Chapter 1: Do I Really Need a Network?

In This Chapter

- **Evaluating the advantages of a network**
- **Connecting to other computers and devices**
- **Selecting networking hardware and software that you might need**

Networking is neat stuff: The ability to copy or edit a document that's on another computer halfway down the hall is invaluable, whether that hallway is in a business or your own home. (Even a home office like mine, where six computers are constantly vying for my attention in the same room, benefits from a network. Although they're only a few feet apart, moving 4GB worth of data between them would be no small feat without a common network connection.)

However, not everyone with multiple computers actually *needs* a network — and that's what this introductory chapter will help you determine. Here, I cover what a network can do for you, what hardware and software you'll need, and how much work will be involved. Later chapters in this mini-book will fill in the blanks, but after you read this introduction, you'll know whether a network is worth your effort.

Discovering the Advantages of a Network

If you've never used a network to link multiple computers, you might not realize what applications are network ready. Here's a quick list of the most common uses for a network.

File transfer

There's no faster method of moving files between computers than a network connection. And network file transfers are *transparent* to the person making the transfer, meaning that you don't have to do anything special to transfer files between computers on a network. You can just drag and drop files as usual or use your favorite file management application to copy or move files

between computers on the network, and Windows acts like you'd expect. I like the Total Commander file management tool, as shown in Figure 1-1. To try out this great piece of shareware, visit `www.ghisler.com`. With Total Commander, it's a cinch to compare the contents of two different drives or folders, and the list display format can pack the maximum number of file names possible onto your monitor. Copying or moving files 'twixt the panes is as simple as selecting and clicking a button.

However, you certainly don't want just *anyone* transferring files to and from your PC — or, for that matter, even accessing your PC over the network at all. To help preserve security, Windows XP makes certain that only the users and PCs with the proper rights can transfer files over your network.

Sharing that there Internet

Another popular networking advantage is the ability for one computer to share a single Internet connection with all the other computers on a network. Typically, this works best with a broadband connection technology like a digital subscriber line (DSL) or cable, but it's possible with a dialup connection as well.

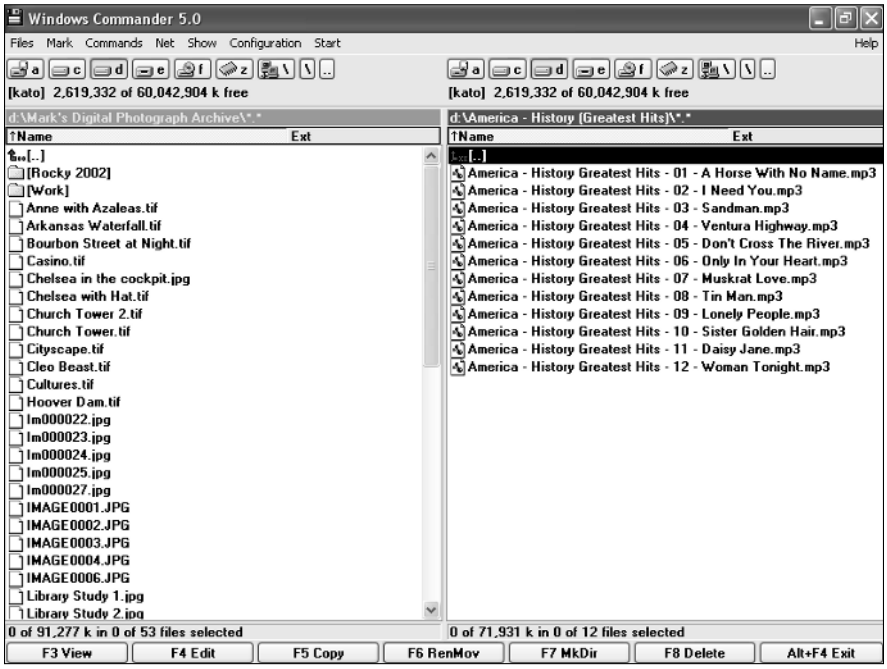

Figure 1-1: I use Total Commander to quickly and easily manage files on my network.

The two methods of sharing a connection are

- **Through software:** You can use the built-in Internet Sharing within Windows XP.
- **Through hardware:** You can add an Internet sharing device (such as a network hub or switch), which usually comes with other features such as a built-in firewall.

I cover both of these methods later in Chapter 4 of this mini-book.

One word: Games!

What's that you're saying, bunkie? You're tired of predictable computer opponents in your favorite games? Hordes of zombies in Half-Life 2 that you can handle in your sleep? How about timid enemy monsters that won't attack you or ambush your character in Microsoft's Impossible Creatures (as shown in Figure 1-2)?

Figure 1-2: A favorite multiplayer network game of mine, Impossible Creatures.

Well, forget those lazy tactics because in network *multiplayer mode,* you'll be fighting real human beings — the treacherous, backstabbing kind (which, oddly enough, usually turn out to be your best friends). I try to attend *LAN parties* whenever possible — that's the term for a get-together where multiplayer games are the featured attraction. Your host might have all the PCs and network hardware necessary for 8 or 16 people, but I usually bring my desktop or laptop computer so that I can sit down and plug in with a minimum of effort.

Shared documents and applications

Of course, a document that's handed from person to person on a floppy disk is technically shared, but is that really a convenient method of working on a document together? (To this day, PC hardware technicians and software developers call this kind of floppy-based transfer a *sneakernet.*) Anyway, forget wearing out your shoe leather just to hand off a document for the next person's comments — today's office workgroup relies on the company network to share documents and common applications, the *right* way!

After you network your computers, any PC on your network can copy or open a document on another computer *if* the owner of the PC being accessed has been granted the proper rights to that file or to the folder where it's stored. For example, if you have a Word document that others need to edit but you'd like to keep it on your hard drive, you can move that document to a shared folder. Others on the network can open the document within Word from their computers, just as if it were on their local machine.

And if that's not *sassy* enough, consider the fact that Bob over in accounting (or your daughter in her bedroom) might be using an application that you don't have. If that application has been written for network use, you can run it on your computer remotely over the network! Such a program is a *shared application,* and I think that they're the neatest things since sliced cheese.

Read the details on both shared documents and shared applications in the next chapter of this mini-book.

What Can I Connect To?

A surprising number of objects on the planet have network ports or wireless network cards. Here's a list of the network-savvy stuff that I've used in the past:

- **Other PCs:** The most common connection on a Windows network is to other PCs — some of which are standard desktop and notebook PCs,

and others are specialized network *servers* that perform only one task (like a *file server,* which is used like a mega-hard drive that everyone on the network can access).

- **Macintosh and Linux computers:** Your network need not be a snobby Windows-only country club; invite the neighbors to join in! Macs running Mac OS X Tiger or later can plug right in, as can those Linux folks with the beards and suspenders. Of course, you won't be able to run a Mac program on a PC, but — and this is a winner — many applications are available in versions for both operating systems, and they can share the same document! The best example is Microsoft Office, which is available in both Mac and PC versions. Word and Excel on both operating systems can open and edit the same Office documents.

Speaking of Mac OS X Tiger, I'm also the proud father of the *Mac OS X Tiger All-in-One Desk Reference For Dummies* (by Wiley Publishing, Inc.). And, yes, I really do own both PCs and Macs, and I take advantage of what both operating systems have to offer on my same office network. Anyway, if you find this tome helpful and you know a Mac owner who's using Tiger, please drop 'em a line and recommend the MOSXTAIODRFD! (Now how's *that* for an abbreviation?)

- **Personal digital assistants (PDAs):** With the right adapter, your Palm Pilot or Pocket PC can join in the fun.
- **Shared network hardware:** Some shared hardware actually resides within a PC on the network (like an internal hard drive or CD-ROM drive that you've selected to be "visible" and accessible on the network), and other network hardware works as standalone units (like an Internet sharing device, which is a box by itself).
- **Network printers:** Finally, a shared network printer can be connected to a PC on the network. Or, if you have enough pocket change, you can buy a standalone network printer that actually has its own network card.

Of course, this list is incomplete because it's constantly growing, but suffice it to say that a network usually includes more than just a smattering of desktop and laptop PCs.

What Hardware Do I Need?

The hardware basics that you'll need for a simple network include

- **A network adapter card or PC card:** Each computer on your network will require either a network adapter card (for desktops) or a PC card (for a laptop). These cards can accept either a wired connection or a

wireless connection. Naturally, if your desktop or laptop has wired and/or wireless hardware built-in, you don't need to add a card — instead, smile quietly to yourself in a contented and smug manner.

- **A network hub or switch:** I describe these black boxes in depth in the next chapter of this mini-book. For now, I'll just say that they allow you to connect multiple computers onto the same network. Some hubs and switches are wireless, so no cables are necessary.
- **Cabling:** If you're not going the wireless route, you need an Ethernet cable for each computer that you add to the network. Again, more on this in the next chapter of this mini-book.

The hardware that I list here would be used in a standard Ethernet network, but remember that other types of network technologies might use your home's AC wiring or telephone jacks (which I cover in Chapter 3 of this mini-book). You can also network two computers by using special Universal Serial Bus (USB) and FireWire cables, but these are no substitute for the convenience and compatibility of an Ethernet network; they're simply for transferring files in a single session.

You might be able to pick up all these hardware toys in a single box — *a network kit* — which is a great choice for a home or small office network with four or fewer PCs. (Plus the documentation is typically pretty well written.)

What Software Do I Need?

Actually, if each of your PCs will be running any version of Windows 98 or later, you have all the operating system software that you need for a home network. (Thanks, Microsoft!) However, you might also need

- **Drivers for your network adapter card or PC card:** The manufacturer of your network card will provide you with the drivers that Windows will need during installation, but don't forget to check the manufacturer's Web site for updated drivers.
- **Network management software:** Although not necessary for a simple network, the administrator of a larger network (I consider a network of ten or more computers to be a larger network) will likely buy extra software to monitor network traffic and optimize network hardware.
- **Network-ready applications:** As I mention earlier in this chapter, network applications might include productivity suites (such as Office), fax software, and workgroup applications (such as Lotus Notes) that provide a common calendar and e-mail system.

To Network or Not to Network . . .

So that's the scoop. If you have more than one desktop within your home or office and you need to share files, applications, and an Internet connection between them on a regular basis, you can buy a network kit for $75 U.S. to $100 U.S. that comes complete with everything that you need.

If, on the other hand, you have only two computers and you don't exchange information very often between them (or if you don't need to share an Internet connection), you might consider a simple USB or FireWire transfer cable.

(I think you know which course of action I usually recommend. After all, look at the rest of this mini-book!)