

# Introduction

*Only connect!*

—E. M. Forster

If you have just a single computer in your home or small office, and if you're the only person who uses that computer, your setup is inherently efficient. You can use the machine whenever you like, and everything you need—your applications, your printer, your CD/DVD drive, your Internet connection, and so on—are readily available.

Things become noticeably less efficient if you have to share the computer with other people. For instance, you might have to wait for someone else to finish a task before you can get your own work done, you might need to have separate applications for each person's requirements, and you might need to set up separate folders to hold each person's data. User accounts and fast user switching in Vista ease these problems, but they don't eliminate them. For example, you still have to twiddle a thumb or two while waiting for another person to complete his work.

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A better solution is to increase the number of computers available. Now that machines with fast processors, ample RAM, and massive hard disk space can be had for just a few hundred dollars, a multiple-machine setup is an affordable proposition for most homes. At home, for example, the current trend is to buy a nice system for Mom and Dad to put in their office, while the kids inherit the old machine for their games and homework assignments.

Now you have several computers kicking around the house or office, but they're all islands unto themselves. If you want to print something using another computer's printer, you're forced to copy the file to a memory card or other removable media, walk that media over to the other computer, and then print from there. Similarly, if multiple computers require Internet access, you face the hassle (and expense) of configuring separate connections

So now you must take the final step on this road: Connect everything together to create your own small network. This will give you all kinds of benefits:

- A printer (or just about any peripheral) that's attached to one computer can be used by any other computer on the network.
- You can transfer files from one computer to another.
- Users can access disk drives and folders on network computers as though they were part of their own computer. In particular, you can set up a folder to store common data files, and each user will be able to access these files from the comfort of her machine. (For security, you can restrict access to certain folders and drives.)
- You can set up an Internet connection on one device and share that connection with other machines on the network.
- You can stream images, music, and videos from one computer to another computer or to a digital media receiver, such as an Xbox 360.
- You can set up a wireless portion of your network, which enables you to access other computers and the Internet from just about anywhere in your house or office.

The benefits of a network are clear; but if you've been hesitating because you think getting the right equipment and putting it all together seem like complex tasks, you've come to the right book. Here, in *Networking with Windows Vista*, you get a complete beginner's guide to creating, configuring, administering, and using a small network using Windows Vista computers. This book includes comprehensive coverage of networking hardware, including both wired and wireless devices. You get handy buyer's guides that tell you how to make smart choices when purchasing network hardware. Then, when you

have your hardware in hand, this book shows you how to put everything together, including installing the devices, laying the cable, and connecting all the pieces.

With your hardware tasks complete, the book switches to the software side and examines Windows Vista networking features. These include the Network and Sharing Center, managing wired and wireless connections, accessing shared network resources, sharing local resources on the network, implementing security, and much more.

## How This Book Is Organized

To help give you a sense of the overall structure of the book, the next few sections offer a brief summary of the four main parts of the book.

### Part I: Networking Hardware for Windows Vista

Part I gives you a complete look at the hardware side of networking, with a focus on networking for homes and small offices. The first two chapters describe the hardware and devices you need for wired networking (Chapter 1, “Understanding Ethernet Networking”) and wireless networking (Chapter 2, “Understanding Wireless Networking”). As you learn in those chapters, your network needs a device called a router to share your Internet connection with the network, and the book next tells you how to configure your router (Chapter 3, “Configuring Your Router”). Part I ends by showing you how to bring everything together and get your network connected and running (Chapter 4, “Putting Your Network Together”).

### Part II: Managing and Using Your Network

Part II, with eight chapters, is the biggest section of the book, and it’s where you learn the real meat and potatoes of Windows Vista networking. You begin by learning about some basic Vista networking tools (Chapter 5, “Working with the Network and Sharing”), and you then move on to managing your wired and wireless network connection (Chapters 6, “Managing Network Connections,” and 7, “Managing Wireless Network Connections,” respectively). You next learn how to access resources on the network and how to share your computer’s resource with the network (Chapter 8, “Accessing and Sharing Network Resources”), and then how to configure a Vista machine to act as your network’s digital media hub (Chapter 9, “Setting Up Vista as a Digital Media Hub”). You learn a few Vista techniques for taking advantage of

your network (Chapter 10, “Taking Advantage of Your Network”), how to work with network files even when you’re not connected to the network (Chapter 11, “Work with Network Files Offline”), and how to collaborate with other people on the network using Vista’s Meeting Space program (Chapter 12, “Collaborating with Windows Meeting Space”).

### Part III: Securing Your Network

Network security is a serious and important topic, so I devote three chapters to it here in Part III. You first learn how to secure each Vista computer (Chapter 13, “Securing Windows Vista”), and you then learn techniques for general network security (Chapter 14, “Implementing Network Security”), and then specific techniques to enhance wireless security (Chapter 15, “Implementing Wireless Security”).

### Part IV: Advanced Networking with Windows Vista

The book closes with five chapters that take your networking skills to a higher (although still practical) level. You learn how to connect to your network from remote locations (Chapter 16, “Making Remote Network Connections”), how to monitor network users and activity (Chapter 17, “Monitoring Your Network”), how to troubleshoot network woes (Chapter 18, “Troubleshooting Network Problems”), how to set up your own website on the network (Chapter 19, “Setting Up a Website”), and how to set up an FTP site (Chapter 20, “Setting up an FTP Site”).

## Conventions Used in This Book

To make your life easier, this book includes various features and conventions that help you get the most out of this book and Windows Vista networking:

Steps	Throughout the book, I’ve broken many networking tasks into easy-to-follow step-by-step procedures.
Things you type	Whenever I suggest that you type something, what you type appears in a <b>bold monospace</b> font.
Filenames, folder names, and code	These things appear in a monospace font.
Commands	Commands and their syntax use the monospace font, too. Command placeholders (which stand for what you actually type) appear in an <i>italic monospace</i> font.

Pull-down menu commands

I use the following style for all application menu commands: *Menu, Command*, where *Menu* is the name of the menu that you pull down and *Command* is the name of the command you select. Here's an example: File, Open. This means that you pull down the File menu and select the Open command.

Code continuation character

When a line of code is too long to fit on only one line of this book, it is broken at a convenient place and continued to the next line. The continuation of the line is preceded by a code continuation character (↪). You should type a line of code that has this character as one long line without breaking it.

This book also uses the following boxes to draw your attention to important (or merely interesting) information:

**note** The Note box presents asides that give you more information about the current topic. These tidbits provide extra insights that offer a better understanding of the task.

**tip** The Tip box tells you about Windows Vista methods that are easier, faster, or more efficient than the standard methods.

**caution** The all-important Caution box tells you about potential accidents waiting to happen. There are always ways to mess things up when you're working with computers. These boxes help you avoid those traps and pitfalls.