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Jack Tackett, Jr. and Steven Burnett

Special Edition

Using Linux

Fifth Edition

Jack Tackett, Jr.

Steve Burnett

Rob Napier

Jeff Tranter

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Contents at a Glance

Introduction

I Installing Linux

1 Understanding Linux 13
2 Linux Installation Overview 31
3 Installing Red Hat Linux 61
4 Installing Caldera Op"enLinux 93
5 Installing Debian Linux 119
6 Adding Sound Cards and Other Multimedia Hardware 145
7 Upgrading and Installing Software 163

II System Administration

8 Understanding System Administration 183
9 Using the vi Editor 203
10 Booting and Shutting Down 233
11 Managing User Accounts 249
12 Backing Up Data 259
13 Improving System Security 275
14 Configuring the Linux Kernel 295
15 Linux on PowerPC Platforms 307

III Working with Linux

16 Understanding Linux Shells 317
17 Managing Multiple Processes 365
18 Printing 391
19 Understanding the File and Directory System 407
20 Managing File Systems 439
21 Managing NFS 463
22 Managing NIS and LDAP 475
23 Using Samba 485

IV Using X Windows

24 Installing the X Window System 503
25 Using the X Window System 529
26 Working with KDE 557
27 Working with GNOME 577

V Network Administration

28 Understanding the TCP/IP Protocol Suite 597
29 Configuring a TCP/IP Network 619
30 IP Firewalling and Masquerading 635
31 Connecting to the Internet 663

VI Using the Internet

32 Accessing the Network with `telnet`, `ftp`, and the `r-` Commands 683
33 Surfing the Internet with the World Wide Web 701
34 Using Electronic Mail 717
35 Surviving Usenet News 741

VII Setting Up Linux Internet Servers

36 Getting Started with Apache 759
37 Configuring an FTP Server 781
38 Configuring Domain Name Service (DNS) 793
39 Configuring Email 809
40 Configuring a Usenet News Service 825

VIII Appendixes

A Sources of Information 835
B The Linux How-To Index 843
C The GNU General Public License 861
D The Open Source Definition 871

Index 875

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DEDICATION

To Peggy, Mary Louise, and Carolyn—Love always...

—Jack

To Merrie.

—Steve

ACKNOWLEDGMENTS

From Jack Tackett:

First, I want to thank all the readers of the first four editions of this book for their patronage and for their helpful and insightful comments. Your comments are important and make a difference, please keep them coming. You have made this a better project!

I want to say thank you for the tremendous efforts put forth by the Linux developers scattered across the globe. I also want to acknowledge the fine contributions begun by Linus Torvalds and continued by so many others around the world—thanks for creating Linux and breathing life into such a monumental effort! Also, thanks to Matt Welsh, et al., for the work on the Linux Documentation project.

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Finally, to my wife Peggy, who has yet again put up with me spending endless hours at the computer writing yet another computer book. Thanks, sweetheart, and I love you!

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From Steve Burnett:

To the Linux development community at large: your continued efforts have made enormous improvements to the usage and capabilities of the operating system and applications. In the short time since Jack and I wrote the previous edition of this book, Linux has grown so much we felt a new edition was necessary.

Locally, the members of the recently formed Triangle Linux User Group have collectively been of great help with their activity and enthusiasm. For more specific thanks: Jack, nice to work together again. My thanks to Rob Napier for contributing on this edition, and to David Fugate for his usual coordination. Of course, thanks to Merrie for tolerating my extra work.

INTRODUCTION

Linux is no longer a "not ready for prime time" operating system! That's what we wrote in the beginning of the fourth edition of this book, and a few months later Linux exploded onto the mainstream consciousness. Major news media from the *Wall Street Journal* to CNN seemed to discover Linux overnight (probably not as a complete result of the fourth edition though <g>). Today Linux is a viable alternative to the high-priced, closed-ended operating systems of the past. Linux is one of two operating systems gaining market share, and it's gaining share more quickly than the other one, Windows NT.

Many commercial uses of Linux abound, ranging from being used to create many of the fantastic special effects for James Cameron's Oscar-winning mega hit *Titanic;* to being used as the operating system for new network computers; to being used to create inexpensive, massively parallel supercomputers as in the Beowulf project. Many large-scale IS departments are no longer afraid to adopt Linux into their operations, even though many had Linux systems clandestinely running services before the media attention! As Linux evolves, you have to keep up with the changes; that's why you will find plenty of new material in this fifth edition of Que's popular *Special Edition Using Linux.*

Many chapters have been rewritten to highlight the most available distributions—Red Hat, Caldera, and Debian. In addition, the book contains updated and expanded coverage of X Windows and two of the more popular window managers, KDE and GNOME. We've rearranged several chapters to provide a better flow and ease of use in finding information when you need it. Also, we've considered your suggestions and have revamped the installation chapters and provided more troubleshooting tips throughout the book.

If you're just tuning in, though, you might want to know just what the heck Linux is. In 1991, Linus Torvalds, then a 23-year-old college student, began a personal project to expand the Minix operating system into a full-fledged clone of the UNIX operating system that was so popular on college campuses. The project is still evolving: Linux is continuously updated and expanded by literally hundreds of people around the world.

Therefore, Linux is a unique animal in the computer (r)evolution. It isn't a commercial product backed by a huge corporation; rather, it's an operating system born of frustration and built by a ragtag team of computer enthusiasts around the world. This team used Internet resources to communicate and build the operating system named Linux.

But don't think Linux is just a hobby for hackers around the world—it's not! Plenty of commercial products are being written specifically for Linux. In fact, several companies are porting their UNIX-based applications, such as Corel's WordPerfect, to Linux. As a matter of fact, Corel has adopted the Debian distribution of Linux for its new Network Computer and has released the resulting software to the development community. Companies such as IBM, Oracle, and Dell are actively supporting Linux and the Open Source community.

Note

Although estimating the total number of Linux users or installations in the world is difficult, a working estimate shows between 5,000,000 and 10,500,000 active Linux users worldwide. For more information, check out the following URL:

```
http://www.redhat.com/redhat/linuxmarket.html
```

If you don't understand what a *uniform resource locator (URL)* is or how to use it, don't despair! This book will help you learn how to make your way around the Internet using Linux.

→ See "Understanding URLs," p. 703

Many Fortune 500 companies use Linux for internal projects and mission-critical applications. And recently, large companies such as IBM, Oracle, and Corel began to embrace the concept of open solutions by releasing their own software into the development community, just as Linus Torvalds and others released their software to the world.

Plenty of free applications and utilities are also available for Linux. Since the inception of Linux, almost the entire GNU library of utilities has been ported to Linux, and the X Windows GUI system—so popular on UNIX-type workstations—also has been ported. GNU (a recursive acronym for *GNU's Not UNIX*) is a project started by one man to make software available to anyone who wants access. The GNU General Public License in Appendix C describes the philosophy under which Linux and many other fine software packages are distributed. The accompanying CD-ROMs contain many of these packages.

This book provides you with enough information to use and enjoy Linux. The accompanying CD-ROMs contain the Red Hat 6.0, Caldera OpenLinux 2.2 Lite, and Debian 2.1 distributions, each of which uses the 2.2 Linux kernel.

At this point, the first order of business is to help you pronounce the word *Linux*. To most Americans, the pronunciation is *LEN-nucks*, with the short *i* sound. The official pronunciation is *LIH-nucks*.

CONTENTS

I Installing Linux

1 Understanding Linux 13

What Is Linux? **14**

Why Use Linux? **15**

Linux Distributions **16**

Advantages of Using Linux **17**
- Open Systems Portability **18**
- Applications **18**
- Advantages for Computer Professionals **18**
- Education **19**
- Hackers **20**

Disadvantages of Using Linux **20**
- Lack of Technical Support **20**
- Hardware Problems **21**
- Inability to Use Current Software **22**
- Lack of Experience **23**

Overcoming the Disadvantages **23**

Disappearing Disadvantages **24**

The Commercial Side of Linux **24**
- Commercial Programs from Red Hat **24**
- Commercial Programs from Caldera **25**
- Commercial Programs from Debian **25**

A Brief History of Linux **25**
- AT&T **25**
- BSD **26**
- USL **26**
- XENIX, SunOS, and AIX **27**
- Linux **27**

Who Owns Linux? **28**

2 Linux Installation Overview 31

Understanding Linux's Hardware Requirements **32**
- The System's CPU **33**
- The System's Bus **33**
- Memory Needs **34**
- Disk Drives and Space Requirements **34**
- Swap Space **35**
- Monitor Requirements **35**
- CD-ROMs **37**
- Network Access **37**
- Miscellaneous Hardware **38**

Compiling Necessary Information **39**

Starting the Installation Process **39**

Understanding the Various Installation Methods **40**
- Creating the Boot and Supplemental Disks **44**

Partitioning Your Hard Drive **44**
- Installing the System **45**

Maneuvering Through Linux **45**
- Entering Commands **45**
- Recalling Command History 45
- Making Selections **46**
- Completing Commands **46**

Managing Users **47**
- Logging In and Out **47**

Using Basic Commands **48**
- Getting Help for Commands with man **48**
- Using Directory-Manipulation Commands **48**
- Using File-Manipulation Commands **50**

Dealing with DOS Files Under Linux **52**

Shutting Down Linux **54**

Troubleshooting **55**

3 Installing Red Hat Linux 61

Starting the Installation Process **62**

Installing from Floppies or CD-ROM **63**

Understanding the Various Installation Methods **64**
- Compiling Necessary Information **65**

Creating the Boot, Supplemental, and Rescue Disks **66**

Installing the Linux System **67**
Using the Linux fdisk Program **72**
Adding the Necessary Partition **75**
Creating the Swap Partition **77**
Using Disk Druid **78**
Installing the Software Components **80**

Configuring Your System **82**

Configuring Your Network **84**
Configuring the TCP/IP Network **84**
Configuring the Clock **85**
Selecting the Services to Start on Reboot **85**
Selecting Your Root Password **87**
Installing LILO **87**

Troubleshooting **88**

Going Back to the Beginning **89**

Case Study: Installing Red Hat Linux on DEC Alphas **89**
Using Supported Alpha Hardware **90**
Creating the Boot and Root Disks **90**
Installing the Main Red Hat Distribution **91**

4 Installing Caldera OpenLinux 93

What You Need to Install OpenLinux **94**

Installation Methods **94**

Making the Preparations **95**

Preparing the Installation Floppies **96**
Creating the Installation and Modules Disks **97**

Installing Linux **100**
Using a Previous Configuration **100**
Configuring LISA **100**
Probing for Hardware **101**
Preparing the Hard Disks **103**
Repartitioning Your DOS Drive **104**
Deleting Partitions **105**
Adding Partitions **106**
Formatting the Partition **107**
Using the Linux fdisk Program **107**
Adding the Necessary Partitions **109**
Creating the Swap Partition **111**

Installing the Linux Software System **111**

Configuring Your System **112**

Installing LILO **114**
Uninstalling LILO **114**

Going Back to the Beginning **115**

Troubleshooting **115**

5 Installing Debian Linux 119

About Debian **120**

What You Need to Install Debian **120**

Preparing to Install Debian **121**

Partitioning Your Hard Drive **124**
Why Use Partitions? **125**
Naming Partitions **125**
Explaining Partitions **126**
Using FDISK **126**
Repartitioning **128**

Installing Debian **131**
Installing from CD-ROM **131**
Installing from DOS **131**

Creating the Rescue and Driver Floppies **132**

Installing the System Files **134**
Using the Linux fdisk Program **135**
Adding the Necessary Partitions **138**
Configuring a Swap Partition **140**
Initializing Linux Partitions **140**
Configuring the System **140**
Configuring the Network **141**

Installing the Base System **141**

Configuring the Base System **142**

6 Adding Sound Cards and Other Multimedia Hardware 145

Sound Cards **146**
A Little History **146**
Sound Drivers **147**
Sound Card Technology **148**
Collecting Hardware Information **149**
Configuration Methods **150**
Testing Your Sound Card **153**

Audio CDs **155**
Installation **156**
Doing More with CD Audio **156**

Joysticks **157**
Loading the Kernel Joystick Modules **157**

Other Multimedia Devices **158**

Multimedia Applications **158**

Information Resources **159**

Troubleshooting **160**

7 Upgrading and Installing Software 163

Understanding Key Terms Used in This Chapter **164**

Understanding the Politics of Upgrading **165**

Installing Software **166**
Understanding the System Administrator's Job **167**

Using the Red Hat Package Manager **167**
Locating Packages **168**
Installing Packages with RPM **169**
Uninstalling Packages with RPM **170**
Updating Packages with RPM **171**
Querying Packages with RPM **172**
Verifying Packages with RPM **173**

Using the Debian Package Management System **174**

Installing Non-Linux Software **175**
Deciphering Software Package Formats **175**
Installing the Software **175**
Reviewing File Permissions **177**
Solving Problems **178**
Removing Applications **178**

Case Study: Upgrading Your Kernel **178**

II System Administration

8 Understanding System Administration 183

Understanding the Importance of Proper Administration **184**

Understanding Multiuser Concepts **185**

Understanding Centralized-Processing Systems **186**
Elements of the Centralized-Processing Model **187**

Understanding Distributed-Processing Systems **188**
Elements of the Distributed-Processing Model **189**
Topologies **190**

Understanding the Client/Server Model **192**

Performing Administration in a Networked Environment **192**

Defining the Role of the Network Administrator **192**
Understanding Hardware and Software Issues **193**
Performing Common Networking Administrative Tasks **194**
Monitoring the System **196**
Coping with Software Upgrades **198**
Training the Administrator **198**

Troubleshooting the Network **200**

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9 Using the vi Editor 203

Why vi? **204**
What Is vi? **205**
Understanding the Editing Process **206**

Using vi **207**
Looking at vi's Two Modes **208**
Creating Your First vi File **208**
Starting vi by Using an Existing File **209**
Exiting vi **210**
Undoing a Command **212**
Writing Files and Saving the Buffer **213**
Positioning the Cursor **215**
Adding Text **217**
Deleting Text **220**
Searching **221**
Changing and Replacing Text **222**
Copying, Cutting, and Pasting **223**
Repeating Commands **225**

vi Command Summary **226**

Setting the vi Environment **228**
Using set to See and Set Options **229**
Setting the `showmode` Option **229**
Setting Toggle Options **230**
Changing Options for Every vi Session **230**

Troubleshooting **231**

10 Booting and Shutting Down 233

Understanding the Boot Process **234**

Booting Linux from a Floppy **240**

Booting from a Boot Manager **241**

Understanding LILO, the Linux Loader **242**
Configuring LILO **242**
Using LILO **243**

Shutting Down Linux **243**

Troubleshooting Startup and Shutdown **245**

11 Managing User Accounts 249

Working with Users **250**
Adding a User **250**
Using the `adduser` Command **251**
Setting User Passwords **252**
Removing a User **253**

Working with Groups **253**
Adding a Group **254**
Deleting a Group **254**

Managing Home Directories **254**

Web-Based Administration **255**

Project: Using Userconf **255**
Adding a User with Userconf **255**
Adding a User with Userconf **257**
Deleting a User with Userconf **257**

12 Backing Up Data 259

Considering Backup Issues **260**

Considering Backup Tips **261**

Planning a Backup Schedule **262**

Performing Backups and Restoring Files **263**
Using tar **265**
Using cpio **268**

Using taper **269**

Using dump **270**

Case Study: Copying Files **272**
Using rdist **272**
Using wget **273**

13 Improving System Security 275

Handling Physical Security **276**

Dealing with Password Security **277**

Developing Login Security **278**
Accounts Without Passwords **279**
Unused Accounts **279**
Default Accounts **279**

Guest Accounts **279**
Command Accounts **280**
Group Accounts **280**

Handling File Security **281**
Permissions **281**
SUID and SGID Programs **282**

Avoiding Social Engineering Threats **282**

Recording Use of the su Command **283**

Developing a Secure System **284**
Security Threats **284**
Controlling the Root **284**
Controlling Modems and Crackers **285**
Preventing Idle Terminals **285**
Enforcing Security **285**
Handling Security Breaches **286**
Performing Backups **287**

PAM: The Pluggable Authentication Modules Architecture **287**
Understanding PAM Configuration Files **288**
Required, Requisite, and Optional: Module Order and Necessity **288**

Shadow Passwords: What Good Are They? **289**
The /etc/password and /etc/shadow Files **289**
Adding, Changing, and Deleting Users with Shadowed Passwords **290**

Project: Establishing Security Procedures **292**

14 Configuring the Linux Kernel 295

What Is the Kernel? **296**

Preparing to Build a New Kernel **296**

Configuring a New Kernel **297**
The Interactive Text-Based Program **298**
Using the Menu-Based Program **300**
Using the X Windows System-Based Program **300**

Compiling the New Kernel **301**

Project: Building a Modularized Kernel **302**
Working with Kernel Modules **303**
Restarting kerneld **304**

15 Linux on PowerPC Platforms 307

Linux for the PowerPC **308**

MkLinux **308**

Yellow Dog Linux **309**

LinuxPPC **310**

SheepShaver: Use Linux and Have Your Macintosh Too **312**

Project: Adding Linux to a Macintosh Environment with Netatalk **312**

III Working with Linux

16 Understanding Linux Shells 317

Logging In **318**

Understanding Shells **319**
Looking at Different Shells **319**
Configuring Your Login Environment **322**
Understanding Processes **331**

Understanding Shell Command Parsing **332**
Using Commands, Flags, and Parameters **332**
Performing Filename Matching **334**
Connecting Processes with Pipes **337**
Redirecting Input and Output **337**
Substituting Shell Variables **339**
Substituting Command Results **339**
Regular Expressions **340**
Understanding Command Groups, Subshells, and Other Commands **342**

Doing Background Processing **343**
Arranging for Processes to Run in the Background **343**

Using the nohup Command **344**
Using the cron Daemon **344**

Understanding Command Feedback **346**

Editing and Aliasing Shell Commands **346**
Editing Commands **347**
Viewing Command History **347**
Aliasing Commands **347**
Completing Commands **348**
Adding Text with Cut and Paste **348**

Working with Shell Scripts **348**
Writing Programs with the Shell **350**
Programming with Control Structures **355**

Customizing Linux Shells **361**
Exporting Variables to the New Shell **362**
Defining Command Aliases **363**

Troubleshooting **364**

17 Managing Multiple Processes 365

Understanding Multitasking **366**

Initiating Multiple Processes **368**
Starting Multiple Processes **368**
Starting a Background Process **368**
Using Pipes to Start Multiple Processes **369**

Using the Scheduling Commands **370**
Running Commands at Specified Times with at **370**
Running Long Tasks with batch **372**
Scheduling Commands with cron and crontab **373**

Reporting On and Monitoring the Multitasking Environment **376**
Finding Out Who's on the System with who **376**
Reporting On the Status of Processes with ps **379**

Controlling Multiple Processes **383**
Using nohup with Background Processes **383**
Scheduling the Priority of Commands with nice **384**
Scheduling the Priority of Running Processes with renice **385**
Terminating Processes with kill **386**
Using kill to Send Signals to Processes **389**

Troubleshooting **390**

18 Printing 391

Selecting a Printer to Work with Linux **392**

Knowing What You Need to Configure Printers **392**

Knowing How Printing Works Under Linux **393**

Understanding the Important Programs for Printing **394**
The lpd Daemon **394**
The lpr Command **395**
The lpq Command **395**
The lprm Command **395**
The lpc Command **395**

Understanding the Important Directories **396**

Understanding the Important Files **397**

Understanding the /etc/printcap File **397**
Understanding the Fields in /etc/printcap **398**
Setting the PRINTER Environment Variable **400**

Creating a Test printcap Entry **401**

Putting It All Together **401**

Configuring Red Hat Printers **402**

Troubleshooting **405**

19 Understanding the File and Directory System 407

Understanding Filenames and Pathnames **408**
- File Types **410**
- Ordinary Files **410**
- Directory Files **411**
- Directories and Physical Disks **411**
- Links **412**
- Special Files **413**
- File Permissions **414**

Linux Standard Directories **418**
- Classic UNIX Directories **418**
- Linux Directories **420**

Managing Files and Directories **420**

Listing Files **421**

Organizing Files **424**

Copying Files **425**

Moving and Renaming Files **426**

Removing Files or Directories **426**

Viewing the Contents of a File **428**
- Using `cat` to View a File **429**
- Using `more` to View a File **429**
- Using `less` to View a File **429**
- Searching Through a File and Escaping to the Shell **430**
- Viewing Files in Other Forms **430**

Searching for Files **432**

Changing File Time and Date Stamps **434**

Compressing Files **435**

Case Study: Undeleting Files **436**

20 Managing File Systems 439

Understanding File Systems **440**

Mounting and Unmounting File Systems **444**
- Mounting File Systems Interactively **445**
- Mounting File Systems at Boot Time **446**
- Unmounting File Systems **448**

Maintaining File Systems **449**

Using the `fsck` Command **449**

Creating and Formatting File Systems **451**
- Using `fdisk` to Create Disk Partitions **451**
- Using `mkfs` to Build a File System **458**

Project: Using Swap Files and Partitions **459**
- Creating a Swap Partition **459**
- Creating a Swap File **460**

21 Managing NFS 463

Understanding the Network File System **464**

Installing NFS **464**

Exporting an NFS File System **468**

Understanding the `/etc/exports` File **469**

Mounting NFS File Systems **471**
- Mounting NFS File Systems via `/etc/fstab` **471**
- Mounting NFS File Systems Interactively **472**

Troubleshooting **472**

22 Managing NIS and LDAP 475

What Is NIS? **476**
- NIS Members **476**
- NIS Files, Maps, and Domains **476**
- NIS Security Concerns **481**

LDAP: What Is It, and Why Is It Better Than NIS? **481**

Project: Installing an LDAP Server **482**
- Downloading and Installing OpenLDAP **482**

Populating the Database **483**
Configuring a Client **484**

23 Using Samba 485

What Is Samba? **486**

Installing Samba **487**

Configuring Samba on Linux **487**
The `[global]` Section **491**
The `[homes]` Section **492**
The `[printers]` Section **493**
Sharing Directories **493**
Testing the `smb.conf` File **494**

Running the Samba Server **494**

Using smbclient **495**

Case Study: OpenLinux and swat **497**
Running swat from inetd **498**
Running swat via the Web **498**

IV Using X Windows

24 Installing the X Window System 503

What Is the X Window System? **504**

Understanding the X Window System **504**
What Is a Client/Server System? **506**
Output Capabilities **507**
User Interface Capabilities **507**
Input Capabilities **508**

Installing the XFree86 System **508**
Ensuring Hardware Support for XFree86 **508**
Understanding the XFree86 RPMs **510**
Installing XFree86 for Red Hat 6.0 **512**

Configuring XFree86 **514**
Using Xconfigurator **514**
Using XF86Setup **515**
Running the SuperProbe Program **515**
Understanding the XF86Config Sections **516**
Running the xf86config Program **523**
Running XFree86 in Probe-Only Mode **523**

Troubleshooting **524**

Case Study: The X Window System Across a Network **525**

25 Using the X Window System 529

Navigating the X Window System **530**
Getting Focus **530**
Using Menus **531**
Using Virtual Terminals in XFree86 **531**

Using Window Managers for Linux **531**
twm **532**
fvwm **533**
fvwm95 **535**
AfterStep **535**
Window Maker **535**
Blackbox **536**
Enlightenment **536**
kwm **536**

Choosing a Window Manager **536**

Themes **537**

Display Managers and Logging In **538**
xdm **538**
gdm **539**
kdm **539**

Choosing Your Display Manager **539**

XFree86 Startup **540**

Using X Applications **541**
xterm **541**
xv **544**
xcalc **545**
The GIMP **548**
Seyon **549**
xlock **551**

Troubleshooting **551**

Project: Making Yourself at Home with fvwm2 **552**
Choosing fvwm2 **552**

Preparing to Customize fvwm2 **553**
Customizing the Menu **553**
Specifying Start-Up Programs **554**
Further Customizations **555**

26 Working with KDE 557

What Is KDE? **558**

Installing KDE **560**
Installing KDE for Red Hat 6.0 **560**
Using the switchdesk Tool for Red Hat 6.0 **561**
Choosing KDE Without switchdesk **562**

Navigating KDE **562**
The Panel **562**
The Taskbar **566**
The Root Menu **567**
Trash **568**
Templates **568**
Autostart **568**
KDE File Manager **568**

Configuring KDE **570**
Templates **570**
Bookmarks **571**
Making It Pretty **571**
Using Themes in KDE **573**
Getting More Desktop **573**

The Pros and Cons of KDE **574**
Resources **574**
Performance **574**
Configuration **574**
Integration **575**
Stability **575**
Final Analysis **575**

27 Working with GNOME 577

What Is GNOME? **578**

Installing GNOME **580**
Using the `switchdesk` Tool for Red Hat 6.0 **581**
Choosing GNOME Without `switchdesk` **581**

Navigating GNOME **582**
The Panel **582**
The Root Menu **585**
The Enlightenment Menu **585**
Midnight Commander File Manager **586**
Tear-Off Menus **587**

Configuring GNOME **587**
Making GNOME Useful **587**
Making It Pretty **590**
Themes **591**
Getting More Desktop **592**

The Pros and Cons of GNOME **592**
Resources **593**
Performance **593**
Configuration **593**
Integration **593**
Stability **593**
Final Words **594**

V Network Administration

28 Understanding the TCP/IP Protocol Suite 597

The History of TCP/IP **598**

Internet Terminology **598**

The Open Systems Interconnection Model **600**

The TCP/IP Protocol Stack **603**

IP Addresses **604**
IP Address Classes **604**
Network Naming **606**
NIC Naming Tree **607**

Subnetworks and Subnet Masks **608**

Routing **610**
Routing Information Protocol (RIP) **610**
Network Segmentation **611**

Internet Network Setup **611**
Understanding the Types of Connections **612**

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