

SPECIAL EDITION

USING

Microsoft®

Windows® Vista

Robert Cowart

Brian Knittel

que®

Pearson Education
800 E. 96th Street
Indianapolis, Indiana 46240

CONTENTS AT A GLANCE

I Introducing Windows Vista

- 1 Introducing Windows Vista3
- 2 Installing and Upgrading Windows Vista ...41
- 3 The First Hour79

II Using Windows Vista

- 4 Using the Windows Vista Interface123
- 5 Managing Files and Searching165
- 6 Printing205
- 7 Sidebar and Other Supplied Accessories ...235

III Multimedia and Imaging

- 8 Windows Media Player261
- 9 Windows Imaging Tools289
- 10 Scanning and Faxing309
- 11 Producing Videos with Windows Movie
Maker325
- 12 Sound Recorder, DVD Maker, and Other
Multimedia Tools351
- 13 Windows Media Center363

IV Windows Vista and the Internet

- 14 Getting Connected395
- 15 Using Internet Explorer 7425
- 16 Email and Newsgroups with Windows
Mail473
- 17 Troubleshooting Your Internet Connection ...529
- 18 Hosting Web Pages with Internet
Information Services555

V Networking

- 19 Overview of Windows Networking591
- 20 Creating a Windows Network613
- 21 Mix and Match with Old Windows
and Macs665
- 22 Connecting Your Network to the Internet ..703
- 23 Using a Windows Network741
- 24 Troubleshooting Your Network787

VI Maintaining Windows Vista

- 25 Windows Management and Maintenance ..805
- 26 Tweaking the GUI901
- 27 Managing Hard Disks933
- 28 Troubleshooting and Repairing Problems ..965
- 29 Keeping Windows and Other Software
Up to Date989
- 30 Installing and Replacing Hardware1013
- 31 Editing the Registry1041
- 32 Command-Line and Automation Tools ...1073

VII Security

- 33 Protecting Windows from Viruses and
Spyware1135
- 34 Protecting Your Data from Loss and Theft ..1153
- 35 Protecting Your Network from Hackers
and Snoops1197
- 36 Protecting Yourself from Fraud and Spam ..1235

VIII Windows on the Move

- 37 Wireless Networking1253
- 38 Hitting the Road1271
- 39 Meetings, Conferencing, and Collaboration ..1303
- 40 Remote Desktop1321
- 41 Tablet PC Features1347

IX Appendix

- A Windows Programs and Services1371
- Index1409

SPECIAL EDITION USING MICROSOFT® WINDOWS® VISTA

Copyright © 2007 by Que Publishing

All rights reserved. No part of this book shall be reproduced, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from the publisher. No patent liability is assumed with respect to the use of the information contained herein. Although every precaution has been taken in the preparation of this book, the publisher and author assume no responsibility for errors or omissions. Nor is any liability assumed for damages resulting from the use of the information contained herein.

International Standard Book Number: 0-7897-3472-9

Library of Congress Cataloging-in-Publication data is on file.

Printed in the United States of America

First Printing: December 2006

09 08 07 06 4 3 2 1

Trademarks

All terms mentioned in this book that are known to be trademarks or service marks have been appropriately capitalized. Que Publishing cannot attest to the accuracy of this information. Use of a term in this book should not be regarded as affecting the validity of any trademark or service mark.

Windows is a registered trademark of Microsoft Corporation.

Warning and Disclaimer

Every effort has been made to make this book as complete and as accurate as possible, but no warranty or fitness is implied. The information provided is on an “as is” basis. The author(s) and the publisher shall have neither liability nor responsibility to any person or entity with respect to any loss or damages arising from the information contained in this book.

Bulk Sales

Que Publishing offers excellent discounts on this book when ordered in quantity for bulk purchases or special sales. For more information, please contact

U.S. Corporate and Government Sales

1-800-382-3419

corpsales@pearsontechgroup.com

For sales outside of the U.S., please contact

International Sales

international@pearsoned.com



This Book Is Safari Enabled

The Safari® Enabled icon on the cover of your favorite technology book means the book is available through Safari Bookshelf. When you buy this book, you get free access to the online edition for 45 days. Safari Bookshelf is an electronic reference library that lets you easily search thousands of technical books, find code samples, download chapters, and access technical information whenever and wherever you need it.

To gain 45-day Safari Enabled access to this book

- Go to <http://www.quepublishing.com/safarienabled>
- Complete the brief registration form
- Enter the coupon code GVGs-SVXF-XUP3-WIFR-PVKW. If you have difficulty registering on Safari Bookshelf or accessing the online edition, please email customer-service@safaribooksonline.com.

Associate Publisher

Greg Wiegand

Executive Editor

Rick Kughen

Development Editors

Rick Kughen
Mark Cierzniak

Technical Editor

Mark Reddin

Managing Editor

Gina Kanouse

Project Editor

George E. Nedef

Copy Editors

Geneil Breeze
Barbara Hacha
Krista Hansing

Proofreader

Jessica McCarty

Publishing Coordinator

Cindy Teeters

Multimedia Developer

Dan Scherf

Interior Designer

Anne Jones

Cover Designer

Anne Jones

Page Layout

Bronkella Publishing, LLC
ContentWorks, Inc.

CONTENTS

Introduction	xxxix
Welcome	xxxix
Why This Book?	xl
How Our Book Is Organized	xlii
Conventions Used in This Book	xliv

I Introducing Windows Vista

1 Introducing Windows Vista	3
An Overview of Windows Vista	4
A Little Windows History	6
So What's New in Windows Vista?	8
Interface Improvements	12
System Security Enhancements	18
Performance Improvements	20
System Management and Stability Improvements	22
Data Security Enhancements	23
New or Improved Accessories	24
Networking	27
Productivity	29
Internet Explorer 7	30
Entertainment	31
Differences Among Versions of Vista	32
How Does Windows Vista Compare to UNIX and Linux?	35
UNIX	35
Linux	36
Windows Vista on the Corporate Network	39
2 Installing and Upgrading Windows Vista	41
General Considerations for Windows Vista	42
Windows Vista Hardware Requirements	42
Option 1: Using What You've Got: Ensuring Compatibility via the Windows Vista Upgrade Advisor	43
Option 2: Choosing a Windows Vista Premium Ready PC	48
Option 3: Upgrading Your Computer	48
Performing a New Installation of Windows Vista	49
Typical Clean Setup Procedure	49
Upgrading Older Versions of Windows to Vista	62

Upgrading One Version of Vista to Another	65
Multibooting Windows Vista	68
Activating Windows Vista	72
The Virtual Machine Approach	74
Tips from the Windows Pros: Editing Your Windows Vista Boot Menu Entries	75
3 The First Hour	79
The First Things to Do After Starting Windows Vista	80
A Quick Tour of Vista's Important Features	80
The Welcome Screen	80
The Welcome Center	82
The New Start Menu	83
The New Windows Explorer	84
The Redesigned Control Panel	85
User Account Control	86
Windows Vista User Accounts	90
Create New Accounts	91
Change Account Settings	92
Before You Forget Your Password	93
Adjust Your Own User Account	94
Just One User?	95
Set Up Internet Access	96
Download Critical Updates	97
Personalize Windows	97
Personalize Screen Settings	97
Set Up the Quick Launch Bar	98
Adjust the Explorers	99
Transfer Information from Your Old Computer	101
Windows Easy Transfer	102
Windows Easy Transfer Companion	104
Log Off or Shut Down	106
More Than You Wanted to Know	107
Where's My Stuff, or the User Profile Structure	107
Compatibility and Virtualization	112
Creating User Groups	114
After You Forget Your Password	114
Using a Password Recovery Disk	117
Accessing the Real Administrator Account	117
Tips from the Windows Pros: Configuring the Default User Profile	118

II Using Windows Vista

4 Using the Windows Vista Interface	123
Who Should Read This Chapter?	124
Logging In to Windows Vista	125
Logging On from the Welcome Screen	125
Using Windows Vista—The User Experience	126
Parts of the Windows Vista Screen	127
Dialog Box Changes	132
Putting Items on the Desktop	133
Saving Files on the Desktop from a Program	134
Properties and the Right-Click	134
Using Windows Explorer	137
The Taskbar, the Start Menu, and Other Tools	140
Uninstall or Change Programs	142
Add New Programs	145
Installing Programs from the Network	147
Running Your Applications	147
How to Launch Your Apps	147
Using Documents, Pictures, and Music	151
Using Speech Recognition	152
Using the Help System	155
Exiting Windows Gracefully	156
Dealing with a Crashed Application or Operating System	158
Troubleshooting	159
Tips from the Windows Pros: Working Efficiently	161
5 Managing Files and Searching	165
What's New in Windows Explorer	166
The Legacy of WebView	169
Buttons, Breadcrumbs, Toolbars, and More	172
Breadcrumbs in the Computer Window	174
Breadcrumbs in Windows Explorer	177
User Profiles	178
Navigating the File System	179
Right-Clicking	182
Selecting Several Items	183
Viewing Meta-Information	184
Turning Panes On and Off	186
Customizing File and Folder Views	187
Customize This Folder	189
Setting Folder Options	189

Searching	191
Changing Search and Indexing Settings	192
Searching As You Type	195
The Search Pane	197
Grouping and Stacking	198
Zipping and Packing Files	200
File and Folder Security	202
Troubleshooting	203
Tips from the Windows Pros: Using the Search Tool from the Start Menu	204
6 Printing	205
Windows Printing Primer	206
The Printers Folder	207
Installing and Configuring a Printer	208
Adding a New Printer	210
Installing a Local Printer	210
If the Printer Isn't Found or Is on a Serial (COM) Port	212
What to Do If Your Printer Isn't Listed	214
Changing a Printer's Properties	216
Comments About Various Settings	218
Removing a Printer from the Printers Folder	221
Printing from Windows Applications	222
Preprinting Checklist	222
Printing by Dragging Files into the Print Manager	223
Printing Offline	224
Printing from DOS Applications	224
Working with the Printer Queue	225
Deleting a File from the Queue	226
Canceling All Pending Print Jobs on a Given Printer	226
Pausing, Resuming, and Restarting the Printing Process	226
Viewing and Altering Print Document Properties	227
Advanced Printer Management	227
XPS Print Output	228
Print to Disk Option	229
Faxing	230
Troubleshooting	230
Tips from the Windows Pros: Does the Green Ink Have You Seeing Red?	232

7 Sidebar and Other Supplied Accessories	235
Using Gadgets and the Sidebar	236
Running Sidebar	237
Adding new Gadgets	240
Downloading New Gadgets	241
Hiding the Sidebar	243
Adjusting a Gadget's Settings	244
Moving Gadgets Around	245
Adding a Gadget More Than Once	246
Changing Opacity of Gadgets	247
Bringing Gadgets to the Front	247
Removing Gadgets	247
Calendar	249
Creating a Calendar	250
Entering Appointments	250
Subscribing to and Publishing Calendars	251
Setting Up Tasks	253
Setting Options	253
The Other Accessories	254
Tips from the Windows Pros: Receiving Email on a Pocket PC or Blackberry	256
Troubleshooting	257

III Multimedia and Imaging

8 Windows Media Player	261
Learning the Basics	262
Media Types Compatible with Media Player	262
Getting Around Windows Media Player 11	263
Playing Audio and Video in Windows Media Player 11	267
Getting Music and Video on Your Computer	268
Ripping Songs from CDs onto Your Computer	268
Shopping for Music and Video from Online Stores	271
Adding Items from Your Computer to Your Library	273
Taking Your Music and Video on the Go	274
Burning Customized CDs	275
Syncing Files to Your Portable Media Player	276
Sharing Media Throughout Your Home	279
Organizing Your Music Collection	281
Creating Your Own Custom Playlists	281
Creating and Editing Auto Playlists	282
Organizing your Media Collection	283
Updating Media Information and Album Art	285
Adding or Editing Media Information	285
Adding or Changing Album Art	287

Tips from the Windows Pros: Playing Audio from Your Portable Device Through Your Car Stereo	287
9 Windows Imaging Tools	289
Image Manipulation in Windows Vista	290
What's Built in to Windows Vista for Photographs?	290
Windows Photo Gallery	290
Importing Files into Windows Photo Gallery	292
Organizing Photos and Movies in Windows Photo Gallery	292
Working with Scanners and Cameras	292
Using Windows Photo Gallery with a Scanner	293
Using Windows Photo Gallery with a Digital Camera	294
Manipulating Pictures in Windows Photo Gallery	297
Printing Your Masterpiece	299
Sharing Your Photos with Others Electronically	301
Burning Your Pictures to CD	302
Writing Photos to CD Using Windows Explorer	302
Making CDs and DVDs from Windows Photo Gallery	303
Which Output Option to Use	305
Troubleshooting	305
Tips from the Windows Pros: Archiving Your Company's History	307
10 Scanning and Faxing	309
Introducing Windows Fax and Scan	310
Preparations for Using Windows Fax and Scan	311
Configuring the Fax Service	311
Configuring Fax-Receiving Options	311
Setting Up Sender Information	312
Creating a Customized Cover Page	312
Configuring Fax Settings	313
Sending Faxes from Windows Fax and Scan	314
Adding Scanned Pages	316
Previewing the Fax	316
Setting Up Dialing Rules	317
Sending the Fax	317
Monitoring Outgoing Faxes	317
Receiving Faxes	318
Printing Received Faxes Automatically	318
Scanning Documents with Windows Fax and Scan	318
Scanning Images	319
Editing Scan Profile Defaults	320
Creating a New Scan Profile	321
Emailing Scans	321
Faxing Scans	321
Manipulating Scanned Images	321

Troubleshooting	322
Tips from the Windows Pros: Scanning and Faxing Slides and Transparencies	324
11 Producing Videos with Windows Movie Maker	325
Multimedia, Imaging, and Windows	326
Video Capture and Editing with Microsoft Movie Maker 6	326
Steps of Movie Production with Movie Maker	327
Video Formats You Can Import	327
Connecting Your Camcorder	328
Capturing Your Video Clips	329
Importing Digital Still Camera Movies, Snaps, and Sound Files	334
Organizing Your Clips	334
Turning Your Video Clips into a Simple Movie	335
Editing Your Movie	336
Adding Transitions Between Clips	338
Adding Video Effects (Filters) to Your Clips	339
Adding Narration to Your Movie	340
Adding Titles to Your Movie	341
Saving Your Project and Saving Your Movie	342
AutoMovie	345
Movie Maker Advanced Settings	346
Beyond Windows Movie Maker	347
Help Sites and Resources for Digital Video	347
Troubleshooting	348
Tips from the Windows Pros: Adding Impact to Your Movies	348
Effects and Transitions Are Overrated	348
Color and Exposure Correction	349
Who's Zoomin' Who(m)?	350
12 Sound Recorder, DVD Maker, and Other Multimedia Tools	351
Become a Recording Star	352
Windows Sound Recorder	352
Volume Control	353
Viewing Images	356
Using Windows Explorer to View Your Photos	356
Using a Slideshow	357
Using Your Own Photos as a Screen Saver	358
Recording to DVD	359
Troubleshooting	362
13 Windows Media Center	363
Windows Media Center—What's the Hubbub?	364
The WMC Hardware	366
The New WMC PC Form Factors	367
Is Windows Media Center Based on Home or Business Versions?	368

Can I Upgrade My NonMedia Center PC to a Windows Media Center PC?	369
Basic WMC PC Hookup	370
Media Center Extender	372
The WMC Functions	372
TV + Movies	374
Pictures + Video	378
Music	380
Some Tricks of the Trade	380
Playing DVDs and Other Video Files	380
Viewing TV Shows on Your HDTV or Projector	382
Broadcasting TV Shows to Your TV or Projector	383
Burning DVDs from Recorded TV	385
Setting Parental Control Ratings	386
Troubleshooting	389
Tips from the Windows Pros	390
Converting Your Videos to DivX to Save Disk Space	390
Burn DivX to DVD	392

IV Windows Vista and the Internet

14 Getting Connected	395
Going Worldwide	396
Connection Technologies	396
Analog Modem	396
ISDN	397
DSL	397
Cable Modem	398
Satellite Service	399
Wireless	399
Choosing a Technology	399
Choosing an Internet Service Provider	400
Travel Considerations	401
Choosing Equipment	402
Ordering the Service	403
Installing the Hardware	403
Installing a Modem in Windows Vista	403
Changing the Modem Type	406
Installing Internal ISDN Adapters	406
Installing a Network Adapter	407
Installing a Satellite or Wireless Connection	408

Configuring Your Internet Connection	408
Configuring an ISP Account	409
Adjusting Dial-Up Connection Properties	411
Configuring a High-Speed Connection	413
Configuring a PPPoE Broadband Connection	414
Making and Ending a Dial-Up Connection	418
Checking the Connection Status	420
Hanging Up a Dial-Up Connection	420
Changing the Default Connection	420
Managing Multiple Internet Connections	421
Troubleshooting	422
Tips from the Windows Pros: Staying Connected While Traveling Abroad	423
15 Using Internet Explorer 7	425
Origins and Development of the World Wide Web	426
What's New in Internet Explorer 7?	427
Internet Explorer 7 Quick Tour	428
Entering URLs	430
Browsing in Tabbed Pages	432
Adding Sites to Your Favorites	434
Working Offline	435
Saving a Single Web Page for Later Viewing	436
Using Multimedia Browsing and Downloading	437
Images	437
Audio and Video	438
Downloading Programs	444
Protecting Against Bad Downloaded Programs	445
Protecting Against "Drive-By" Downloads of IE Add-Ons	447
Customizing the Browser and Setting Internet Options	450
Setting Default Mail, News, and HTML Editor Programs	453
Setting Security and Privacy Preferences	455
Blocking Pop-Ups and Pop-Unders	459
Controlling Objectionable Content	461
Other Internet Settings	463
Effectively Searching the Web	464
Safer Alternatives to IE	466
Getting a Microsoft Live ID	467
Hey, Who's Afraid of Microsoft Live ID?	467
Troubleshooting	469
Tips from the Windows Pros: Finding and Using PDF Documents on the World Wide Web	470

16 Email and Newsgroups with Windows Mail	473
Choosing an Email Client	474
What If You Like Outlook 97, 98, 2000, 2003, or 2007?	476
Other Email Clients	477
Windows Mail Quick Tour	478
Setting Up an Email Account	480
Reading and Processing Incoming Messages	483
Deleting Messages	485
Creating and Sending New Mail	485
Sending and Receiving Attachments	487
Guarding Yourself Against Email Viruses	488
Setting Up a Signature	489
Requesting Receipts	490
Formatting Options for Mail	491
Sending and Receiving Secure Messages	492
Using the Windows Contacts Address Book	494
Adding, Editing, and Removing Entries	494
Creating Distribution Lists	495
Finding People Who Aren't in Your Address Book	497
Handling Unique Mail Situations	497
Modifying an Existing Email Account	497
Additional Security Features in Windows Mail	498
Limiting Spam	498
Protecting Against HTML Scripts	500
Handling Multiple Email Accounts for the Same User	500
Organizing Your Mail	502
Compacting Your Mail Folder	503
Filtering Your Mail	503
Checking Your Messages While Traveling	505
Backing Up Windows Mail Data	507
Dealing with Spam	510
Newsgroups and the Internet	511
What About Mailing Lists?	512
Locating News Servers	513
Setting Up a Newsgroup Account in Windows Mail	514
Downloading the Newsgroup List	514
Finding and Reading Newsgroups	515
Subscribing to Newsgroups	516
Reading and Posting Messages to a Newsgroup	517
Managing Messages	519
Reading News Offline	520
Troubleshooting Email	521
Troubleshooting Newsgroups	523

Tips from the Windows Pros: Creating Formatted Email	525
Tips from the Windows Pros: Newsgroups—For More Than Just News	526
17 Troubleshooting Your Internet Connection	529
It's Great When It Works, but... ..	530
Before You Run into Trouble	530
Troubleshooting Step by Step	533
Identifying Software-Configuration Problems	537
Troubleshooting a Dial-Up Connection	537
Troubleshooting a Cable or DSL Modem Connection	538
Troubleshooting a LAN Connection	539
Identifying Network Hardware Problems	541
Identifying Modem Hardware Problems	542
Identifying Modem Connectivity Problems	544
Troubleshooting Internet Problems with Windows TCP/IP Utilities	545
ipconfig	546
ping	547
tracert	548
pathping	549
route	550
Third-Party Utilities	551
Speed Check	551
whois Database	552
Reverse tracert	552
WS_Ping Pro Pack	553
Tips from the Windows Pros: Pinging with Larger Packets	553
18 Hosting Web Pages with Internet Information Services	555
Overview of Internet Information Services 7.0	556
What Does a Web Server Do?	557
A Directory by Any Other Name... ..	558
Default Documents	558
MIMEs Make It Happen	559
To Run or Not to Run	559
IIS Services and Requirements	560
Do You Really Want to Do This?	561
Before You Get Started	562
Name Service	563
Installing IIS	564
Opening the Firewall	568
Setting File Permissions	569
Setting Up a Simple Website	569
Managing Your Site with the Computer Management Console	571
Important IIS Settings and Components	572

Managing the FTP Server	577
Using the FTP Service to Publish Website Content	578
Using the FTP Service to Exchange Files	579
Managing FTP Connections	581
Log Files	582
Making the Site Available on the Internet	582
Security Issues for Internet Services	584
Keeping Up-to-Date	584
File Security	585
Troubleshooting	586
Tips from the Windows Pros: Scripting for Interactive Sites	587

V Networking

19 Overview of Windows Networking	591
Networking for Everybody	592
Why You Really Need a Network	592
Why It Won't Cost Much	593
Windows Vista's Network Personalities	593
Network Hardware Options	595
Wired Ethernet Networks	595
Unshielded Twisted-Pair (UTP) Cable	596
Wireless Networks	597
Powerline and Phoneline	599
Network Terminology	600
Windows Vista Network Services	602
What's Changed in Vista	602
File and Printer Sharing	604
Link Layer Discovery Protocol (LLDP)	604
Roaming User Profiles	605
Distributed Applications	605
.NET	606
Virtual Private Networking	606
Remote Access Service (RAS)	607
Internet Connection Sharing	608
Windows Firewall	608
Universal Plug and Play	608
Active Directory	608
IntelliMirror	610
Intranet/Internet Services and Tools	611
Security	611
Tips from the Windows Pros: Becoming a Networking Professional	612

20 Creating a Windows Network	613
Creating or Joining a Network	614
Planning Your Network	614
Are You Being Served?	615
When to Hire a Professional	617
Planning for Adequate Capacity	617
Printers	618
Backup System	618
Power Surprise	619
Choosing a Network and Cabling System	619
10/100BASE-T Ethernet	620
1000Mbps Ethernet (Gigabit Ethernet)	622
Phone Line and Power Line Networking	622
802.11g Wireless Networking	624
Mixed Networking	626
Printing and Faxing	626
Providing Internet Connectivity	627
Providing Remote Access	627
Installing Network Adapters	627
Checking Existing Adapters	628
Installing Multiple Network Adapters	629
Installing Network Wiring	630
Cabling for Ethernet Networks	630
General Cabling Tips	631
Wiring with Patch Cables	632
Installing In-Wall Wiring	633
Connecting Just Two Computers	634
Connecting Multiple Hubs	636
Installing a Wireless Network	637
Setting Up a New Wireless Network	640
Joining an Existing Wireless Network	643
Configuring a Peer-to-Peer Network	644
Adding Network Clients, Services, and Protocols	644
Configuring the TCP/IP Protocol	646
Choosing Your Network Location	651
Setting Your Computer Identification	653
Configuring Windows Firewall	654
Advanced Features	655
Joining a Windows Domain Network	655
Network Security	657
Checking Out the Neighborhood	657
Installing and Configuring Backup Software	658
File and Folder Backup	659
System Backup	659

Bridging Two Network Types with Windows Vista	660
Troubleshooting	661
Tips from the Windows Pros: Grassroots Networking	663
21 Mix and Match with Old Windows and Macs	665
Networking with Other Operating Systems	666
Internetworking with Windows XP and Windows 2000	667
Setting TCP/IP As the Default Network Protocol	668
Installing the LLDP Responder for Windows XP	669
Password Protection and Simple File Sharing	669
Internetworking with Windows 95, 98, and Me	672
Internetworking with UNIX and Linux	674
The SMB/CIFS Protocol	675
Samba	675
Samba Client Tools	675
Samba Server Tools	676
Telnet	678
Services for NFS	680
The Berkeley “r” Commands	682
Subsystem for UNIX-Based Applications	682
Internetworking with Macintosh	685
Planning for Compatibility	685
Working with Mac OS X	687
Advanced Networking Services	692
Setting Network Bindings	692
Installing Optional Network Components	693
Troubleshooting	698
Tips from the Windows Pros: The Hosts File	701
22 Connecting Your Network to the Internet	703
It’s a Great Time to Connect Your LAN to the Internet	704
The Nuts and Bolts of the Connection	704
The Need for Speed	704
Ways to Make the Connection	705
Managing IP Addresses	707
NAT and Internet Connection Sharing	708
Running Your Own Web Servers	711
A Warning for Business Users	712
Frame Relay	713
Special Notes for Wireless Networking	713
Special Notes for Cable Service	714
Special Notes for ISDN Service	715

Configuring Your LAN	715
Scheme A—Microsoft Internet Connection Sharing with a Dial-Up Connection	716
Scheme B—Microsoft Internet Connection Sharing with a Broadband Connection	720
Scheme C—Sharing Router with a Broadband or Dial-Up Connection	721
Using Universal Plug and Play	724
Scheme D—Cable Internet with Multiple Computers	726
Scheme E—Cable Internet with Multiple Computers and a Separate LAN	727
Scheme F—Routed Service Using a Router	728
Making Services Available	730
Enabling Access with Internet Connection Sharing	730
Enabling Access with a Sharing Router	734
Troubleshooting	738
Tips from the Windows Pros: Squeezing Top Speed from Your	
High-Speed Connection	739
23 Using a Windows Network	741
Windows Vista Was Made to Network	742
Workgroup Versus Domain Networking	744
File Sharing in Windows Vista	744
What's in a Name?	745
The UNC Naming Convention	745
The Network and Sharing Center in Windows Vista	746
The Major Components of the Network and Sharing Center	747
Finding Network Shares	747
Using Shared Folders	749
Exploring and Searching the Network	750
A Look at Shared Resources	750
Searching the Network	751
Advanced Active Directory Searching	754
Using a Shared Disk Drive	755
Using Internet-Based File Storage Services	756
Mapping Drive Letters	756
Using Printers on the Network	759
Installing Network Printers	761
Using a Network Printer	763
Using Printers over the Internet with IPP	764
Using Other IPP Printers	765
Using UNIX and LPR Printers	766
Using AppleTalk Printers	767
Using Other Network-Connected Printers	768

Using Network Resources Effectively	768
Use Network Explorer	768
Make Folder Shortcuts	769
Use Offline Network Folders	769
Put Tools and Documentation Online	769
Organize Your Network to Fit Your Users	769
Sharing Resources	769
Sharing Folders and Drives	770
Sharing Folders on a Workgroup or Domain Network	770
Sharing Printers	773
Installing Extra Printer Drivers	774
Setting Printer Permissions	775
Tracking Printer Users	775
Changing the Location of the Spool Directory	777
Printer Pooling	777
Separator Pages	778
Managing Network Use of Your Computer	780
Managing Network Resources Using the Command Line	780
Mapping Drives with net use	781
The Distributed File System	782
Troubleshooting	783
Tips from the Windows Pros: Using Command-Line Utilities	784
24 Troubleshooting Your Network	787
When Good Networks Go Bad	788
Getting Started	788
Diagnostic Tools	790
The Network Window	790
Network and Sharing Center	791
Network Diagnostics	792
Windows Firewall	793
Event Viewer	794
Device Manager	795
Testing Network Cables	796
Checking Network Configuration	797
ipconfig	797
Computer	798
Network Connections	799
Testing Network Connectivity	799
ping	799
Diagnosing File and Printer Sharing Problems	801
Tips from the Windows Pros: Monitoring Your LAN	801

VI Maintaining Windows Vista

25 Windows Management and Maintenance	805
Overview	806
The Windows Vista Control Panel	806
Breaking Down the Category View	807
What Should You Use?	818
AutoPlay	822
Date and Time	823
Default Programs	825
Set Your Default Programs	826
Set Associations	826
Set Program Access and Computer Defaults	827
Device Manager	827
Understanding and Resolving Hardware Conflicts	829
IRQs	830
DMA Channels	834
I/O Port Assignments	835
Memory Addresses	836
Checking a Device's Resources	837
Using Device Manager to Deal with Resource Conflicts	837
Ease of Access Center	839
Accessibility Keyboard Settings	840
Accessibility Sound Settings	841
Accessibility Display Settings	842
Accessibility Mouse Settings	843
Fonts	843
Fonts 101	844
Font Types	844
Font and Font Information Sources	845
Font Substitutions	846
Font Installation and Management	847
Game Controllers	848
Keyboard	849
Mouse	850
Performance Information and Tools	852
The Windows Experience Index	853
Interpreting the Windows Experience Index	854
Manage Startup Programs with Windows Defender	855
Adjust Visual Effects	856
Adjust Indexing Options	857
Other Performance Options	858
Advanced Tools	858

Reliability and Performance Monitor	859
Resource Overview	859
Performance Monitor	860
Reliability Monitor	860
Data Collector Sets and Reports	861
System Diagnostics Report	862
Power Options	863
Programs and Features	863
Uninstall or Change a Program	863
View Installed Updates	865
Windows Marketplace	866
Digital Locker	867
Enable/Disable Windows Features	869
Regional and Language Options	869
System	870
Remote Settings	872
System Protection	872
Advanced System Settings	873
Data Execution Prevention (DEP)	874
Environment Variables	874
Windows SideShow	875
Administrative Tools	875
Computer Management	876
Event Viewer	878
Shared Folders	882
Local Security Policy	882
Print Management	882
Services	883
Task Scheduler	884
System Configuration	884
Task Manager	886
Applications Tab	887
Processes Tab	888
Services Tab	889
Performance Tab	889
Networking Tab	891
Users Tab	891
System Information	892
Adjust Visual Effects and Performance Options	893
Using the iSCSI Initiator	893
System Tools Folder in Start Menu	894
Character Map	895

Troubleshooting	898
Tips from the Windows Pros: Creating and Using Shortcuts to Your Favorite Control Panel Applets	898
26 Tweaking the GUI	901
GUI: To Tweak or Not to Tweak	902
Start Menu Pizzazz!	902
Tweaking the Taskbar	904
Display Properties	906
Windows Color and Appearance	907
Desktop Background	910
Screen Savers	913
The Sounds Link	915
The Recording and Playback Tabs	918
Changing Your Theme	918
Display Settings	919
Tweak UI	923
Miscellaneous GUI Tips	924
Fonts Preview Trick	924
Which Windows Are You Using?	924
Limiting Flip 3D	925
More Visual Effects	926
Administrator Tools Not Showing Up	926
Changing the Location of the Documents and other Special Folders	927
Cascading Elements off the Start Menu	928
Switch Ctrl, Alt, and Caps Lock Keys	928
Auto Scrolling with a Three-Button Mouse	928
Configuring the Recycle Bin	929
Troubleshooting	929
27 Managing Hard Disks	933
Hard Disk Management	934
Windows Vista File and Storage Systems	934
Basic Disks	934
Dynamic Storage	935
Organizational Strategies	937
Windows Vista's Disk-Management Tools	938
Disk Management	939
Assigning Drive Letters and Joining Volumes	940
Dynamic Disk Management	943
Extending a Disk	944
Shrinking a Disk	944
Creating a Spanned Volume	944
Creating a Striped Volume	945

Removable Storage	946
Disk Defragmenter	947
The MFT	948
Configuring Defrag	949
Detecting and Repairing Disk Errors	950
Convert	951
Compression: How It Works, How to Use It	952
Disk Cleanup Utility	953
Using Internet Explorer's Cache Cleanup	956
Zippping or Compressing Files	957
Third-Party Management Tools	957
Hard Disk Troubleshooting	958
Take the Mental Approach First	959
Problems and Solutions	960
Tips from the Windows Pros: Quieting a Noisy System	962
28 Troubleshooting and Repairing Problems	965
Troubleshooting 101	966
Easy Repair Options at Boot Time	966
Using System Recovery	966
Startup Repair	967
System Restore	968
Configuring System Restore	968
Creating Restore Points	969
Restoring Your System to an Earlier Time	970
Windows Complete PC Restore	971
Windows Memory Diagnostic Tool	972
Command Prompt	974
Repairing a System That Won't Start with Regedit	974
Boot Options	976
As a Last Resort	979
Preventing Problems	980
Fixing Application Problems with the Program Compatibility Wizard	981
Adjusting Settings with the Compatibility Tab	982
Using Problem Reports and Solutions	983
Finding and Using Windows Vista Troubleshooting Resources	985
Black Magic of Troubleshooting	986
Tricks of the Windows Masters: Recovering Data from the System Recovery Options Menu	987

29 Keeping Windows and Other Software Up to Date	989
Windows Vista and Keeping Up to Date	990
Windows Live	990
How Windows Live Keeps You Updated	990
Windows Update	991
Windows Automatic Updates	991
Windows Update Applet and Functions	993
Other Windows Update Settings	994
Viewing and Changing Installed Updates	995
Updating Drivers	996
Manually Update Drivers	997
Service Packs	998
Basic Service Pack Information	998
Installation of Service Packs	999
“Ultimate” Add-Ons	1000
What to Expect	1000
Power Toys	1001
Installing and Removing Software	1001
Installation Via CD or DVD	1002
Installation Via Downloaded Program	1002
Uninstalling or Changing a Program Applet	1003
Uninstalling Software	1004
Compatibility Issues in 64-Bit Version	1005
Other Program Compatibility Issues	1006
Side-by-Side Installs	1007
Virtual Registries and Folders	1007
Troubleshooting	1009
Tips from the Windows Pros: Windows Update Driver Settings	1011
30 Installing and Replacing Hardware	1013
Upgrading Your Hardware	1014
BIOS Settings	1014
Upgrading Your Hard Disk	1015
Adding RAM	1016
Adding Hardware	1017
Providing Drivers for Hardware Not in the List	1021
Removing Hardware	1022
Installing and Using Multiple Monitors	1023
Installing a UPS	1027
Choosing a UPS	1029
Installing and Configuring a UPS	1030
Testing Your UPS Configuration	1032

How Many Upgrades Are Allowed before EULA and SPP Barf?	1032
Upgrading Hardware in the Same Box and Complying with EULA	1034
Troubleshooting	1036
Tips from the Windows Pros: Upgrading and Optimizing Your Computer	1038
Keep Your Eye on the Hardware Compatibility List	1038
Sleuthing Out Conflicts	1039
Optimizing Your Computer for Windows Vista	1039
31 Editing the Registry	1041
What Is the Registry?	1042
How the Registry Is Organized	1043
Registry Contents	1045
HKEY_LOCAL_MACHINE	1045
HKEY_CURRENT_CONFIG	1046
HKEY_CLASSES_ROOT	1046
HKEY_USERS	1046
HKEY_CURRENT_USER	1047
New Registry Features in Windows Vista	1047
Registry Virtualization	1048
Registry Reflection	1049
Backing Up and Restoring the Registry	1050
Backing Up the Registry	1050
Restoring the Registry	1052
Using Regedit	1054
Viewing the Registry	1054
Searching in the Registry	1055
Editing Keys and Values	1057
Advanced Registry Editing	1060
Editing the Registry of a Remote Computer	1060
Editing Registry Entries for Another User	1061
Editing Registry Entries for Another Windows Installation	1063
Editing Registry Security	1063
Other Registry Tools	1065
TweakUI	1065
X-Setup Pro	1065
Registry Toolkit	1066
Registrar Registry Manager	1066
TweakVI	1066
Registry-Hacker Websites	1066
Google	1066
Registry Privileges and Policies	1067
Troubleshooting	1067
Tips from the Windows Pros: Deploying Registry Settings with REG Files	1070

32 Command-Line and Automation Tools	1073
Command-Line Tools	1074
The Windows Vista Command Prompt Environment	1074
Command-Line Syntax	1075
Quoting Filenames with Spaces	1076
The Current Drive and Current Directory	1077
Editing Command Lines	1078
Filename Completion	1079
Redirection and Pipes	1079
Cut and Paste in the Command Prompt Window	1082
Command-Line Tips	1082
Getting Information About Command-Line Programs	1084
Command-Line Management Tools	1085
The net use Command	1085
The sc Command	1087
The Shutdown Command	1089
Setting Environment Variables	1089
Setting the PATH Environment Variable	1094
Specifying the Location of Temporary Files	1095
Setting Command Prompt Window Properties	1096
Keeping a Command Prompt Window Open After Execution	1098
The MS-DOS Environment	1098
Customizing AUTOEXEC.NT and CONFIG.NT	1100
Issues with DOSKEY and ANSI.SYS	1103
Editing Advanced Settings for a DOS Application	1104
Custom Startup Files	1106
Unavailable MS-DOS Commands	1106
Batch Files	1108
Batch File Basics	1108
Batch File Programming	1111
Batch File Tips	1116
Windows Script Host	1117
How WSH works	1117
Creating Scripts	1118
Some Sample Scripts	1121
Task Scheduler	1127
Troubleshooting	1131
Tips from the Windows Pros: Getting More Information	1132

VII Security

33 Protecting Windows from Viruses and Spyware	1135
Malicious Software: Ignorance Is Not Bliss	1136
Viruses Past and Present	1136
Worms: “Look, Ma! No Hands!”	1137
Spyware	1137
Rootkits and Beyond	1138
Antimalware Strategy: Defense in Depth	1138
Windows Security Center	1139
Choosing and Installing an Antivirus Client	1140
Windows Defender for Spyware Protection	1142
Personal Firewalls: A Layer of Protection from Worms	1146
Automatic Updates: Remove the Side Doors	1146
Data Execution Prevention (DEP)	1146
User Account Control (UAC)	1148
Service Hardening	1150
Internet Explorer 7 Malware Protection	1151
Tips from the Windows Pros: Avoiding Malware	1151
34 Protecting Your Data from Loss and Theft	1153
The Backup and Restore Center	1154
Differences in the Backup and Restore Center	1154
File and Folder Backups Versus Complete PC Backups	1156
Creating a File and Folder Backup	1156
Working with Removable Media During Backups	1159
How Backups Created with Back Up Files Are Stored	1159
Restoring Data from a File and Folder Backup	1160
Restoring the Current User’s Data	1160
Performing an Advanced Restore	1162
Creating a Complete PC (Image) Backup	1164
WBADMIN Command-Line System Backup and Restore	1165
Restoring a Complete PC Backup Image	1168
Encrypted File System (EFS)	1168
Using CIPHER	1170
Rules for Using Encrypted Files	1172
Suggested Folders to Encrypt	1173
Protecting and Recovering Encrypted Files	1174
Disk Organization for Data Safety	1177
BitLocker Disk Encryption	1177
BitLocker System Requirements	1178
Preparing the Hard Disk for Use with BitLocker	1178
Enabling the TPM	1179

Encrypting the Drive with BitLocker	1180
BitLocker Drive Encryption Recovery	1181
How BitLocker Protects Your Information	1181
Differences Between BitLocker and EFS Encryption	1183
Recovering Previous Versions of a File	1183
NTFS File Permissions	1185
Inheritance of Permissions	1187
Advanced Security Settings	1188
Viewing Effective Permissions	1189
Access Auditing	1189
Taking Ownership of Files	1190
Assigning Permissions to Groups	1191
Securing Your Printers	1192
Security Policy Configuration Options	1192
Third-Party Disc-Backup Tools	1193
Troubleshooting	1194
Tips from the Windows Pros: Restoring NTBACKUP Files	1196
35 Protecting Your Network from Hackers and Snoops	1197
It's a Cold, Cruel World	1198
Who Would Be Interested in My Computer?	1198
Types of Attack	1199
Your Lines of Defense	1201
Network Security Basics	1202
Advantages of a NAT Connection and Separate Router	1204
Set Up Firewalls and NAT (Connection-Sharing) Devices	1204
Windows Firewall	1205
Packet Filtering	1205
Using NAT or Internet Connection Sharing	1207
Add-On Products for Windows	1208
Secure Your Router	1208
Passwords Versus Passwordless File Sharing	1209
Set Up Restrictive Access Controls	1210
Testing, Logging, and Monitoring	1211
Test Your Defenses	1211
Monitor Suspicious Activity	1213
Disaster Planning: Preparation for Recovery After an Attack	1214
Make a Baseline Backup Before You Go Online	1214
Make Frequent Backups When You're Online	1214
Write and Test Server Restore Procedures	1214
Write and Maintain Documentation	1215
Prepare an Incident Plan	1215

Specific Configuration Steps for Windows Vista	1216
If You Have a Standalone Windows Vista Computer	1216
If You Have a LAN	1217
Enabling Windows Firewall	1217
Keep Up-to-Date	1218
Tightening Local Security Policy	1219
Configuring Windows Firewall	1222
Enabling and Disabling the Firewall	1223
Enabling Exceptions	1223
Advanced Firewall Settings	1226
Windows Firewall with Advanced Security	1227
Configuring Windows Firewall with Advanced Security on a Local Computer	1228
Firewall Rules	1230
More About Security	1232
Troubleshooting	1232
Tips from the Windows Pros: Having Professionals Audit Your Network	1234
36 Protecting Yourself from Fraud and Spam	1235
Phishing (Fishing) for Information	1236
Live Phish: A Real-World Example	1236
More Help from Internet Explorer	1241
Two-Way Authentication	1242
Two-Factor Authentication	1242
Identity-Management Software	1243
Avoiding Phishing	1244
Spam Not Fit for Consumption	1244
Antispam Tactics	1245
Tips from the Windows Pros: Take Action Against Email Abuse	1249

VIII Windows On the Move

37 Wireless Networking	1253
Wireless Networking in Windows Vista	1254
Types of Wireless Networks	1254
Wireless Security Issues	1254
Plain Old Snooping	1255
Man in the Middle	1256
Take Care When You Share	1256
Wireless Security Keys	1257
Joining a Wireless Network	1259
In the Corporate Environment	1259
At Home or the Small Office	1259
In Someone Else's Office	1261
At a Public Hot Spot	1262

Ad Hoc Networks and Meetings	1263
Managing Wireless Network Connections	1263
Switching Between Wireless Networks	1263
Advanced Wireless Network Settings	1264
Troubleshooting	1265
Tips from the Windows Pros: The Wireless Command Line	1270
38 Hitting the Road	1271
Windows Unplugged: Mobile and Remote Computing	1272
Managing Mobile Computers	1272
Windows Mobility Center	1273
Getting the Most Out of Your Battery	1275
VPN and Dial-Up Networking	1278
Setting Up VPN and Dial-Up Networking	1280
Setting a VPN or Dial-Up Connection's Properties	1281
Managing Dial-Up Connections from Multiple Locations	1284
Establishing a VPN or Dial-Up Connection	1285
Using Remote Network Resources	1287
Email and Network Connections	1287
Monitoring and Ending a VPN or Dial-Up Connection	1288
Routing Issues	1288
Incoming VPN and Dial-Up Access	1289
Setting Up VPN and Dial-Up Access	1290
Enabling Incoming VPN Connections with NAT	1292
Offline Folders	1293
Identifying Files and Folders for Offline Use	1294
Using Files While Offline	1295
Sync Center	1296
Managing and Encrypting Offline Files	1298
Making Your Shared Folders Available for Offline Use by Others	1299
Multiple LAN Connections	1299
Troubleshooting	1300
Tips from the Windows Pros: Manually Adding Routing Information	1301
39 Meetings, Conferencing, and Collaboration	1303
Vista: Plays Well with Others	1304
Making Presentations with a Mobile Computer	1304
Adjusting Presentation Settings	1304
External Display	1306
Network Projectors	1307

Windows Meeting Space	1307
Setting Up Windows Meeting Space	1308
Joining an Existing Meeting	1311
Working in Windows Meeting Space	1311
Sharing Documents as Handouts	1313
Leaving a Meeting	1313
Remote Assistance	1314
Enabling Remote Assistance	1314
Requesting Remote Assistance	1315
Responding to an Assistance Request	1317
Tips from the Windows Pros: It's Not All About the Bullets	1319
40 Remote Desktop	1321
Using Your Computer Remotely	1322
Setting Up Access to Your Own Computer	1324
Enabling Remote Desktop Access to Your Computer	1325
Establishing 24x7 Access	1326
Static IP Address or Dynamic DNS	1327
Port Forwarding	1330
Connecting to Other Computers with Remote Desktop	1334
Connection Options	1335
Using the Remote Connection	1338
Keyboard Shortcuts	1339
Setting Up the Web-Based Client	1341
Troubleshooting	1342
Tips from the Windows Pros: Making More Than One Computer Available	1343
41 Tablet PC Features	1347
Importance of Handwriting	1348
History of Tablets	1348
Who Needs a Tablet?	1350
What Does Tablet Vista Have That Regular PCs Don't?	1351
What's New in Tablet Vista?	1352
Choosing a Tablet PC	1352
Using Your Tablet PC—Differences and Similarities of Functions	1353
Input Methods Using the Input Panel	1353
Writing Methods Using the Input Panel	1354
Stylus Pen	1354
Input Panel Options	1355
Gestures and Pen Flicks	1355
Scratch-Out Gestures	1355
Pen Flicks	1356

Handwriting Recognition	1356
Specific Handwriting Recognition Errors	1357
Teach the Recognizer Your Style	1357
AutoComplete	1358
Sticky Notes and the Snipping Tool	1358
Sticky Notes	1359
Snipping Tool	1359
Windows Journal	1361
Tablet PC Settings and Pen and Input Devices	1362
Tablet PC Settings Menu	1362
Pen and Input Devices Menu	1364
Troubleshooting	1366
Tips from the Windows Pros: A Whole New Level of Pen Flicks	1367

IX Appendix

A Windows Programs and Services	1371
Windows Programs	1372
MS-DOS Applications	1391
Control Panel Applets	1392
Microsoft Management Console Plug-Ins	1393
Screen Savers	1394
Windows Services	1394
Index	1409
Running the CD Included with This Book	1462
Improving Playback	1462

ABOUT THE AUTHORS

Robert Cowart has written more than 40 books on computer programming and applications, with more than a dozen on Windows. His titles include *Windows NT Unleashed*, *Mastering Windows 98*, *Windows NT Server Administrator's Bible*, and *Windows NT Server 4.0: No Experience Required*. Several of his books have been bestsellers in their category and have been translated into more than 20 languages. He has written on a wide range of computer-related topics for such magazines as *PC Week*, *PC World*, *PC Magazine*, *PC Tech Journal*, *Mac World*, and *Microsoft Systems Journal*. In addition to working as a freelance consultant specializing in small businesses, he has taught programming classes at the University of California Extension in San Francisco. He has appeared as a special guest on the PBS TV series *Computer Chronicles*, CNN's *Headline News*, ZD-TV's *The Screen Savers*, and ABC's *World News Tonight with Peter Jennings*. Robert lives in Berkeley, California. In his spare time he is involved in the music world, producing chamber-music concerts and playing various genres of music. He meditates regularly in hopes of rewiring his inner computer.

Brian Knittel has been a software developer for more than 20 years. After doing graduate work in nuclear medicine and magnetic resonance imaging technologies, he began a career as an independent consultant. An eclectic mix of clients has led to long-term projects in medical documentation, workflow management, real-time industrial system control, and most importantly, 20 years of real-world experience with MS-DOS, Windows, and computer networking in the business world. Previously, he coauthored *Special Edition Using Microsoft Windows 2000 Professional*, *Special Edition Using Microsoft Windows XP*, and contributed to several of Bob Cowart's other Windows books. Brian also coauthored *Upgrading and Repairing Windows*, with Scott Mueller, and is the sole author of *Windows XP Under the Hood*. Brian lives in Oakland, California, and spends his free time restoring antique computers and trying to perfect his wood-fired pizza recipes.

ABOUT THE CONTRIBUTORS

Everette Beatley is a fourth-year computer engineering major at Christopher Newport University in Newport News, Virginia. He currently works for Southern Electronics, Inc. in Kilmarnock, Virginia, as a System Administrator. When not in school, Everette lives in Lancaster, Virginia, where he enjoys road cycling and waterskiing on the Rappahannock River.

Eric Butow has authored or coauthored seven books since 2000, including *Master Visually Windows 2000 Server*, *Teach Yourself Visually Windows 2000 Server*, *FrontPage 2002 Weekend Crash Course*, *C#: Your Visual Blueprint*, *Creating Web Pages Bible*, and *Dreamweaver MX 2004 Savvy*. His most recent book is *The PDF Book for Microsoft Office*, an e-book produced by ExcelUser.com. He is also the CEO of Butow Communications Group (BCG), a technical writing and web design firm based in Roseville, California. Butow also writes for Addison-Wesley.

Greg Dickinson lives in Birmingham, Alabama, and has 10 years experience with computer networking. He works for one of the top 30 banks in the country, packaging and distributing software packages and updates to the bank's 6,000 desktops. When not wrestling with the intricacies of enterprise networks, Greg likes to spend his time recording training videos and singing in a barbershop chorus.

Diana Huggins is currently the Information Services Technical Communication Specialist for Great-West Life. She also works as an independent contractor providing both technical writing and consulting services. Diana has authored/coauthored several certification study guides, including *Windows 2000 Directory Services Design (Exam Cram 70-219)* as well as *MCSE Planning and Maintaining a Microsoft Windows Server 2003 Network Infrastructure (Exam 70-293)*. To complement this, she also spends a portion of her time providing technical-editing services and developing certification practice exams.

Alex G. Morales first managed networked computer systems in the 1980s and has since managed some of the world's largest Internet sites. Along with several industry certifications, he holds a bachelor's degree in anthropology from the University of Texas, and currently leads a stalwart team of engineers in the global deployment of Windows Vista at Dell, Inc. Alex lives in Austin, Texas, with his muse, Gwen, her son Evan, and Molly the Border Collie.

Will Schmied, MCSE, is a Senior Systems Administrator for a world-renowned children's research hospital. As a freelance writer, Will has worked with many publishers, including Microsoft and Pearson. Will has also worked directly with Microsoft in the MCSE exam-development process and is the founder of the popular Internet certification portal, www.mcseworld.com. Will currently resides in northern Mississippi with his wife, Chris; their children, Christopher, Austin, Andrea, and Hannah; their dogs, Charlie and Jack; and their cats, Smokey, Evin, and Socks.

Mark Edward Soper has worked with computers and related technologies since 1983 and specializes in technology education through training, writing, and public speaking. He has taught computer troubleshooting and other subjects to thousands of students, and is the

author or coauthor of 17 books, most recently *Upgrading and Repairing Networks*, 5th edition, published by Que Publishing, and has also written more than 150 magazine articles. He has CompTIA A+ and Microsoft MCP certifications and provides online self-help content for Skywire Software, technology screening questions for ReviewNet. He also teaches applied technology classes for IvyTech Community College of Indiana. Mark lives in Evansville, Indiana, and blogs at www.markesoper.com.

Steve Suehring is a technology architect and author with a diverse background of computing experience. In recent years, Steve has worked on several books and magazine articles and has been an editor for a popular technology magazine. Steve has spoken at conferences and meetings internationally and currently works with clients to help them optimize and better utilize technologies, both old and new.

Brent Thal is a Virginian who is a senior at Christopher Newport University in computer engineering and plans to attend graduate school in computer science and applied physics. Brent comes from a long line of engineers. His grandfather was a mechanical engineer, and his father is a registered professional engineer (P.E.) in civil engineering and an adjunct professor of engineering at the University of Virginia. After graduate school, Brent plans to work in the computer engineering field for a highly reputable company and continue to write as a contributing author.

DEDICATION

In memory of my mother, Geraldine, for teaching me that the devil is in the details. —Bob

To my mother and father, for their encouragement. —Brian

ACKNOWLEDGMENTS

This book, as much as the product it covers, is the product of a team effort. We couldn't have produced this without the great team at Que, the assistance of contributing writers, the patience and support of our friends, and so...

We feel privileged to be part of the consistently professional *Special Edition Using* family. Producing these highly technical, state-of-the-art books requires a dedicated and knowledgeable staff, and once again the staff at Que did an amazing job. Executive editor Rick Kughen has provided unflinching, cheerful support and guidance through our four *SE Using* volumes. Also serving as development editor, Rick did double duty keeping us on schedule, as well as helping us to shape this tome. Rick pored over every word on every page of this new Vista edition, just as he has on numerous past editions, and offered invaluable direction and tuning. This is a much better book than it could have been without him.

We'd like to acknowledge the efforts of our technical editor, Mark Reddin. We also would like to thank the editorial, indexing, layout, art, proofing, and other production staff at Que—Mark Cierzniak, George Nedeff, Geneil Breeze, Krista Hansing, Barbara Hacha, Jessica McCarty, Cheryl Lenser, and Erika Millen. You did a marvelous job.

We'd like to thank Everette Beatley, Eric Butow, Greg Dickinson, Diana Huggins, Arthur Knowles, Alex Morales, Mark Soper, Steve Suehring, Brent Thal, and Will Schmied for their expertise and hard work: Your contribution made this a better book and let it get to press on time (more or less!). You were a great writing team to work with. In addition to his writing skills, Everette Beatley deserves extra kudos for his always-available-by-IM invaluable back-stage sleuthing of Vista issues and factoids. Special thanks to first-time authors but big-time computer pros Alex Morales and Brent Thal, and encouragement to keep writing! No book could make it to market without the real-world personal relationships developed between booksellers on the one hand, and the sales and marketing personnel back at the publishers. We've had the opportunity to meet sales and marketing folks in the computer publishing world and know what a difficult job selling and keeping up with the thousands of computer titles can be. Thanks to all of you for your pivotal role in helping us pay our mortgages!

Finally, we should acknowledge those who made it possible for us to get through the many months of writing. Bob first offers many thanks to Frank Banks, John Prendergast, and Dr. Steven Feig for keeping him ticking. Secondly, thanks to agent Carole McClendon of Waterside Productions for representing me in contractual matters. And finally, as always, thanks to friends and family who, even though used to seeing me disappear for months on end, let me back in the fold when it's over, especially Diane Zarembo, Hilary Abel, Kathy Geisler, Heidi Page, Kirsten Spalding, Jack Hoggatt, Anne Buchbinder, and Carol Christopher.

Brian adds thanks to Dave, Bryce, Frank, Todd, and Bubba for keeping him sane during a long summer and fall!

WE WANT TO HEAR FROM YOU!

As the reader of this book, *you* are our most important critic and commentator. We value your opinion and want to know what we're doing right, what we could do better, what areas you'd like to see us publish in, and any other words of wisdom you're willing to pass our way.

As an associate publisher for Que Publishing, I welcome your comments. You can email or write me directly to let me know what you did or didn't like about this book—as well as what we can do to make our books better.

Please note that I cannot help you with technical problems related to the topic of this book. We do have a User Services group, however, where I will forward specific technical questions related to the book.

When you write, please be sure to include this book's title and author as well as your name, email address, and phone number. I will carefully review your comments and share them with the author and editors who worked on the book.

Email: feedback@quepublishing.com

Mail: Greg Wiegand
Associate Publisher
Que Publishing
800 East 96th Street
Indianapolis, IN 46240 USA

READER SERVICES

Visit our website and register this book at www.quepublishing.com/register for convenient access to any updates, downloads, or errata that might be available for this book.

