced Connections Options screen appears.

4. **Ensure that the "Accept incoming connections" option is selected (Figure 18-11, middle). Then click Next.**

   Now you're shown a list of the communication equipment your PC has—including its modem.

5. **Turn on the checkbox for your modem.**

   At this point, you could also click the Properties button and, in the resulting dialog box, turn on "Disconnect a call if idle for more than __ minutes." Doing so makes sure that your home PC won't tie up the line after your laptop in the hotel room is finished going about its business. Click OK.

6. **Click Next. Leave "Do not allow virtual private connections" selected, and then click Next.**

   As shown in Figure 18-11 at bottom, you're now looking at a list of every account holder on your PC (Chapter 16).

7. **Turn on the checkboxes corresponding to the people who should be allowed to dial into this home PC.**

   Don't turn on Guest, which amounts to a welcome mat for hackers.

   If you highlight a name and then click Properties, you can turn on the *callback* feature—a security feature that, after you've dialed in, makes your home PC hang up and call you back at a number that you've previously specified. (This system rules out the possibility that some teenager in Germany is tapping into your network, having somehow figured out your name and password.) Click OK to close the dialog box.

8. **Click Next.**

   You're shown a list of networking protocols that Windows XP will make available to you when you call in. In general, you should simply confirm that all the

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checkboxes are turned on. (The Properties button may be useful to the paranoid, however. It lets you limit a remote caller to just this particular PC, instead of having full access to the network.)

9. **Click Next again, and then click the Finish button.**

A new icon in your Network Connections window, called Incoming Connections, is born. Your home-base PC is ready for connections.

Setting up the laptop

Now pick up your laptop and get it ready to phone home. Here's what to do:

1. **Choose Start→My Network Places. At the left side of the My Network Places window, click "Create a new connection."**

   The New Connection Wizard appears.

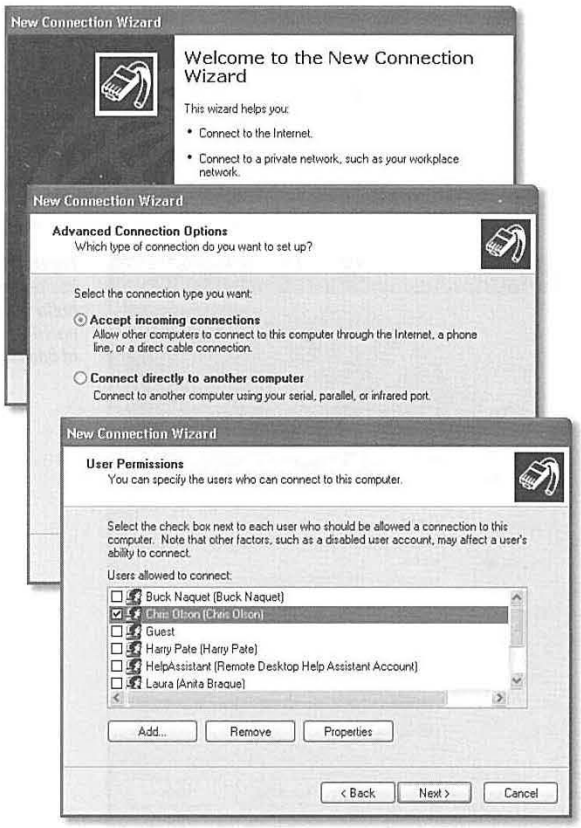

Figure 18-11: *The New Connection Wizard is the key to setting up two of XP's three remote-access features: direct dialing and virtual private networking (VPN). To set it up, you answer its questions once on the home-base computer, and again on the laptop (or whatever machine you'll use to dial in). Shown here: the welcome screen (top), the all-important "Accept incoming connections" option on the Advanced Connection Options screen (which is what makes your PC answer the phone), and the User Permissions screen, where you indicate which account holders are allowed to dial in.*

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2. **Click Next. Select "Connect to the network at my workplace," and then click Next.**

   Now Windows wants to know if you'll be connecting via modem ("Dial-up connection" or via Internet ("Virtual Private Network connection").

3. **Click "Dial-up connection," and then click Next. Type a name for your connection (like "Phone home"), and then click Next. Type a phone number for the line your home PC is connected to, and then click Next again.**

   You'll have an opportunity to specify area codes and dialing codes later.

4. **On the final screen, turn on "Add a shortcut to this connection to my desktop," and then click the Finish button.**

The stage is set. Book your flight, check in, and hook up the laptop to a phone jack.

Making the call

Once you're prepared to phone home, follow these steps:

1. **Tell Windows where you are.**

   If your area code has changed, open the Phone and Modem Options icon in your Control Panel. Specify your current location, complete with whatever fancy dialing numbers are required by it (see page 312). Click the current location and then click OK. Now Windows knows what area code and prefixes to use.

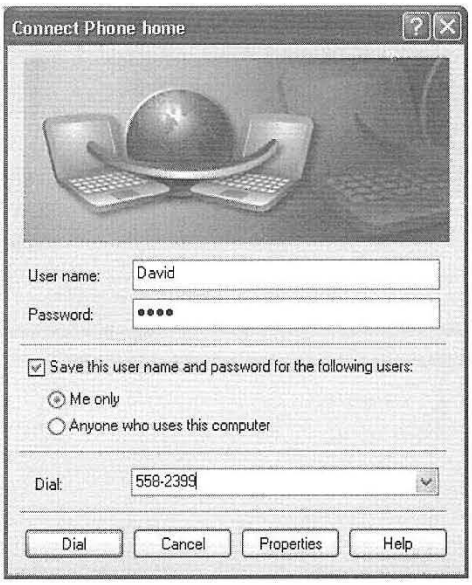

Figure 18-12:
You're ready to phone home. If you click the Properties button, you can invoke one of the Dialing Rules you prepared while reading page 312, which can save you a bit of fiddling around with area codes and access numbers.

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2. **Double-click the shortcut icon you created in the previous step 4.**

   If it isn't on your desktop, you'll also find it in your Network Connections window (which you can open from the Control Panel). The dialog box shown in Figure 18-12 appears.

3. **Type in your name and password, and double-check the phone number.**

   This is the same name and password you'd use to log in at the Welcome screen if you were sitting in front of the PC at home (Chapter 16). If you've set up dialing rules (page 312), you can choose the appropriate set of phone number segments by clicking the Properties button.

4. **Click Dial.**

That's all there is to it. Windows dials into your home PC, makes the connection, and—if the phone number, name, and password are all correct—shows you a balloon on your taskbar (Figure 18-13, top).

You're free to open up any shared folders, even use shared printers, on your network back home. And although it may make your brain hurt to contemplate it, you can even surf the Internet if your home PC has, say, a cable modem. (Don't try to run any *programs* that reside on your home PC, however; you'll be old and gray by the time they even finish opening.)

When you're finished with your email check, address lookup, document transfer, or whatever, right-click the little network icon in your notification area and choose Disconnect from the shortcut menu (Figure 18-13, bottom).

Tip: If you're having trouble connecting, confirm that the name and password you're using are correct–that's the number-one source of problems. If the remote system still doesn't recognize you, click the Properties button in the dialog box shown in Figure 18-12. On the General tab, make sure that your laptop's dialing the right number; on the Networking tab, confirm that all the checkboxes are turned on.

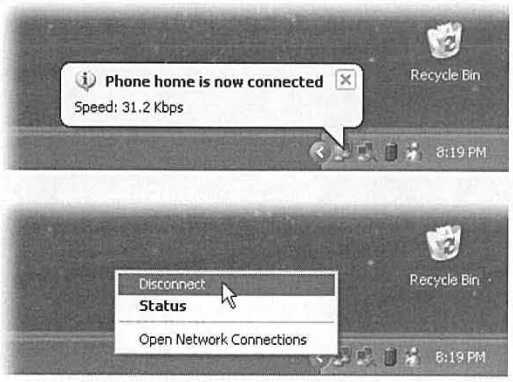

Figure 18-13:
Top: Congratulations–you're in. (When two 56K modems connect, alas, they're limited to the top uploading *speed of either–and that's about 33 K.)*

Bottom: Disconnect by right-clicking the notification-area icon. (The X'ed-out network icon shown here, by the way, represents the office Ethernet cable that's currently disconnected from this laptop, which is in a hotel room somewhere.)

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Virtual Private Networking

Virtual private networking, or VPN, as geeks love to abbreviate it, is a fancy way of saying, "Your laptop can become part of your home or office network from across the Internet." Yes, this does sound exactly like the direct-dialing feature described earlier—except this time, you don't pay any long-distance bills, your home PC doesn't have to have its own phone line, and (if the computers on both ends have fast connections) you're not limited to the sluglike speeds of dial-up modems.

All of this is kept very secure from Internet hackers, thanks to some sophisticated encryption of the data you send back and forth.

To make VPN work, the machine at home requires two important components:

- It must be on the Internet at the moment you try to connect. Usually, that means it needs a full-time Internet connection like cable modem or DSL. But in a pinch—if it has only a dial-up modem, for example—you could phone a family member or co-worker just before you need to connect, with the direction to go online with your home PC.
- Its own, fixed IP address. But see the box below for a workaround.

Setting up the home-base machine

Before you depart for your big road trip, set up the home-base PC exactly as you would for direct-dial connections (page 544)—but in step 6, choose "Allow virtual private connections." When the wizard finishes its work, the home-base machine is ready for action.

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Getting a Fixed IP Address

Several of the remote-connection methods described in this chapter require that your home-based PC have a *fixed* IP address. (An IP address identifies a particular PC on the Internet. It's a string of four blocks of numbers separated by periods.)

Some PCs with high-speed Internet connections (cable modem and DSL, for example) have this kind of permanent, unchanging address. But other PCs get assigned a new address each time they connect (they have a *dynamic* IP address). That's always the case, for example, when you connect using a dial-up modem.

(If you can't figure out whether your PC has a static or fixed address, ask your Internet service provider.)

You might suppose that PCs with dynamic addresses can't use the remote-connection technologies described in this chapter. After all, your Internet address *changes* every time you connect, making it impossible to provide a single, permanent address.

One solution is to sign up for a *dynamic DNS service* that gives your PC a name, not a number. Whenever you're online, these free services automatically update the IP address associated with the name you've chosen (such as *pcnut.dyndns.org*), so that you (and your colleagues) can memorize a single address for your machine.

To sign up for one of these services, just go to its Web site—*www.dyndns.org, www.dhs.org, www.dtdns.com, www.hn.org,* or *www.no-ip.com,* among others.

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Making the connection

Now move to the laptop, or whatever machine you'll be using when you're away from the main office. These steps, too, should seem familiar—they're exactly the same as those that began on page 545, except that in step 2, you should choose "Virtual Private Network connection."

The result is a new icon in your Network Connections window. When you double-click it, you see a dial-up box like the one shown in Figure 18-12. As with direct-dial connections, you can use dialing rules (page 312) to simplify your life as you move from area code to area code in the course of your life.

At this point, you've once again joined your home network. Exactly as with the direct-dial connections described earlier, you should feel free to transfer files, make printouts, and so on—but should avoid actually running programs on the distant PC.

When you want to hang up, right-click the connection icon in your notification area and choose Disconnect.

Note: All of this sounds simple enough–and it is, if you have only one PC at home, or several that rely on Internet Connection Sharing (Chapter 17).

Unfortunately, setting up virtual private networking (and, for that matter, Remote Desktop, described next) on larger networks, or on networks that don't use Internet Connection Sharing, can be extremely complex. If you've installed a *router* to distribute the Internet connection to your networking (page 519), for example, some hairy technical bushwhacking is involved in setting it up to accommodate remote-access requests from the road. A consultant, or call to the router company, may be in your future.

Remote Desktop

If you or somebody at home or work has set up a machine that runs Windows XP Professional (or XP Server, or Windows 2000 Server), dialing into it from the road—even from a Windows XP Home Edition machine—offers some spectacular advantages over the direct-dial method described earlier. When you use Remote Desktop, you're not just tapping into your home computer's network—you're actually bringing its screen onto your screen. You can run its programs, print on its printers, "type" on its keyboard, move its cursor, manage its files, and so on, all by remote control.

Setting up the home machine

If you intend to dial in via the Internet, the Windows XP Professional machine back home must be online all the time and have its own IP address, exactly as with virtual private networking.

Unfortunately, it must also enjoy the services of a technical guru who can turn on the Remote Desktop feature; it's not a simple on/off switch. The steps required to set up a Professional machine for remote connections can be complex, depending on whether you intend to connect by dialing in (modem to modem), within the same building (from across the network), or via the Internet.

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Making the connection

When you're on the road and ready to connect, grab your laptop (that is, your Windows XP Home Edition machine). Go online and then choose Start→All Programs→Accessories→Communications→Remote Desktop Connection. The Remote Desktop Connection dialog box appears; fill it out as described in Figure 18-14.

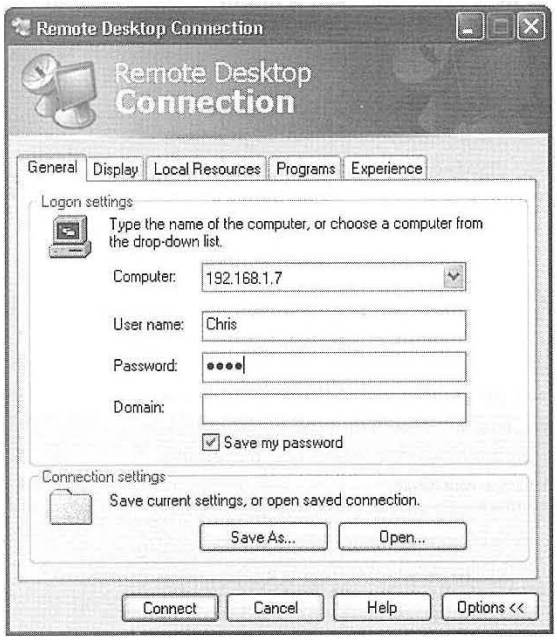

Figure 18-14: *Plug in the IP address or registered DNS name of your home-based computer. (In this illustration, one PC is connecting to another within the same building–across the network.) Then fill in your name and password, exactly the way you would if you were logging onto it in person.*

When you click Connect, a freaky thing happens: after a moment of pitch-blackness, the home-based computer's screen fills your own (Figure 18-15). Don't be confused by the fact that all of the open windows on the laptop you're using have now *disappeared.* You can now operate the distant PC as though you were there in the flesh, using your own keyboard (or trackpad) and mouse. You can answer your email, make printouts, and so on.

Tip: You can even shut down or restart the faraway machine by remote control. Choose Start→Windows Security (a command that appears only when you're connected). In the resulting dialog box, use the Shut Down menu to choose the command you want: Restart, Turn Off, Disconnect, or whatever.

Keep in mind a few other points:

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- You don't need to feel completely blocked out of your own machine. The little title bar at the top of the screen offers you the chance to put the remote computer's screen into a floating window of its own, permitting you to see both your own screen and the home-base computer's screen simultaneously (Figure 18-16).

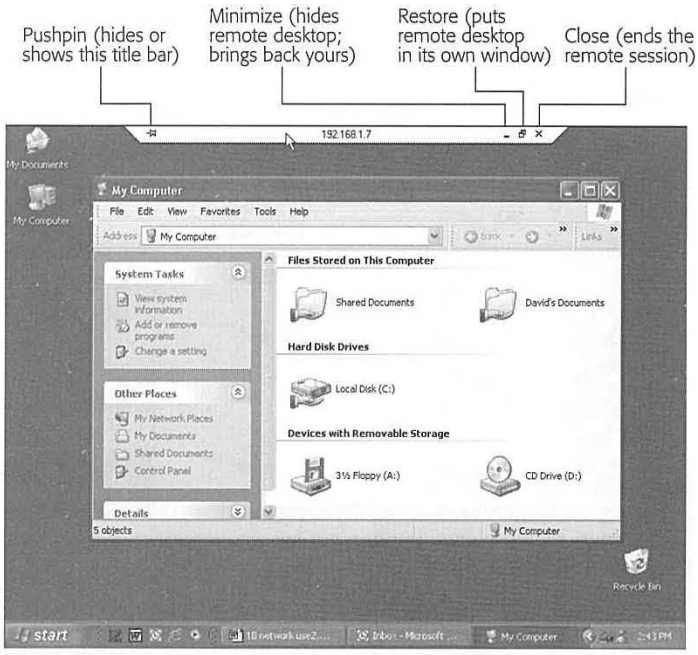

Figure 18-15: *The strange little title bar at the top of your screen lets you minimize the distant computer's screen or turn it into a floating window. To hide this title bar, click the pushpin icon so that it turns completely horizontal; after a minute, it slides into the top of the screen, out of your way until you move the cursor to the top edge of the screen.*

- You can copy and paste highlighted text or graphics between the two machines (just using regular Copy and Paste), and even transfer entire documents back and forth (using Copy and Paste on the desktop icons). Of course, if you've made both desktops visible simultaneously (Figure 18-16), you can also copy icons just by dragging them.
- Even Windows XP Professional can't keep its mind focused on two people at once. If somebody is actually trying to use your machine at home, you'll see a message to the effect that you're about to bump that person off the PC. In fact, unless Fast User Switching is turned on (page 502) *and* the person back home clicks Yes in the "Do you want to allow this connection?" dialog box that appears, your colleague at home will lose all unsaved work.
- Similarly, if somebody tries to log on back home while you're connected from the road, *you* get unceremoniously dumped off. (You just get a message that tells you, not exactly accurately, that your session has been terminated "by means of

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an administration tool.") Fortunately, you don't lose work this way—your account remains logged on behind the scenes, just as in Fast User Switching. When you connect again later (after the interloper has signed off), you'll find all your programs and documents open exactly as you left them.

- Back at home, nobody can see what you're doing. The standard Welcome screen appears on the remote PC, masking your activities.

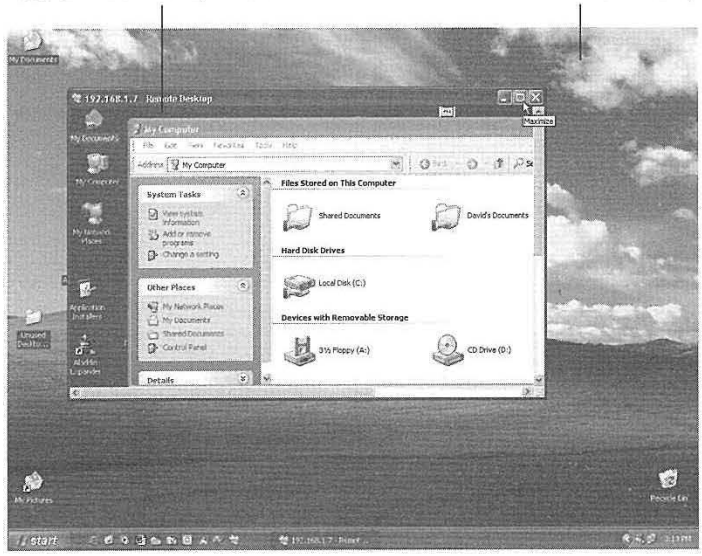

Figure 18-16: *By putting the other computer's screen into a window of its own, you save yourself a little bit of confusion—and open up some unique possibilities. For example, you can now transfer documents back and forth just by dragging them between the two windows. You can even minimize the remote computer's screen entirely, reducing it to a tab on your taskbar until you need it again.*

Disconnecting

To get out of Remote Desktop mode, click the close box in the strange little title bar at the top of your screen, as shown in Figure 18-15 (or choose Start→Turn Off Computer).

Note, however, that this method leaves all your programs running and your documents open on the distant machine, exactly as though you had used Fast User Switching. If you log on again, either from the road or in person, you'll find all of those programs and documents still on the screen, just as you left them.

If you'd rather log off in a more permanent way, closing all your distant documents and programs, choose Start→Log Off (the home-base computer's Start menu, not yours).

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Fine-tuning remote-desktop connections

Windows XP offers all kinds of settings for tailoring the way this bizarre, schizophrenic connection method works. The trick is, however, that you have to make them *before* you connect, using the tabs on the dialog box shown in Figure 18-17.

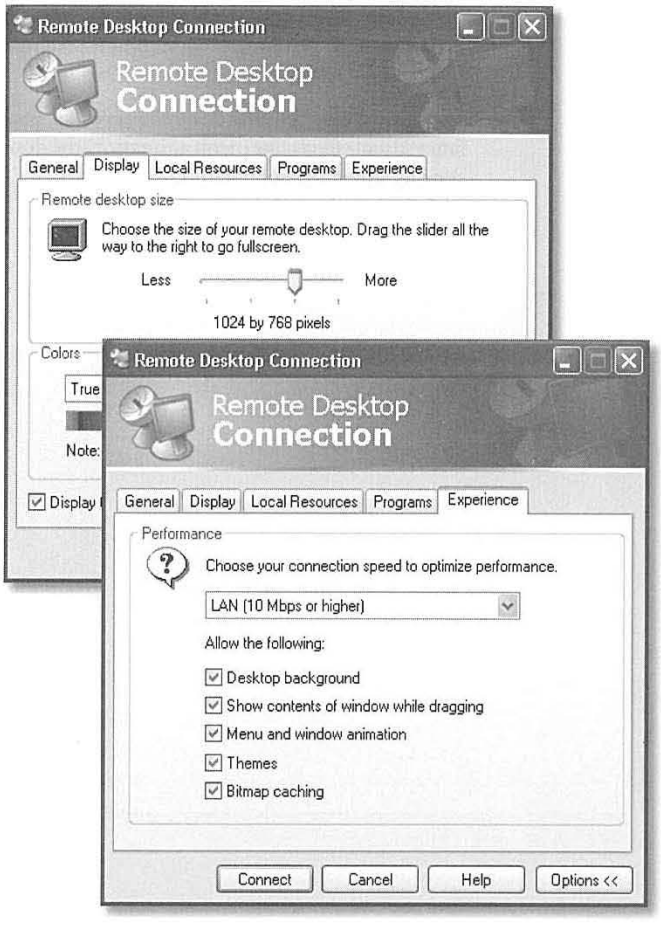

Figure 18-17: *Click Options if you don't see these tabs. Once you've made them up here, though, a few useful (and a lot of rarely useful) settings become available. On the Display tab (top), for example, you can effectively reduce the size of the other computer's screen so that it fits within your laptop's. On the Experience tab (bottom), you can turn off special-effect animations to speed up the connection.*

Here's what you'll find:

- **General tab.** Here's where you can tell Windows to memorize your password, or to save all of the current settings as a shortcut icon, which makes it faster to reconnect later. (If you connect to a number of different distant computers, saving a setup for each one in this way can be a huge timesaver.)

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- **Display tab.** Use these options to specify the *size* (resolution) of the home-base PC screen—an especially useful option if it's different from your laptop screen size.
- **Local Resources tab.** Using this screen, you can set up local peripherals and add-ons so that they behave as though they were connected to the remote computer. This is also where you tell Windows which PC should "hear" keystrokes like Alt+Tab, and whether or not you want to hear sound effects played by the distant machine.
- **Programs tab.** You can set up a certain program to run automatically as soon as you connect to the home-base machine.
- **Experience tab.** Tell Windows the speed of your connection, so that it can limit fancy visual effects like menu animation, the desktop wallpaper, and so on, to avoid slowing down the connection.

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6

Part Six: Appendixes

Appendix A: Installing Windows XP

Appendix B: Windows XP, Menu by Menu

Appendix C: Fun With the Registry

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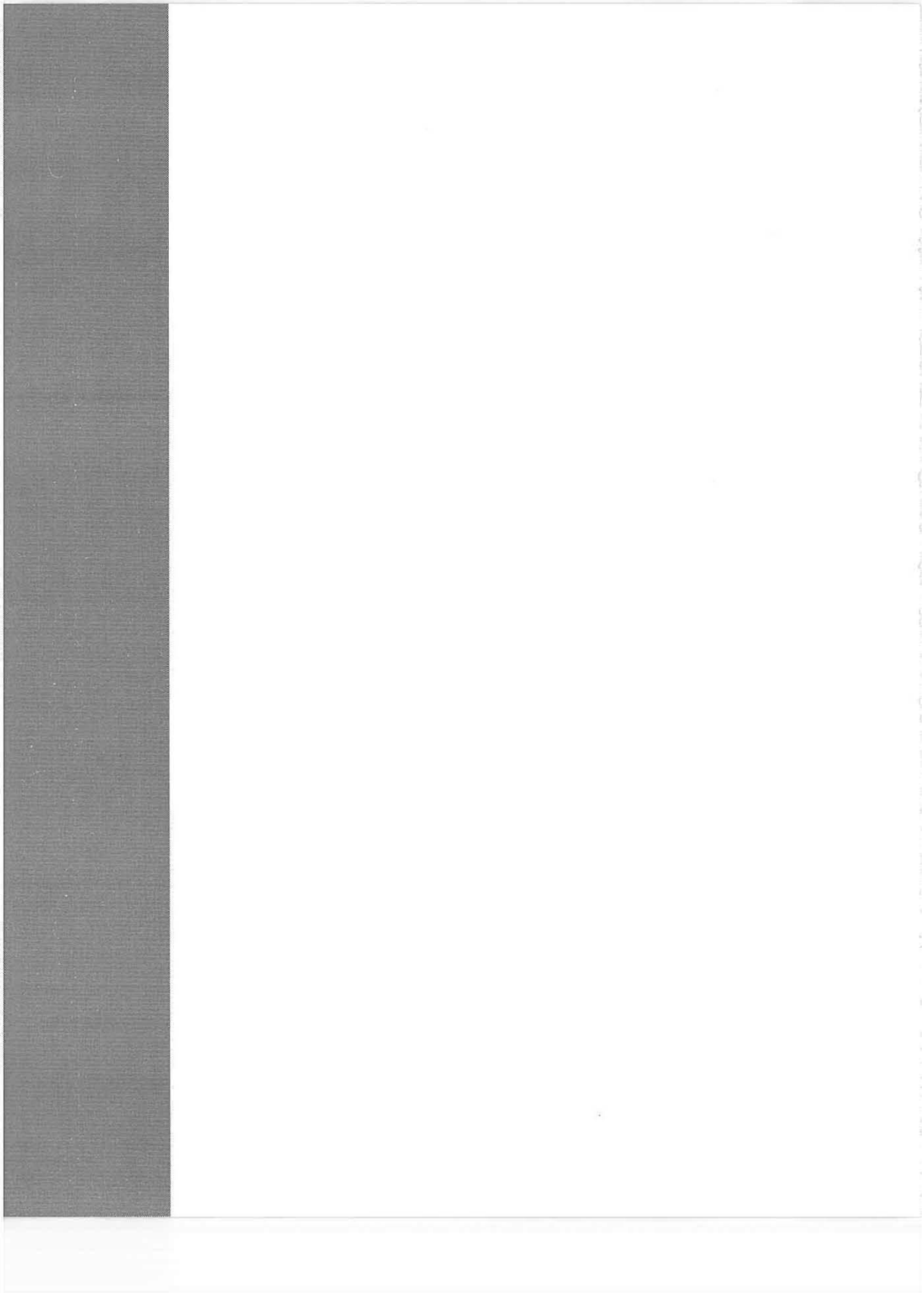

APPENDIX
A

Installing Windows XP

If your computer came with Windows XP already installed on it, you can skip this appendix—for now. But if you're running an earlier version of Windows and want to savor the XP experience, this appendix describes how to install the new operating system on your computer.

Before You Begin

Believe it or not, most of the work involved in installing Windows XP takes place well before the installation CD so much as approaches your computer. You have a lot of research and planning to do, especially if you want to avoid spending a five-day weekend in Upgrade Hell.

To start with, before you even think about installing Windows XP, you must ensure that your PC is beefy enough to handle it. You also have to decide which of two types of installation you want to perform: an *upgrade* or a *clean install.* (More on this in a moment.)

If you opt for the clean install (a process that begins with *erasing your hard drive completely*), you must back up your data. Finally, you have to choose a *file system* for your hard drive and gather all of the software bits and pieces you'll need in order to perform the installation.

Checking Hardware Requirements

Before you even buy a copy of Windows XP, your first order of business should be to check your computer against the list of hardware requirements for Windows XP, as published by Microsoft:

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- A computer with 300 megahertz (MHz) or higher processor clock speed recommended (233 MHz minimum required); Intel Pentium/Celeron family, AMD K6/Athlon/Duron family, or compatible processor recommended
- 128 megabytes (MB) of RAM or higher recommended (64 MB minimum)
- 1.5 gigabytes (GB) of free hard disk space
- Super VGA (800 x 600) or higher resolution video adapter and monitor
- CD-ROM or DVD drive
- Keyboard and Microsoft mouse or compatible pointing device

At this point, of course, anyone who really knows Windows is writhing on the carpet, convulsed in laughter. Run Windows XP on a 233 MHz Pentium with 64 MB of RAM? It would take three weeks just to get past the Windows logo at startup time. You'd get your work done faster by using an abacus.

Microsoft does make a distinction between what is "recommended" and what is "required," but even the "recommended" statistics are wishful thinking. Glaciers exhibit more speed than an underpowered computer running Windows XP.

In short, if you care about your sanity, treat the first two recommendations (processor and memory) as bare minimums—especially the memory. (256 MB makes Windows XP much happier than 128.) And keep in mind that even on a 1 GHz Pentium machine with 512 MB of memory, it still takes a second or two for the Start→All Programs menu to appear on the screen.

If your computer doesn't meet these requirements, then consider a hardware upgrade—especially a memory upgrade—before you even attempt to install Windows XP. With memory prices what they are today (read: dirt cheap), you'll thank yourself later for adding as much RAM as you can afford.

Adding more hard disk space is also a reasonably easy and inexpensive upgrade. The one place where you may be stuck, though, is on the processor issue. The state of the art in processor speeds seems to advance almost weekly, but it's safe to say that a PC running at 300 MHz or less is certifiably geriatric. It may be time to think about passing the old girl on to the kids or donating it to a worthy cause and getting yourself a newer, faster computer. As a bonus, it will come with Windows XP preinstalled.

Hardware Compatibility

Once you've had a conversation with yourself about your equipment, it's time to investigate the suitability of your existing add-on gear for use with Windows XP.

Microsoft maintains a list of the hardware components that have been tested with Windows XP (and other Microsoft operating systems): the hardware compatibility list (HCL), which is at *www.microsoft.com/hcl.* On this Web page, you can search for a particular component to make sure that it has been tested and works with XP.

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If some of the hardware components in your computer don't appear on the HCL, you don't necessarily need to assume that they won't work with Windows XP—only that they haven't been tested by Microsoft. In general, products released since November 2001 are Windows XP–compatible, but you should still proceed with caution before using them with Windows XP. You should by all means check the Web sites of these components' manufacturers in hopes of finding updated driver software.

Checking Software Compatibility

Most programs and drivers that worked with Windows 2000 work fine in Windows XP, but not all of them—and programs designed for Windows 95, 98, and Me may well cause you problems.

If you have a lot of older programs for which XP–compatible updates aren't available, you'd be wise to run the Windows XP Upgrade Advisor program. To do so, insert the Windows XP CD-ROM, and, on its welcome screen (Figure A-2), click "Check system compatibility," and then click "Check my system automatically."

Tip: The same compatibility checker runs automatically during the installation process itself.

The Upgrade Advisor first offers to download updated setup files from Microsoft's Web site. If you can get online, it's an excellent idea to take it up on this offer; you'll get all the patches, updates, and bug fixes Microsoft has released since the debut of Windows XP.

Next, the advisor shows you a report that identifies potential problems. Almost everybody finds some incompatibilities reported here, because Microsoft is particularly conservative with its judgment about which programs will work with Windows XP. But if the report lists a serious incompatibility, it's not worth proceeding with the XP installation until you've updated or deleted the offending program.

Note: Utilities like hard-drive formatting software, virus checkers, firewall programs, and so on are especially troublesome. Don't use them in Windows XP unless they're specifically advertised for Windows XP compatibility.

Upgrade vs. Clean Install

If your PC currently runs an older version of Windows, the next big question is whether or not you should upgrade it to Windows XP.

About the Upgrade Installation

You can upgrade to Windows XP from Windows 98, Windows 98 SE, or Windows Millennium Edition (Me). (If you have Windows NT or Windows 2000, you can upgrade only to Windows XP Professional.) If your PC currently runs Windows 3.1 or Windows 95, you can't upgrade to Windows XP at all—you have to perform a *clean install*, as described in the following pages.

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Upgrading the operating system retains all of your existing configuration settings and data files. Your desktop colors, font choices, and wallpaper all remain the same, as do some more important elements, including your Favorites list and the files in your My Documents folder.

Upgrading might seem like a convenient option because you don't have to go back and redo all your preferred settings. Unfortunately, upgrading can bring along some unwelcome baggage, too. Outdated drivers, fragmented disk drives, and a clutter of unneeded registry settings are just some of the things that Windows preserves when you upgrade. If all this artery-clogging gunk has already begun to slow down your computer, upgrading to Windows XP will only make things worse.

Furthermore, following an upgrade installation of Windows XP, you may find that some of your software doesn't run as well as it used to, and various other system glitches may pop up from time to time. That's not to say that your software won't run well on Windows XP—only that it would prefer to be installed fresh on the new operating system. In short, upgrading can save you some time and aggravation now, but you might end up paying for it later.

Buying Windows XP

If you do decide to upgrade your existing version of Windows, you can save some money. As with other versions of Windows, XP is available in both an Upgrade version and a Full version.

The Upgrade Edition can only install Windows XP on a computer that already has Windows 98, Windows 98 SE, Windows Me, or Windows XP Home Edition on it. (If your machine's eligibility is in doubt, check this Web page: *www.microsoft.com/windowsxp/pro/upgrading/matrix.mspx.*)

If your computer is currently running any other version of Windows, and you want Windows XP, you have to buy the Full version and perform a clean install.

About the Clean Install

The alternative to an upgrade is the *clean install* of Windows XP. During a clean install, you repartition and reformat your hard disk, wiping out everything on it. The overwhelming advantage of a clean install is that you wind up with a fresh system, 100 percent free of all of those creepy little glitches and inconsistencies that have been building up over the years. Ask any Windows veteran: the best way to boost the speed of a system that has grown sluggish is to perform a clean install of the operating system and start afresh.

Backing up

The drawback of a clean install, however, is the work it will take you to back up all of your files and settings before you begin. If your computer has a tape backup drive, that's not much of a problem. Just perform a full backup, test it to make sure that everything you need has been copied to tape and is restorable, and you're ready to install Windows XP.

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If you have a CD-R or CD-RW drive, backing up is almost equally easy. If you have a second computer, you can also consider backing up your stuff on to it, via a network (Chapter 18). And, of course, you can always buy a Zip drive or external hard drive (like an iPod). In any of these cases, you'll probably want to use the new Files and Settings Transfer Wizard for this purpose, which is included with Windows XP. It's described later in this appendix.

Even having a full backup plan, however, doesn't mean that a clean install will be a walk in the park. After the installation, you'll still have to reinstall all of your programs, reconfigure all your personalized settings, re-create your dial-up networking connections, and so on.

Tip: It's a good idea to spend a few days writing down the information you need as you're working on your computer. For example, copy down the phone number, user name, and password that you use to connect to your Internet service provider (ISP), and the user names and passwords you need for various Web sites you frequent.

Performing a clean install also means buying the Full Edition of Windows XP. It's more expensive than the Upgrade Edition, but at least you can install it on a blank hard disk without having to install an old Windows version first.

Overall, performing a clean install is preferable to an upgrade. But if you don't have the time or the heart to back up your hard drive, wipe it clean and re-establish all of your settings, the upgrade option is always there for you.

Dual Booting

Here's yet another decision you have to make before you install Windows XP: whether or not you'll want to be able to *dual boot*.

In this advanced scenario, you install Windows XP onto the same PC that contains an older version of Windows, maintaining both of them side by side. Then, each time you turn on the PC, it *asks you* which operating system you want to run for this computing session (see Figure A-1).

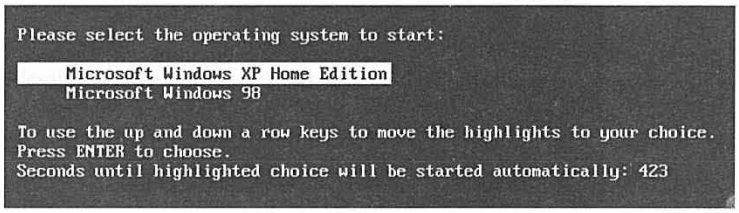

Figure A-1: *When you dual boot, this menu appears each time you turn on your PC, offering you a choice of OS. (If you don't choose in 30 seconds, the PC chooses for you.)*

Dual booting comes in handy when you have some program or hardware gadget that works with one operating system but not the other. For example, if you have a

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scanner with software that runs on Windows 98 but not Windows XP, you can start up the PC in Windows 98 only when you want to use the scanner.

If you intend to dual boot, here's some important advice: *Don't install both operating systems onto the same hard drive partition.* Your programs will become horribly confused.

Instead, keep your two Windows versions separate using one of these avenues:

- Buy a second hard drive. Use it for one of the two operating systems.
- Back up your hard drive, erase it completely, and then *partition* it, which means dividing it so that each chunk shows up in the My Computer window with its own icon, name, and drive letter. Then install each operating system on a separate disk partition.

  One way to partition your drive is free, but not especially user-friendly: use the built-in DOS program called FDISK (see the box on the facing page).
- If you're less technically inclined, you might prefer to buy a program like PartitionMagic (*www.partitionmagic.com*). Not only does it let you create a new partition on your hard drive without erasing it first, but it's more flexible and easier to use than FDISK.

There's just one wrinkle with dual-booting. If you install Windows XP onto a separate partition (or a different drive), as you must, you won't find any of your existing programs listed in the Start menu, and your desktop won't be configured the way it is in your original operating system. You'll generally wind up having to reinstall every program into your new Windows XP world, and re-establish all of your settings, exactly as though the Windows XP "side" were a brand-new PC.

Choosing a File System

There's one final decision you have to make: which *file system* you want to use for formatting your hard drive.

A file system is a scheme of formatting your hard drive, a system of dividing up its surface into little parking spaces for data. It's a very technical issue, and, mercifully, one that's largely invisible to you except for the day you install the operating system.

Windows XP offers a choice of two file systems, geekily named *FAT* 32 and *NTFS*. FAT 32 (file allocation table) is the descendant of the original DOS formatting scheme. NTFS (NT file system) is far more advanced and modern; it was introduced with Windows NT in 1993.

NTFS offers a long list of attractive features:

- It can handle bigger hard drives than FAT—in fact, it can handle drives with capacities up to two terabytes (that's 2,048 gigabytes). No, drives that big aren't

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available today, but it's only a matter of time. The FAT scheme can handle any of today's hard drives, but Microsoft recommends that you use NTFS for all drives larger than 32 gigabytes.

- It offers automatic file compression, conserving disk space.

POWER USERS' CLINIC

Using FDISK to Partition a Drive

If you're an old-time Windows user, the idea of using an old DOS program like FDISK might be no big deal. But scan the following instructions and confirm that they're worth slogging through just to save yourself the price of a simpler formatting program like PartitionMagic. Remember that FDISK *erases your entire hard drive;* don't use it until you're confident you have a good backup.

Here, then, is how you'd create a two-partition setup so that you can have Windows 95, 98, Me, NT 4.0, or 2000 installed simultaneously with Windows XP on different partitions. (Note: After you make each selection in the following instructions, press the Enter key to proceed.)

Start up the PC from the Windows 95/98/Me/NT/2000 CD-ROM. On the first two screens, choose "Boot from CD-ROM" and then "Start computer with CD-ROM support." After a moment, you wind up at the A:/> prompt; type *fdisk*.

When asked if you "wish to enable large disk support," accept the Y (yes) option by pressing Enter. The FDISK Options screen appears.

If your drive has already been in use: Choose 3 ("Delete partition or Logical DOS Drive"), then 1 ("Delete Primary DOS Partition"), and then 1 (which corresponds to your C: drive's main partition). Type Y to confirm that you want to wipe it out, then Esc to continue. Continue with the steps in the next paragraph, because your drive is now completely empty.

If your drive is completely empty: On the FDISK Options screen, type 1 ("Create DOS partition or Logical DOS Drive"). On the next screen, choose 1 again ("Create Primary DOS Partition"). After FDISK checks your drive, it asks if you "wish to use the maximum available size." Type N (no, you don't—you want to partition it, dividing its space in half).

After a moment, you're asked for the size you want for the first partition, which will contain the older Windows version. In general, you'll need at least 1500 MB; leave room for your programs, too. So type, for example, *2500,* press Enter, and then press Esc to return to FDISK Options. This time, press 2 ("Set active partition") and then, on the next screen, press 1 (for the main partition) to establish your first partition as the active one. Press Esc to return to the FDISK Options screen.

Back at FDISK Options, create the second partition by choosing 1 ("Create DOS partition…") and then, on the next screen, 2 ("Create extended DOS partition"). If two partitions are all you need, then you don't have to specify the size of this second one—FDISK automatically proposes using all the space that's left. Just press Enter, then Esc.

FDISK now wants you to format the second partition, which will house Windows XP. Here again, you'll generally want to use the full amount of space available—so just press Enter, then Esc. You're at the FDISK Options screen one last time. Press Esc twice more to say goodbye. Finally, press Ctrl+Alt+Delete to restart the PC.

At last you're ready to install Windows 95, 98, Me, NT, or 2000. Start up from its installation CD, choosing "Start Windows Setup from CD-ROM," "Format Drive C:," and "Format this drive (Recommended)" when you get the chance. After a quick disk check by ScanDisk (press X for Exit when it's done), the usual Windows Setup program appears. When you're offered a choice of partitions, allow it to install Windows onto the C:\WINDOWS folder as usual.

When that's all over, just install Windows XP as though you're performing a clean install. Follow the instructions that begin on page 567, paying special attention to the notes pertaining to dual-booting.

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- It makes your hard drive much more immune to corruption (of the sort that used to require the old ScanDisk program to scurry around, cleaning up glitches).
- It lets you take advantage of a long list of advanced hard drive and file features, including *mounted drives* (Chapter 15) and *private folders* that nobody else on the network can see (Chapter 16).

There's only one significant drawback of formatting your drive with NTFS: older versions of Windows don't recognize it. If you format your drive with NTFS when you install Windows XP, and then at some future time start up the computer using a DOS floppy disk, you won't be able to "see" the NTFS drive.

Although Windows NT and 2000 do recognize NTFS disks, Windows 95, 98, and Me don't. That's a problem if you plan to dual boot between Windows XP and one of these older versions. The bottom line: If you intend to dual boot between Windows XP and Windows 95, 98, or Me, your startup drive *must* use the FAT file system.

If the lack of complete operating system support isn't a problem, then you should opt for NTFS when installing Windows XP. Otherwise, use FAT.

Tip: If you are unsure about which file system to use, start out choosing FAT. You can never convert an NTFS drive to the older FAT system, but you can convert a FAT drive to NTFS at any time.

Here's how. Choose Start→All Programs→Accessories→Command Prompt. Type *convert C:/FS:NTFS* and then press Enter. (Of course, replace *C:* with whatever drive letter you're trying to reformat.) If the drive you're converting is the one with Windows XP on it, the conversion will occur the next time you restart the computer.

Installing Windows XP

Once you've decided to take the plunge and install Windows XP, you can begin your final preparations.

Preparing for the Installation

If you've made all the plans and done all the thinking described so far in this chapter, you have only a short checklist left to follow:

- Update your virus program and scan for viruses. Then, if you're updating an existing copy of Windows, *turn off* your virus checker, along with other auto-loading programs like non-Microsoft firewall software and Web ad blockers.
- Decompress the data on any Windows drives that are compressed with DriveSpace.
- Confirm that your computer's BIOS—its basic startup circuitry—is compatible with Windows XP. To find out, contact the manufacturer of the computer or the BIOS. *Don't skip this step.* You may well need to upgrade your BIOS if the computer was made before mid-2001.

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- Gather updated, Windows XP–compatible drivers for all of your computer's components. Graphics and audio adapters are particularly likely to need updates, so be sure to check the manufacturers' Web sites—and driver-information sites like *www.windrivers.com* and *www.driverguide.com*—and download any new drivers you find there.
- Disconnect any gear that's older than Windows XP itself to prevent it from making the PC freeze during the installation. You'll have better luck if you reconnect them *after* Windows XP is in place.

If you've gone to all this trouble and preparation, the Windows XP installation process can be surprisingly smooth. You'll spend most of your time waiting around and reading the commercials on the screen as the installer does its thing.

Performing an Update Installation

Here's how you upgrade your existing version of Windows to full Windows XP status. (If you prefer to perform a clean install, skip these instructions.)

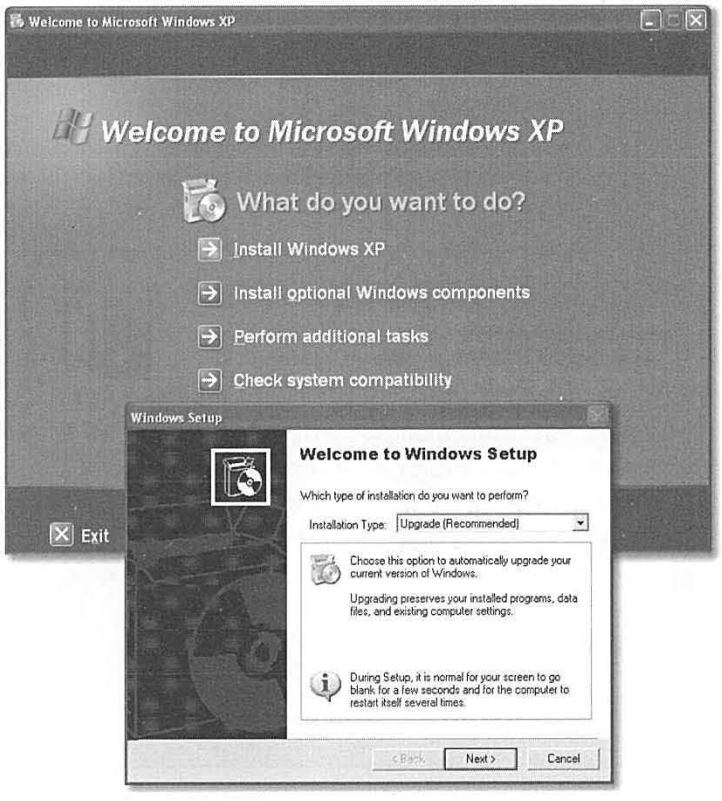

Figure A-2: *Top: The Windows XP Setup program is ready for action. Close the doors, take the phone off the hook, and cancel your appointments. The installer will take at least an hour to go about its business–not including the time it will take you to iron out any post-installation glitches.*

Bottom: Use this important drop-down menu to indicate whether you want a clean installation or an upgrade installation.

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1. **Start your computer. Insert the Windows XP CD-ROM into the drive.**

   The Setup program generally opens automatically (Figure A-2). If it doesn't, open My Computer, double-click the CD-ROM icon, and run the Setup.exe program in the CD's root folder.

2. **Click Install Windows XP.**

   The Windows Setup Wizard appears.

3. **From the Installation Type drop-down list, choose Upgrade (Figure A-2, bottom). Click Next.**

   A screen full of legalese appears.

4. **Review the work of Microsoft's lawyers, and then click "I Accept This Agreement." Click Next.**

   Now you're asked to find the 25-character serial number that came with your Windows CD.

5. **Enter the 25-character product key.**

   Note that you don't have to press Tab or click to move from box to box. As you fill up each text box, your insertion point moves automatically to the next one.

6. **Click Next.**

   Now Microsoft offers you the opportunity to check for updates and patches for the installer program itself. If you're online, and you have the time, letting it perform this check is a very good idea.

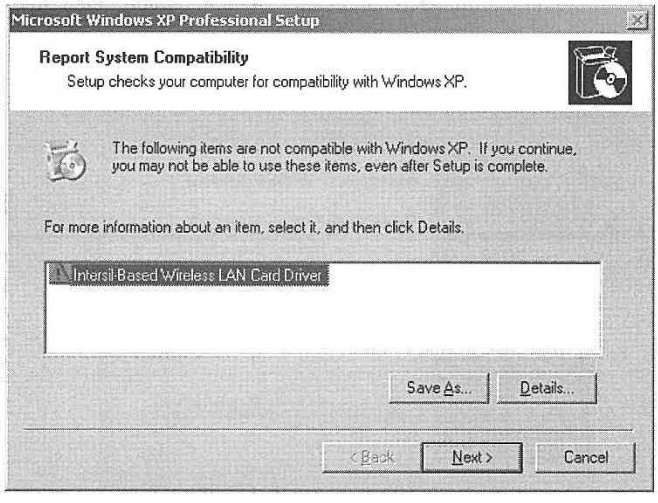

Figure A-3: *This screen lists any programs and drivers that Microsoft considers incompatible with Windows XP. You can save any information that shows up in this list to a file by clicking the Save As button.*

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7. **Click Yes to download updated installation files from the Internet, or No to bypass this option. Click Next.**

   Now the installer checks to see if any of your PC's components are incompatible with Windows XP. If so, the Report System Compatibility screen appears, shown in Figure A-3. There's not much you can do about it at this point, of course, other than to make a note of it and vow to investigate XP-compatible updates later. Click Next.

   Either way, the installation program begins copying files and restarting the computer several times. Finally, the familiar Welcome to Microsoft Windows screen appears, so that you can log back on. This step completes the upgrade process.

Performing a Clean Install (or Dual-Boot Install)

To perform a clean installation of Windows XP, or to install Windows XP onto an empty partition for the purpose of dual booting, the steps are slightly different:

1. **Start up your PC from your Windows XP CD-ROM.**

   Almost every Windows XP–compatible computer can start up from a CD instead of from its hard drive. Sometimes, if you start up the computer with a CD in the drive, instructions for booting from it appear right on the screen (you may be directed to hold down a certain key, or any key at all). If you don't see such an instruction, you might have to check with the computer's maker for instructions on this point.

Tip: If your computer can't start up from a CD-ROM, download the Windows XP startup disk utility from *www.microsoft.com/downloads/release.asp?ReleaseID=33290&area=search&ordinal=38*. This download contains a program that builds a set of six boot floppies needed to start Windows XP Home Edition. You can substitute the first of these floppies for the CD in this instruction.

   At the beginning of the setup process, you'll wait for quite a while as an ugly, all-text DOS-like screen loads the necessary files.

2. **When the DOS Welcome to Setup screen appears, press Enter to continue.**

   After a moment, the usual legal notice appears.

3. **Review the licensing agreement, if you like, and then press the F8 key to continue.**

   Setup searches for previous Windows XP installations. If it finds one, Setup asks whether you want to repair it or to install a fresh (or clean) copy without repairing it. Since you do want to install a clean copy of XP, press the Esc key.

   Now Windows shows you a list of the *partitions* on your hard drive (page 464). Unless you've set up your hard drive for *dual booting* as described in the box on page 561, you probably have only one.

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4. **By pressing the up and down arrow keys, highlight the name of the partition on which you want to install Windows XP, and then press Enter.**

   If you selected a partition that already contains another operating system, you have to confirm your decision by pressing the C key.

5. **Specify whether you want to format the partition you selected, and whether you want to use NTFS or FAT, with or without the Quick option, and press Enter.**

   See page 462 for a discussion of these formatting options.

   If you elect to format the partition, and there are files on it, the installation program forces you to confirm—by pressing the letter F key—that you really want to wipe out all of the partition's data.

Dual-booters note: If you choose NTFS, remember that you won't be able to "see" that partition when you're running your Windows 95/98/Me. Stick with FAT if you want to be able to share documents between your two worlds.

After the formatting process is complete, the Setup program begins copying files to the partition you selected, and eventually restarts the computer.

When the PC begins detecting the hardware components of your computer, the Setup program steps in to ask you some questions. At this point, you'll notice that the Setup program has finally started to look more like Windows than DOS.

6. **Click Next to bypass the Regional and Language Options screen.**

   Bypass it, that is, unless you don't speak English or don't live in the United States.

7. **On the Personalize Your Software screen, type your name and the name of your organization. Click Next. On the Your Product Key screen, enter the 25-character product key.**

   "Product key" refers to the serial number that came with your Windows XP CD-ROM. As noted earlier, you don't have to click or press Tab to move from box to box—the insertion point jumps automatically as you type.

8. **Click Next. On the Computer Name and Administrator Password screen, specify a name for your computer and a password for the Administrator account.**

   The computer name should be short and punctuation-free. (You can always change it later; see page 289.) If you're installing Windows XP on your home computer, you probably don't need an especially secure password. If you're in a business environment, consider using a password that's not easy to guess.

9. **Click Next. On the Date and Time Settings page, set the correct date, time, and time zone, and then click Next.**

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The installation program continues copying files and configuring the operating system.

If the installation program discovers that you have a network card installed, a Networking Settings page appears. Select the Typical Settings option button and click Next to continue.

When it's all over, the Setup Wizard, as described next, appears.

Setup Wizard

Most of the installation procedures described here wind up at the Setup Wizard, which debuts with a Welcome to Microsoft Windows screen. When you click Next, this wizard guides you through the process of:

- *Activating* your copy of Windows (Figure A-4).
- Identifying how you plan to connect to the Internet (dial-up modem, cable modem/DSL, or network).

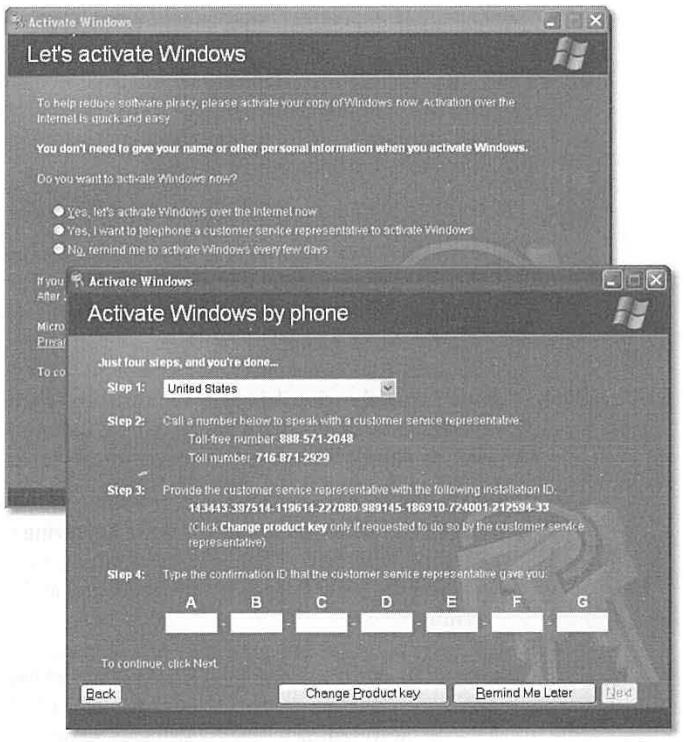

Figure A-4:
Top: Let's activate Windows! During activation, your PC sends Microsoft a list of 10 internal components of your PC. This, ladies and gentlemen, is copy protection. If you ever try to install Windows XP onto a second machine, it will notice that the components aren't identical, and you'll be locked out after 30 days (see page 16).

Bottom: If you don't have an Internet connection, you can do this process by telephone, although it's less convenient and takes a lot longer.

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- Entering the settings for your network connection (your IP and DNS numbers).
- Registering it (an optional process—if you'd rather not get junk mail, click "No, not at this time").
- Configuring your Internet connection, if you don't already have one.
- Setting up names for the first five user accounts (Chapter 16), if they aren't already set up.

Tip: The Setup Wizard asks only for names, not passwords. When the installation is complete, you might consider making a beeline for the User Accounts program in the Control Panel, in order to set up passwords for your newly hatched accounts (and to set up more than five accounts, if necessary).

This is an important step, too, if you've just upgraded from a previous version of Windows, one that had user accounts already set up. Windows XP imports the old accounts–but strips away their passwords. You might want to take a moment to reinstate them.

When it's all over, you arrive at the standard Welcome screen. Your copy of Windows XP is ready to roll.

Files and Settings Transfer Wizard

The Files and Settings Transfer Wizard, new in Windows XP, is designed to round up the files and preference settings from one computer—and copy them into the proper places on a new one. For millions of upgrading Windows fans, this little piece of software is worth its weight in gold.

You can use the Files and Settings Transfer Wizard in several ways:

- If you have two computers and you want to transfer files and settings from the old one to the new one, you can run the wizard on the old computer, package its files and settings, and then transfer them to the new computer. You can make the transfer over a network connection, a direct cable connection, or via floppy disks, Zip disks, CD-Rs, or some other kind of disk. The Windows XP CD-ROM includes a version of the wizard that you can run directly from the CD on another Windows computer, even one that's not running Windows XP. You can also create a wizard disk on your Windows XP computer for use on another system.
- If you have only one computer, you can run the wizard from the Windows XP CD-ROM before you install Windows XP, saving the files and settings to a disk or a second hard drive. Then, after performing a clean install of Windows XP, you can run the wizard again, neatly importing and reinstating your saved files and settings.

Tip: If you'd like more power, versatility, or automation in transferring settings between machines or between installations, you can use a commercial program like LapLink PC Sync *(www.laplink.com)* or PC Upgrade Commander *(www.v-com.com)* instead of Microsoft's own wizard.

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Phase 1: Backing up the Files

Files and Settings Transfer Wizard

To save the files and settings on your old computer (or your old operating system), proceed like this:

1. **Insert the Windows XP CD-ROM into the drive.**

   The Setup program opens automatically.

2. **Select Perform Additional Tasks; on the next screen, select Transfer Files and Settings.**

   The Files and Settings Transfer Wizard opens up (Figure A-5).

3. **Click Next.**

   If you're running the wizard on a Windows XP computer, the "On which computer is this?" screen appears. Tell it that this computer is the old one.

   (The old computer can be running Windows 95 or later. The new computer must be a Windows XP machine.)

4. **Click Next. On the Select A Transfer Method screen, specify where you want to store the files and settings you intend to transfer (Figure A-5, middle).**

   This location can be a link to another computer using a direct cable or network connection, or to a folder on a hard drive, or to a floppy or other removable disk.

WORKAROUND WORKSHOP

Using an Image Disk

It's becoming increasingly common for computer manufacturers to sell you a new PC without including an operating system CD-ROM. (Every 11 cents counts, right?) The machine has Windows installed on it–but if there's no Windows installation CD, what are you supposed to do in case of emergency?

Instead of a physical Windows CD, the manufacturer provides something called an *image disk*–a CD-ROM containing a complete copy of the operating system *and* other software that was installed on the computer at the factory. If the contents of the computer's hard disk are ever lost or damaged, you can, in theory, restore the computer to its factory configuration by running a program on the image disk.

Of course, this image is a bit-by-bit facsimile of the computer's hard disk drive, and therefore, restoring it to your computer *completely erases* whatever files are already on the drive. You can't restore your computer from an image disk without losing all of the data you saved since you got the computer from the manufacturer. (Talk about a good argument for keeping regular backups!)

But completely reinstalling Windows isn't the only time that you need a Windows CD. As you can read in various chapters of this book, you'll also be prompted to insert the original Windows CD whenever you want to install a new Windows component that wasn't part of the original installation.

In these situations, if your PC came with only an image disk, you're still covered. This image CD generally contains a copy of the operating system installation files, so that whenever you install a new Windows feature, your PC can grab it from the disk. (Furthermore, some manufacturers install a copy of these installation files right on the hard drive, so that you won't even have to hunt for your CD.)

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When storing the information on a floppy, you'll need one or two floppies if you want to transfer only your settings, and five to ten floppies to store both settings and files. Don't forget to number the floppies as they are created. When you transfer the information, the wizard will prompt you to insert the floppies in the order that they were copied.

Tip: If you click Other, you can save the files and settings onto the built-in hard drive, where they become a single, special backup file. You can then copy this file to any medium you wish, like a backup tape or CD-R.

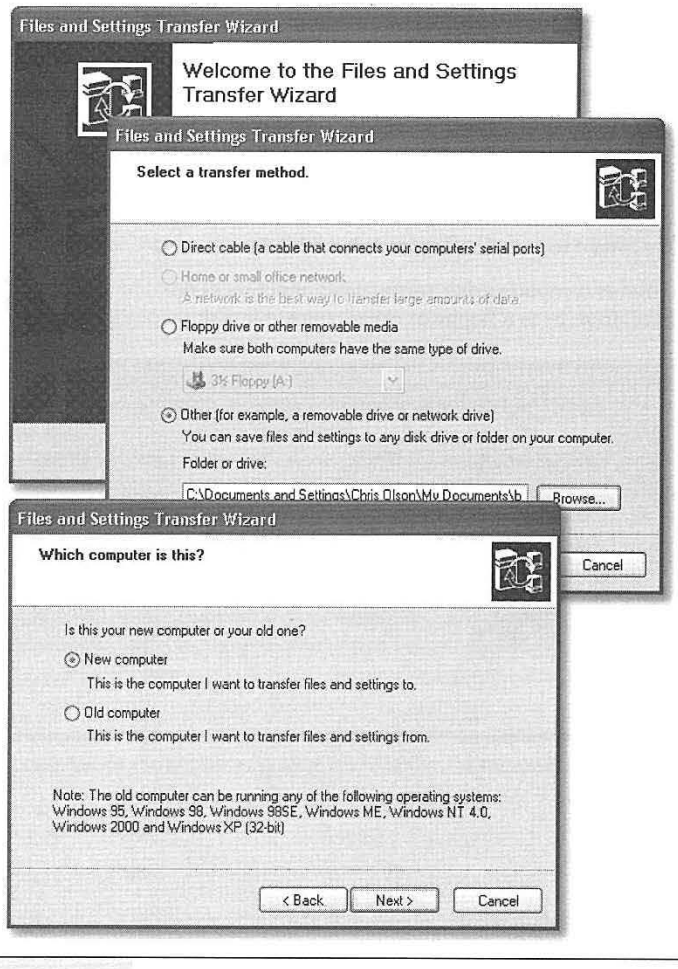

Figure A-5:
Top: The Files and Settings Transfer Wizard, new to Windows XP, can be a sanity-saving convenience. Middle: It lets you save all of the files and settings into a folder, which can be on your hard drive, for example, across a network cable, or onto a disk.

Bottom: After you've installed Windows XP or bought a new Windows XP computer, you can reinstate all of your old files and settings using the same wizard. Just locate the folder that it saved originally.

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5. **Click Next.**

   If you selected Direct Cable, the "Set up your serial connection" screen appears. Click the Autodetect button on both wizards after you've connected your two computers with the cable.

   Before you click the Autodetect button, make sure that you've advanced the other computer to this screen.

6. **Click Next. On the "What do you want to transfer?" screen, specify which information you want to transfer to the other computer.**

   You can elect to transfer just your personalized settings, just your data files, or both. You can also build a customized list of the *specific* files and settings you want to transfer.

7. **Click Next. If you click "Let me select a custom list of files and settings when I click Next (for advanced users)," the Select Custom Files and Settings screen appears.**

   This screen lets you add settings, folders, files, and file types to your list of items that the wizard stores. You can also remove items from the list.

8. **Click Next.**

   On the Install Programs on Your New Computer screen, the wizard lists the programs associated with the settings you're saving.

   You should have installed these programs on the new computer before proceeding with the transfer.

9. **Click Next.**

   The Collection in Progress screen appears. The wizard proceeds to search your drives for the necessary information, compress it, and send it to the location you specified.

10. **Click Finish to close the wizard.**

Phase 2: Restoring the Files

To transfer the settings and files you've saved to your new Windows XP computer, use the following procedure.

1. **Choose Start→All Programs→Accessories→System Tools→Files and Settings Transfer Wizard.**

   The Files and Settings Transfer Wizard appears.

2. **Click Next. On the "Which computer is this?" screen, select "New computer" (Figure A-5, bottom) and then click Next.**

   The "Do you have a Windows XP CD?" screen appears.

3. **Click "I don't need the wizard disk."**

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If you don't have the Windows XP CD-ROM handy, you can use this screen to create a wizard disk that runs on other Windows operating systems.

4. **Click Next. On the next screen, specify the location of the files and settings you saved on the other computer.**

   The location you specify could be a path to a hard drive folder, a floppy or CD-ROM drive, or a direct cable/network connection to another computer running the wizard.

5. **Click Next.**

   If you selected Direct Cable, the "Set up your serial connection" screen appears. Click the Autodetect button on both wizards after you've connected your two computers with the cable.

   Before you click the Autodetect button, make sure that you've advanced the wizard on the other computer to this screen.

6. **Click Next.**

   The wizard proceeds to copy the files and apply the saved settings on the new computer.

7. **Click Finish to close the wizard.**

   If Windows couldn't restore some of your settings, you'll see them listed on the final screen; you'll have to re-create these settings manually. Depending on the settings you saved, you may have to log off and log on again before the transferred settings take effect.

Backing Out of Windows XP

Hard though it may be to imagine, even after going to all of the trouble to switch to Windows XP, you may pine for the old days. Some people find Windows XP too intrusive and too much of a nag. Other people find too many incompatibilities with their old gear. Fortunately, Microsoft has made it very easy for you to back out, reinstating your older operating system.

Note: This option is available only if you upgraded your PC from an older version of Windows—not if you erased the hard drive and performed a clean install. Furthermore, you lost this option if you repartitioned your drive, or converted it to NTFS, since you upgraded.

Ditching Windows XP

To get rid of Windows XP and reinstate the good old days, open the Add or Remove Programs program in your Control Panel. As shown in Figure A-6 at bottom, Windows XP is listed among the other programs currently installed in your machine.

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Click Windows XP Uninstall, then the Change/Remove button, then Uninstall Windows XP. When you're asked if you really want to uninstall Windows XP and restore your old operating system, click Yes. When the process is complete, your computer will shut itself down, restart, and then start up with your old copy of Windows 98, Windows 98 SE, or Windows Me.

Ditching the Older Windows

Conversely, if you just love Windows XP and never want to go back, you may prefer to reclaim the hundreds of megabytes of disk space that your old copy of Windows 98, 98 SE, or Me is taking up.

Here, too, there's not much to it. Choose Start→All Programs→Accessories→System Tools→Disk Cleanup. As shown in Figure A-6 at top, the Disk Cleanup program lists

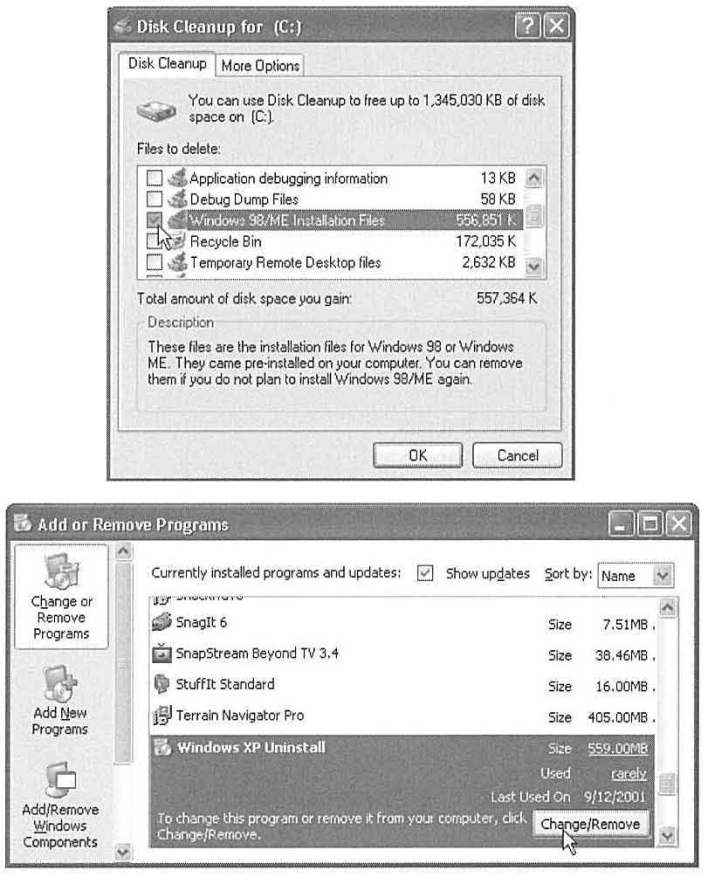

Figure A-6: *Whenever you perform an upgrade installation, you actually retain both the old and the new versions of Windows. If, as the months go by, you decide that you'd like to reclaim the disk space being used by the dormant operating system, you can delete it. You can delete the older version (top), committing to Windows XP forever, or you can delete Windows XP (bottom), restoring your older version.*

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a lot of stuff that you can permanently delete—and in the list, you'll see the name of your original Windows version ("Windows 98/Me Installation Files," for example).

Just turn on the checkbox and then click OK. The 600 megabytes you save could be your own.

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APPENDIX
B

Windows XP, Menu by Menu

A menu bar tops every Windows desktop window and almost every application window. Along this menu bar, of course, are the names of the menus that, when clicked, produce lists of the commands available to you.

Most menu bars have a menu named File on the extreme left side, and Help is always the last menu on the right. What comes between depends on the program you're using. This appendix covers the menu commands in the Windows XP desktop windows.

Tip: You can choose almost any Windows XP menu command entirely from the keyboard; the necessary keystrokes are described in this appendix. (If you open a submenu that doesn't bear the telltale keystroke-hint underlines, press the arrow keys to highlight the command you want, and then Enter to trigger it.)

If you open a menu and then change your mind, press the Esc key to close the menu.

File Menu

Most of these commands operate on a *selection*—that is, you're supposed to highlight an icon, or several icons, before using the menu. It's worth noting, too, that the File menu *changes* depending on what you've highlighted. For example, you see one set of commands when you've highlighted an icon, and a longer set when nothing is selected.

Note: Certain software installations may add other commands to your File menu.

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Open, Open With..., Preview

Opens a highlighted document, program, folder, or disk into a window, exactly as though you had double-clicked its icon. (If Windows doesn't know what program it's supposed to use for opening a highlighted document, the command says Open With..., so that you can choose the program you want. And if you've highlighted a graphics file, the command says Preview instead of Open.) *Keyboard equivalent:* Enter.

Print

Available for documents only. Sends the highlighted document to your printer after first opening the necessary application (such as your word processor) and offering you the Print dialog box, where you can specify, for example, how many copies you want. *Keyboard equivalent:* Alt+F, P.

Explore

Opens Windows Explorer, which shows you what's in the highlighted disk or folder in the Explorer two-pane format (see page 108). This command is available only if the selected icon is a drive or folder. *Keyboard equivalent:* Alt+F, X.

Search

Opens a Search window that's ready to look in the selected drive or folder (the Search command isn't available if you select a file). See page 36 for more on the Search command. *Keyboard equivalent:* F3.

Sharing and Security

Available only for folders and disks. Opens the Sharing tab of the icon's Properties dialog box. As described in Chapter 18, this dialog box is exclusively for people with networks; it lets you make a folder or disk available to other people on the network. *Keyboard equivalent:* Alt+F, H.

Run As...

Available for programs only, this handy command lets you run a program as though you have an Administrator account (or somebody else's account), provided you know the account's password. It's described on page 500. *Keyboard equivalent:* Highlight the program name, then press Alt+F, A.

Pin to Start menu

Here's another option for programs (and shortcuts of programs) only. It forces the highlighted icon to be listed in the top left section of your Start menu for easy access. *Keyboard equivalent:* Alt+F, I.

Send To

Offers submenu commands that move or copy the highlighted icon(s) to the desktop, to a floppy disk, to the My Documents folder, and so on. (For files and folders only.) *Keyboard equivalent:* Alt+F, N.

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New

This command's submenu lets you create a new folder, shortcut, text file, or other new item, depending on the programs you've installed. For example, if you have Microsoft Office installed, you'll find a New→Microsoft Word Document command here. *Keyboard equivalent:* Alt+F, W.

Create Shortcut

Creates a shortcut to the selected icon. (See page 125 for more on shortcuts.) If you've highlighted a folder or document icon, the shortcut appears in the same window as the original icon; at this point, you haven't accomplished much. To make it useful, drag the shortcut to, for example, the desktop or the Quick Launch toolbar.

If the selected icon is a drive, Windows XP displays a message that says: "Windows cannot create a shortcut here. Do you want the shortcut to be placed on the desktop instead?" Click Yes. *Keyboard equivalent:* Alt+F, S.

Delete

Moves the highlighted folder or file to the Recycle bin, after first requesting confirmation. *Keyboard equivalent:* Delete or Ctrl+F, D.

Rename

Opens an editing box for the name of the highlighted icon. *Keyboard equivalent:* F2.

Properties

Opens the Properties dialog box for the highlighted icon. Folder and file properties display creation-date and modification-date information. Disks display information about free and used space, along with a Tools tab that lets you open the disk-maintenance tools described in Chapter 15. If you've set up a network (Chapter 17), disk and folder Properties dialog boxes also offer a Sharing tab. *Keyboard equivalent:* Alt+Enter.

Close

Closes the window, just as if you'd clicked the X in the upper-right corner of the window (or double-clicked the icon in the upper-left corner). *Keyboard equivalent:* Alt+F4.

Edit Menu

When you work in, say, your word processor, you use the Edit menu quite a bit—its Cut, Copy, and Paste commands are very useful for moving bits of text. At the desktop, these commands operate on icons, providing an easy way for you to move files and folders from one window or disk to another.

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Undo

Reverses the last action you performed. The name of the command changes to reflect what you've just done: Undo Delete, Undo Rename, and so on. (Alas, there's no Undo Print feature.) *Keyboard equivalent:* Ctrl+Z.

Cut, Copy, Paste, Paste Shortcut

Let you move or copy files or folders from one window to another, as described on page 120. (The Paste Shortcut command offers yet another method of creating a shortcut icon.) *Keyboard equivalents:* Ctrl+C (for Copy), Ctrl+X (for Cut), Ctrl+V (for Paste), Alt+E, S (for Paste Shortcut).

Copy To Folder, Move To Folder

If the Cut/Paste and Copy/Paste routines for moving or copying a file or folder to a different window aren't your cup of tea, you can use these commands instead. When you choose either command, a dialog box opens so you can select a destination folder (see Figure B-1). *Keyboard equivalents:* Alt+E, F (for Copy to Folder), Alt+E, V (for Move to Folder).

Figure B-1:
Click the + button to "expand" your drive's contents, so that you can choose a destination folder for the icon you're moving or copying. You can create a new folder inside the selected folder by clicking the Make New Folder button.

Select All

Highlights all of the icons in the open window—or, if no window is open, on the desktop. Windows applies any subsequent command (Copy, Delete, Print, Rename, or whatever) to all of them at once.

If you're editing an icon's name, and your cursor is blinking in the renaming rectangle, this command highlights the entire filename instead. *Keyboard equivalent:* Ctrl+A.

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Invert Selection

If there are 50 icons in a folder, and you want to highlight 49 of them, don't bother trying to click and Shift-click all 49. Instead, use this trick: Click the one icon (or Shift-click the handful of icons) you *don't* want. Then choose Edit→Invert Selection. Windows highlights the icons that weren't selected, and vice versa. *Keyboard equivalent:* Alt+E, I.

View Menu

The commands in the View menu apply only to the *active* desktop window: the one that's open and in front of all the others.

Toolbars

Offers a submenu of toolbars you can add to the top of the window. For details on these toolbars and their functions, see page 79. *Keyboard equivalent:* Alt+V, T.

Status Bar

Makes the status bar appear or disappear at the bottom of the window. The status bar displays information about the contents of the current window, or the selection you've made inside it. (It may say, for example, "3 object(s) selected" or "Type: Microsoft Word Document.") *Keyboard equivalent:* Alt+V, B.

Explorer Bar

Splits the window, creating a new left-side pane. In this special panel, you can summon your choice of extra information; make your choice using the View→ Explorer Bar submenu. The choices are described on page 69. *Keyboard equivalent:* Alt+V, E.

Thumbnails, Filmstrip, Tiles, Icons, List, Details

Let you view the files in a window as icons (which you move by dragging freely), as a list (a neat list view that's automatically sorted), as a filmstrip (a slide show of graphics files), and so on. Page 74 begins a complete description of these views and their relative advantages.

Arrange Icons By

Tidies a window filled with randomly spaced icons, placing them into an orderly grid according to the criteria you select from the submenu here. These commands appear only in windows you've displayed in icon (not list) views. Page 80 has complete details. *Keyboard equivalent:* Alt+V, I.

Choose Details

If you've put a window into Details view, you can use this command to specify which columns of information you want the window to show (date, size, type, author, and so on). *Keyboard equivalent:* Alt+V, C.

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Customize This Folder

This command launches a wizard that walks you through the process of changing the folder's template (its background, the identifying text and graphics that appear on the left side of the window, and so on). See page 75 for details. *Keyboard equivalent:* Alt+V, F.

Go To

This command's submenu lets you move forward or backward through desktop windows you've recently opened, much like the Back and Forward buttons in your Web browser. (View→Go To→Home Page launches your Web browser, connects to the Internet, and takes you to the page you've designated as your home page.)

Keyboard equivalents: Backspace or Alt+left arrow (for Go To→Back), Alt+right arrow (for Go To→Forward), Alt+V, O, U (for Up One Level), Alt+Home (for Home Page), Windows logo key+D (for Desktop).

Refresh

Updates the contents of the window. Use this command if you've just cut, pasted, or deleted icons and the window doesn't yet reflect the changes. *Keyboard equivalent:* F5.

Favorites Menu

The Favorites menu shows the list of Web pages you've "bookmarked" when using Internet Explorer *and* desktop windows you've designated as Favorites to which you'd like quick access.

Add to Favorites

Adds the currently open Web page or desktop window to the Favorites list. *Keyboard equivalent:* Alt+A, A.

Organize Favorites

Opens the window shown in Figure B-2. Here, you can edit your Favorites list items in several ways:

- **Rearrange them** by dragging your Favorites items up or down in the right-side list.

Tip: Windows can sort your Favorites alphabetically, but not in the Organize Favorites dialog box. Instead, right-click any item *in the Favorites menu itself* and choose Sort by Name from the shortcut menu.

- **Delete or rename one** by clicking its name and then clicking Delete or Rename, respectively.
- **Organize them into folders.** For example, you may want a folder for all the favorite folders on your PC, another folder for all the Internet sites related to cooking, and another folder for all the Internet sites you visit to get help on computing.

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Click the Create Folder button to add a new, empty folder to the right-side list; type a name for it and then press Enter. Then file a Favorites listing away by dragging it onto the folder icon (see Figure B-2). *Keyboard equivalent:* Alt+A, O.

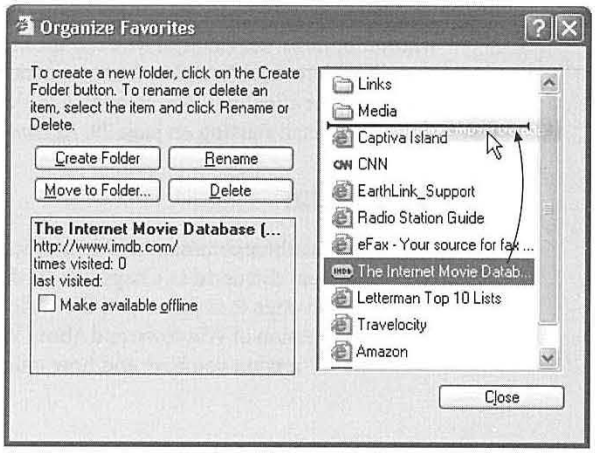

Figure B-2:
Click a folder to see what's in it. Drag a Favorites item up or down the list to reposition it; drag it onto a folder icon to file it away into a subcategory. Click its name once to read, in the lower-left panel, about its origin and when you last looked at it.

Favorites List

Choose a name from this list to open the desktop window, or visit the Web site, in question. If you choose a folder name, a submenu appears that lists all of the windows or Web pages you filed in that "folder," as described in the previous paragraphs.

Tools Menu

This menu offers a handful of leftover commands that didn't quite belong in any of the other menus.

Map Network Drive

This command, exclusively for people on a network, lets you assign a drive letter to a folder to which you've connected over the network. For details, see page 156. *Keyboard equivalent:* Alt+T, N.

Disconnect Network Drive

This command, also just for networked people, summons a dialog box that lets you *delete* a drive mapping you've established. *Keyboard equivalent:* Alt+T, D.

Synchronize

Synchronize, in Microsoft-ese, means, "copy files so both computers contain the identical contents." Using the Briefcase, for example, you can ensure that your laptop and desktop computers contain the same updated files (see page 482 for details).

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Synchronizing also means updating the Web pages you've told Internet Explorer that you want to read when you're not online, a trick described on page 347. *Keyboard equivalent:* Alt+T, S.

Folder Options

The dialog box summoned by this command lets you change several global desktop-window options. For example, you can specify that you want a new window to appear every time you double-click a folder (instead of the single-window approach); that you want one click, not two, to open a folder; and so on. You can read about these settings in detail starting on page 79. *Keyboard equivalent:* Alt+T, O.

Help Menu

This menu has three commands: Help and Support Center, which opens the Windows XP help system discussed in Chapter 4; "Is this copy of Windows legal?" which takes you to a Web page that shows you the various clues that you have a genuine, non-counterfeit version of Windows; and About Windows, which tells you precisely which Windows XP version you have and how much memory your PC has.

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APPENDIX
C

Fun with the Registry

Occasionally, in books, articles, and conversations, you'll hear hushed references to something called the Windows Registry—usually accompanied by either knowing or bewildered glances.

The Registry is your PC's master database of preference settings. For example, most of the programs in the Control Panel are nothing more than graphic front ends that, behind the scenes, modify settings in the Registry.

The Registry also keeps track of almost every program you install, every Plug and Play device you add, every multiple-user profile you create (Chapter 16), your networking configuration, and much more. If you've noticed that shortcut menus and Properties dialog boxes look different depending on what you're clicking, you have the Registry to thank. It knows what you're clicking and what options should appear as a result. In all, there are thousands and thousands of individual preference settings in your Registry.

As you can well imagine, therefore, the Registry is an extremely important cog in the Windows XP machine. That's why Windows marks your Registry files as invisible and non-deletable, and why it makes a Registry backup every single time you shut down the PC. If the Registry gets damaged or randomly edited, a grisly plague of problems may descend upon your machine. Granted, Windows XP's System Restore feature (described in this chapter) can extract you from such a mess, but now you know why the Registry is rarely even mentioned to novices.

In fact, Microsoft would just as soon you not even know about the Registry. There's not a word about it in the basic user guides, and the only information you'll find about it in the Help and Support center is a line that says, "It is strongly recommended

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that you do not edit Registry settings yourself. Incorrectly editing the Registry may severely damage your system."

Still, the Registry is worth learning about. You shouldn't edit it arbitrarily, but if you follow a step-by-step "recipe" from a book, magazine, Web site, or technical-help agent, you shouldn't fear opening the Registry to make a few changes.

And why would you want to? Because there are lots of Windows settings that you can't change in any other way, as you'll see in the following pages.

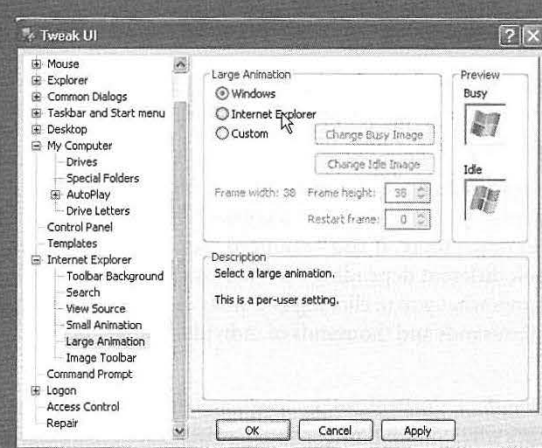
Meet RegEdit

Windows XP comes with a built-in program for editing Registry entries, a little something called (what else?) the Registry Editor. (There are dozens of other Registry-editing, Registry-fixing, and Registry-maintenance programs, too—both commercial and shareware—but this one is already on your PC.)

GEM IN THE ROUGH

TweakU, TweakU Very Much

If you cruise online looking for neat RegEdit hacks, you'll find an awful lot of them that duplicate the functions of the free Microsoft tool TweakUI (which you can download from, for example, the "Missing CD" page at www.missingmanuals.com).



For example, TweakUI lets you add folders of your own choosing to the Places sidebar in the Open and Save dialog boxes; log on to your account automatically at startup; turn off the "Unread Mail" counter on the Welcome screen; hide the icons of control panels you never use; hide drive icons in My Computer, for security purposes; change the locations of important folders like CD Burning, Desktop, Programs, and My Pictures; hide drive letters on disk icons; make My Computer, rather than My Documents, appear at the top of the desktop; prevent certain programs' names from appearing in the Frequently Used Programs section of the Start menu; change or eliminate the little "badge" that appears on a file shortcut's icon; change the colors that identify compressed or encrypted files; and much more.

Using TweakUI is pretty straightforward. Hunt around its options (listed, in Windows Explorer style, in a list at left) until you see something that looks promising—and then just use the buttons and sliders as necessary.

Happy tweaking!

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As an advanced tool that Microsoft doesn't want falling into the wrong hands, the Registry Editor has no Start-menu icon. You must fire it up by typing its name into the Run command. That is, choose Start->Run. Then in the Run dialog box, type regedit and press Enter. After a moment, you see a window like Figure C-1.

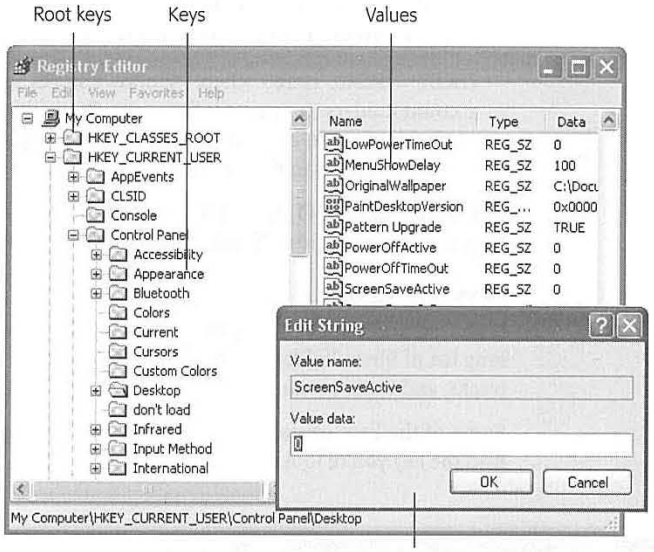

Figure C-1
The Registry's settings are organized hierarchically; in fact, the Registry Editor looks a lot like Windows Explorer. But there's no easy way to figure out which part of the Registry holds a particular setting or performs a particular function. It's like flying a plane that has no windows.

The Big Five Hives

It turns out that Microsoft has arranged all of those software settings into five broad categories. Microsoft calls them hives or root keys, but they look and act exactly like folders in a Windows Explorer window. You expand one of these folders (keys) just as you would in Explorer, too, by clicking the little + button beside its name.

The names of these five hives are, frankly, just as weird as the term hives itself:

- **HKEY_CLASSES_ROOT.** This root key stores all kinds of information about files: filename extensions, file types, shortcut menus, and so on.

Note: A number of Registry entries appear in more than one place, live mirrors of each other, for convenience and clarity. Edit one, make a change in "both" places.

This root key, for example, is a pointer to the key at HKEY_LOCAL_MACHINE\SOFTWARE\Classes. (More on this slash notation below.)

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- **HKEY_CURRENT_USER.** As you'd guess, here's where you'll find the settings pertaining to your account: how you've got your desktop arranged, your wallpaper setting, and so on, plus information about connections to printers, cameras, and so on. (This key, too, is a live duplicate—of the identical one in HKEY_USERS, described below.)
- **HKEY_LOCAL_MACHINE.** All about your PC and its copy of Windows. Drivers, security settings, hardware info, the works.
- **HKEY_USERS.** Here's where Windows stores the information about all of the account holders (user profiles) on your PC, including the "Current_User's." You'll rarely be asked to edit this root key, since the good stuff—what applies to your own account—is in the CURRENT_USER key.
- **HKEY_CURRENT_CONFIG.** Most of this root key is made up pointers to other places in the Registry. You'll rarely be asked to edit this one.

Keys and Values

If you expand one of these hives by clicking the + button next to its name, you'll see long list of inner "folders" called keys. These are the actual settings that the Registry tracks, and that you can edit.

Some of the keys contain other keys, in fact. Keep clicking the + buttons until you find the key you're looking for.

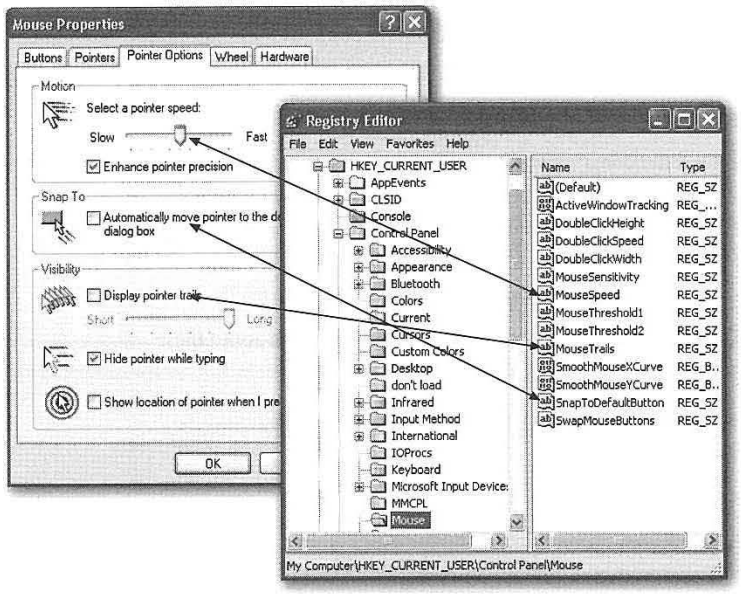

Figure C-2: *A Control Panel program (like Mouse, shown at left) is nothing more than a user-friendlier front end for a bunch of underlying Registry keys (right).*

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In books, magazines, and tutorials on the Web, you'll often encounter references to particular Registry subkeys written out as a Registry path, like this:

```
HKEY_CURRENT_USER→Control Panel→Mouse
```

(You may see backslashes used instead of the arrows, however.) That instruction tells you to expand the HKEY_CURRENT_USER root key, then expand Control Panel within it, and finally click the Mouse "folder." It works just like a folder path, like C:->Documents & Settings→Chris→Desktop.

If you actually try this maneuver, you'll find, in the right half of the window, a bunch of keys named DoubleClickSpeed, MouseSpeed, MouseTrails, and so on. These should sound familiar, as they correspond to the options in the Mouse program of your Control Panel. (Figure C-2 clarifies this relationship.)

Each value usually contains either a number or a block of text. DoubleClickSpeed, for example, comes set at 500. In this case, that means 500 milliseconds between clicks, but each Registry value may refer to a different kind of units.

Tip: Many of the Windows Explorer keyboard shortcuts also work in RegEdit. For example, once you've clicked a key, you can press the right or left arrow to reveal and hide its subkeys. You can also type the first letter of a subkey's name to highlight it in the left pane, or a value's name in the right pane. And you can press the Backspace key to jump to the "parent" key, the one that contains the subkey.

Backing Up Key Values

In general, you won't go into the Registry unless you truly want to make a change. That's why the program is called RegEdit, not RegViewer.

As you know, though, making the wrong change can botch up your copy of Windows—and RegEdit has no Undo command and no "Save change before closing?" message.

That's why it's essential to back up a Registry key—or even its entire root key—before you change it. Later, if the change you made doesn't work the way you'd hoped, you can restore the original.

To back up a key (including and all its values and subkeys), just select it and then choose File→Export. Save the resulting key somewhere safe, like your desktop. Later, you can reinstate the key by double-clicking the .reg file you exported. (Or, if you're paid by the hour, open RegEdit, choose File→Import, and manually open the .reg file.)

Note: Importing a .reg file merges it with the data already in the Registry. Any values you edited will go back to their original versions, provided you haven't renamed them.

This means, for instance, that if you export a key, rename one of the values in that key, and then re-import the .reg file, the value you renamed will still be there, along with the value by its original name. In other words, a .reg file is a very good idea, but it's not a "get out of jail free card"; it won't undo all types of changes.

The only way to get a true Registry backup is to back up the Registry hive files themselves. The Microsoft Backup program described starting on page 473 can do this for you.

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A Few Regedit Examples

Here are some typical regedit tweaks, spelled out for you step by step.

Tip: If you, too, find your pulse racing with the illicit thrill of making tweaks to your system, why stop here? You can find hundreds more RegEdit "recipes" in books, computer magazines, and Web sites (check out, for example, *www.winguides.com* and *www.jsiinc.com/reghack.htm).*

Faster Menus

As you may have noticed, submenus in Windows (like the Control Panel, Connect to, and All Programs submenus in the Start menu) aren't especially sprightly in Windows XP. In fact, these submenus don't sprout until your mouse has rested on them for what feels like an eternity.

What Microsoft had in mind was ensuring that you don't open a submenu accidentally, just by absentmindedly resting your cursor on it. But if you're a cool, suave, sure-of-yourself customer, there's no reason you should spend your life waiting for a time delay intended for more clueless people. This next RegEdit trick speeds up the Start menu a lot. You'll feel like you have a new computer.

- **Navigate to:** HKEY_CURRENT_USER→Control Panel/Desktop.
- **Double-click this value on the right side:** MenuShowDelay.
- **Make this change:** Change the number to 0. This number represents the amount of time, in milliseconds, between the instant you move the cursor to a submenu and when Windows finally opens the menu. (The factory setting is 400.)

Tip: If you set this to an arbitrarily large value like 30000, you'll effectively turn off the automatically-opening menus. Now submenus don't open until you actually click their names, as though you're using one of the early versions of Windows.

- **Wrap up:** Click OK, quit RegEdit, log out, and log back in again.

The Desktop Cleanup Wizard Interval

Here's a nuisance nag that you might like to stifle: the message that not-so-helpfully points out that your desktop contains icons you haven't opened in awhile. Using this regedit tweak, you can change the frequency of its appearance from every 60 days to any number of days you like.

- **Navigate to:** HKEY_CURRENT_USER→Software→Microsoft→Windows→CurrentVersion→Explorer→Desktop→CleanupWiz
- **Double-click this value on the right side:** "Days between clean up"
- **Make this change:** Click Decimal, and then enter the number of days you'd like between cleanup nags.
- **Wrap up:** Click OK, quit RegEdit, and restart the computer.

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Rename Outlook Express's Window

This hack is not, ahem, the pinnacle of all productivity-boosters. But it does give you an inner glow of satisfaction that for once, you, and not Microsoft, are in control.

The basic storyline: You're going to change the name of Outlook Express's main window. After all: Why should it be called Outlook Express, when it could be called The Almighty Communication of Godlike Chris?

To begin, quit Outlook Express. Then fire up RegEdit and proceed like this.

- **Navigate to:** HKEY_CURRENT_USER→Identities→{crazy long string of numbers}→Software→Microsoft→ Outlook Express→5.0.

  Now, for this trick, you're going to need a key that doesn't actually exist yet. Fortunately, it's very easy to create a new key. In this case, just right-click the 5.0 "folder" and, from the shortcut menu, choose New→String Value. You'll see "New Value #1" appear in the right side of the window, ready to be renamed; type *WindowTitle* and then press Enter.

Tip: The birth of a new Registry entry is a good opportunity to name it, but you can rename any value or key at any time, just the way you'd rename a file icon. That is, you can open the renaming rectangle by slowly double-clicking the icon, by right-clicking, or by pressing F2.

- **Double-click this value on the right side:** WindowTitle.
- **Make this change:** In the "Value data" box, type *The Almight Communication of Godlike Chris* (or whatever you want to call your window).
- **Wrap up:** Click OK and quit RegEdit. When you open Outlook Express, you'll see the new name in the window's title bar.

A Really, Really Clean Desktop

Windows XP nags you every now and then to get unused icons off your desktop. But why stop there? If you've got the world's most beautiful desktop wallpaper set up, you might not want any icons marring its majesty.

If you think about it, you can get by just fine without a single icon on the desktop. My Computer and similar icons are waiting in your Start menu. You can put things into the Recycle Bin without dragging them to its icon (just highlight icons and then press the Delete key, for example).

The following RegEdit hack doesn't actually remove anything from your desktop. It just hides them. You can still work with the icons on your desktop using Windows Explorer to view the contents of your Desktop folder, for example.

- **Navigate to:** HKEY_CURRENT_USER→Software→Microsoft→Windows→ CurrentVersion→ Policies→Explorer.
- **Double-click this value on the right side:** NoDesktop. (If you don't see this value, create it. Right-click the Explorer folder, choose New→Binary Value, and name the new value NoDesktop.)

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- **Make this change:** In the "Value data" box, type *01 00 00 00* and click OK.
- **Wrap up:** Click OK, quit RegEdit, and restart the PC. (To reverse the procedure, just delete the NoDesktop value you created.)

Faster Shutdowns

When you shut down your PC, Windows sends out an invisible "Last call! We're closing shop, people!" message to every program and service that's currently running. (A service is a background task that Windows is always performing, like looking for the presence of wireless networks, checking for Windows XP updates, and so on.) It gives each service or program 20 seconds to reply, "Yo, all clear here. Go ahead."

If, after 20 seconds, Windows receives no reply from a service, it assumes that the program or service has crashed. Windows shuts it down with brute force and proceeds with the PC turnoff.

That's an awful lot of time for you to sit there, twiddling your thumbs. Here's how you can shorten that window of waiting opportunity, which will often make your shutdowns faster.

- **Navigate to:** HKEY_CURRENT_USER→Control Panel→Desktop.
- **Double-click this value on the right side:** WaitToKillAppTime.
- **Make this change:** The value comes factory set as 20000. That's 20 seconds, expressed as milliseconds. Change it to, for example, 5000 (five seconds).
- **Wrap up:** Click OK. Now double-click the value called HungAppTimeout, and change it to a smaller number, too. Click OK, quit RegEdit, and restart the computer.

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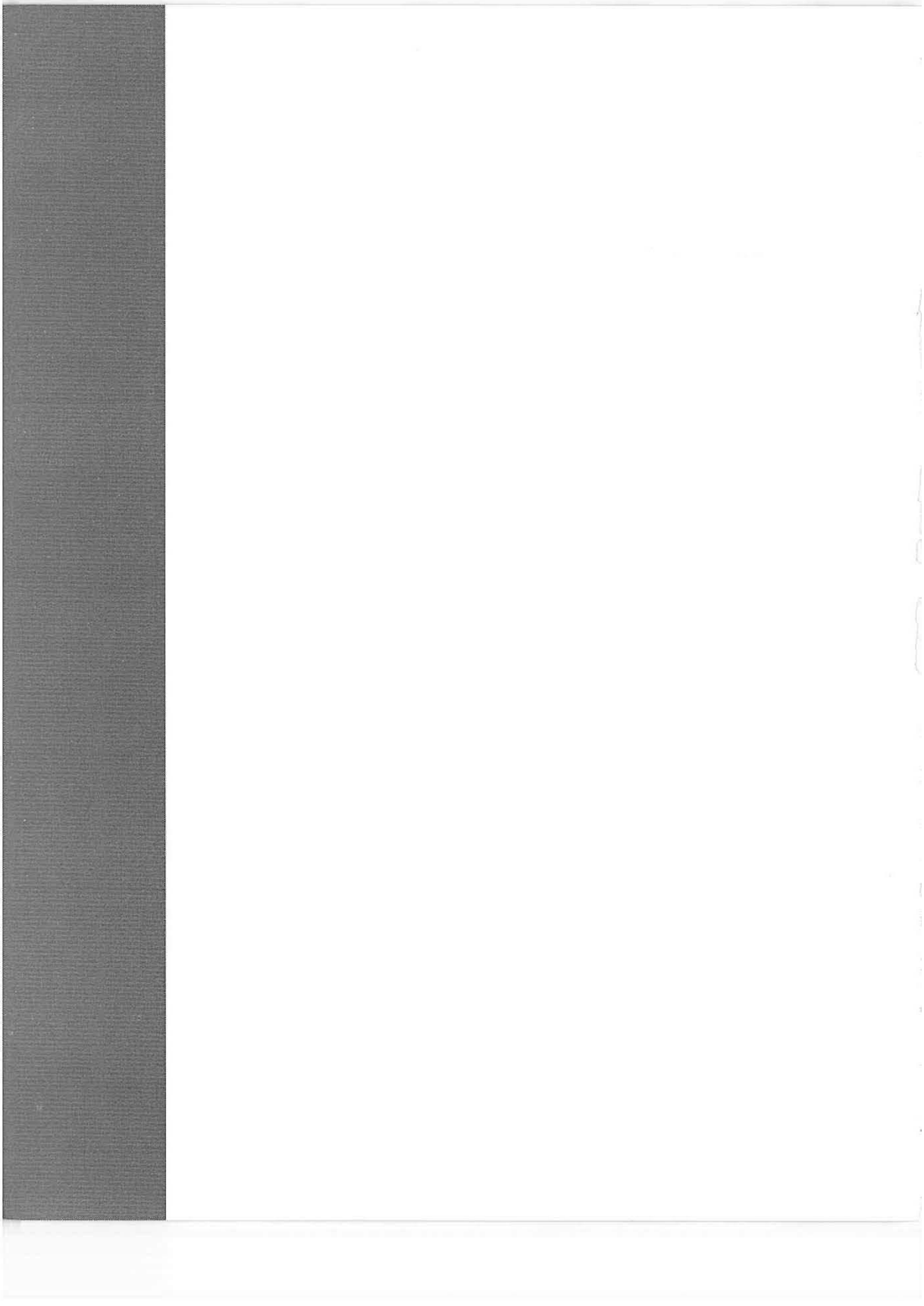

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Colophon

Due to an annoying and permanent wrist ailment, the author wrote this book by voice, using Dragon Naturally Speaking on a Dell Dimension 4550. The book was created in Microsoft Word XP, whose revision-tracking feature made life far easier as drafts were circulated from author to technical and copy editors. SnagIt (*www.techsmith.com*) was used to capture illustrations; Adobe Photoshop CS and Macromedia Freehand MX were called in as required for touching them up.

The book was designed and laid out in Adobe InDesign CS on a PowerBook G4, and Power Mac G5. The fonts used include Formata (as the sans-serif family) and Minion (as the serif body face).

The book was generated as an Adobe Acrobat PDF file for proofreading and indexing, and final transmission to the printing plant.

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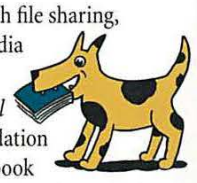

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David Pogue is the weekly computer columnist for the *New York Times*, the creator of the Missing Manual series, and author of 30 how-to bestsellers.

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