

Table of Contents

Introduction.....	vii
1. Changes to This Manual	vii
2. Document Conventions.....	viii
3. More to Come	xi
3.1. Send in Your Feedback	xi
4. Sign Up for Support.....	xi
I. File Systems.....	xiii
1. The ext3 File System	15
1.1. Features of ext3.....	15
1.2. Creating an ext3 File System	15
1.3. Converting to an ext3 File System	16
1.4. Reverting to an ext2 File System	16
2. Swap Space	19
2.1. What is Swap Space?.....	19
2.2. Adding Swap Space	19
2.3. Removing Swap Space	20
2.4. Moving Swap Space	21
3. Redundant Array of Independent Disks (RAID)	23
3.1. What is RAID?.....	23
3.2. Who Should Use RAID?.....	23
3.3. Hardware RAID versus Software RAID.....	23
3.4. RAID Levels and Linear Support	24
4. Logical Volume Manager (LVM).....	27
5. Managing Disk Storage.....	29
5.1. Viewing the Partition Table.....	30
5.2. Creating a Partition	30
5.3. Removing a Partition	32
5.4. Resizing a Partition	33
II. Installation-Related Information.....	35
6. Kickstart Installations	37
6.1. What are Kickstart Installations?.....	37
6.2. How Do You Perform a Kickstart Installation?.....	37
6.3. Creating the Kickstart File	37
6.4. Kickstart Options	38
6.5. Package Selection	52
6.6. Pre-installation Script	53
6.7. Post-installation Script	54
6.8. Making the Kickstart File Available	55
6.9. Making the Installation Tree Available	56
6.10. Starting a Kickstart Installation	57
7. Kickstart Configurator	59
7.1. Basic Configuration	59
7.2. Installation Method	60
7.3. Boot Loader Options	61
7.4. Partition Information	62
7.5. Network Configuration	65
7.6. Authentication	66
7.7. Firewall Configuration	67
7.8. X Configuration	68
7.9. Package Selection	71
7.10. Pre-Installation Script	72
7.11. Post-Installation Script	72
7.12. Saving the File	74

8.	Rescue Mode.....	75
8.1.	What is Rescue Mode?.....	75
8.2.	Booting Rescue Mode.....	75
8.3.	Booting Single-User Mode	77
9.	Software RAID Configuration	79
10.	LVM Configuration	83
III.	Network-Related Configuration.....	87
11.	Network Configuration	89
11.1.	Overview	89
11.2.	Establishing an Ethernet Connection	89
11.3.	Establishing an ISDN Connection	91
11.4.	Establishing a Modem Connection	92
11.5.	Establishing an xDSL Connection.....	94
11.6.	Establishing a Token Ring Connection.....	96
11.7.	Establishing a CIPE Connection.....	97
11.8.	Establishing a Wireless Connection.....	97
11.9.	Managing Hosts	99
11.10.	Managing DNS Settings	100
11.11.	Activating Devices	101
11.12.	Working with Profiles	101
11.13.	Device Aliases	103
12.	Basic Firewall Configuration	105
12.1.	Security Level Configuration Tool.....	105
12.2.	GNOME Lokkit	108
12.3.	Activating the <code>iptables</code> Service	111
13.	Controlling Access to Services	113
13.1.	Runlevels.....	113
13.2.	TCP Wrappers.....	114
13.3.	Services Configuration Tool	115
13.4.	ntsysv.....	116
13.5.	<code>chkconfig</code>	116
13.6.	Additional Resources	117
14.	OpenSSH.....	119
14.1.	Why Use OpenSSH?.....	119
14.2.	Configuring an OpenSSH Server	119
14.3.	Configuring an OpenSSH Client	119
14.4.	Additional Resources	124
15.	Network File System (NFS).....	125
15.1.	Why Use NFS?	125
15.2.	Mounting NFS File Systems.....	125
15.3.	Exporting NFS File Systems.....	126
15.4.	Additional Resources	130
16.	Samba.....	131
16.1.	Why Use Samba?.....	131
16.2.	Configuring Samba	131
16.3.	Connecting to a Samba Share	133
16.4.	Additional Resources	133
17.	Dynamic Host Configuration Protocol (DHCP)	135
17.1.	Why Use DHCP?	135
17.2.	Configuring a DHCP Server	135
17.3.	Configuring a DHCP Client.....	139
17.4.	Additional Resources	140
18.	Apache HTTP Server Configuration	143
18.1.	Basic Settings.....	143
18.2.	Default Settings.....	145

18.3. Virtual Hosts Settings	150
18.4. Server Settings	153
18.5. Performance Tuning.....	154
18.6. Saving Your Settings.....	155
18.7. Additional Resources	156
19. Apache HTTP Secure Server Configuration.....	157
19.1. Introduction.....	157
19.2. An Overview of Security-Related Packages.....	157
19.3. An Overview of Certificates and Security	159
19.4. Using Pre-Existing Keys and Certificates.....	160
19.5. Types of Certificates	160
19.6. Generating a Key	161
19.7. Generating a Certificate Request to Send to a CA.....	163
19.8. Creating a Self-Signed Certificate	164
19.9. Testing Your Certificate	165
19.10. Accessing Your Secure Server	166
19.11. Additional Resources.....	167
20. BIND Configuration.....	169
20.1. Adding a Forward Master Zone.....	169
20.2. Adding a Reverse Master Zone.....	171
20.3. Adding a Slave Zone	173
21. Mail Transport Agent (MTA) Configuration	175
IV. System Configuration.....	177
22. Console Access	179
22.1. Disabling Shutdown Via Ctrl-Alt-Del.....	179
22.2. Disabling Console Program Access.....	179
22.3. Disabling All Console Access	180
22.4. Defining the Console.....	180
22.5. Making Files Accessible From the Console	180
22.6. Enabling Console Access for Other Applications	181
22.7. The <i>floppy</i> Group	182
23. Time and Date Configuration.....	183
23.1. Time and Date Properties.....	183
23.2. Time Zone Configuration.....	184
24. User and Group Configuration.....	185
24.1. Adding a New User.....	185
24.2. Modifying User Properties.....	186
24.3. Adding a New Group	187
24.4. Modifying Group Properties	187
25. Gathering System Information.....	189
25.1. System Processes	189
25.2. Memory Usage.....	191
25.3. File Systems	192
25.4. Hardware.....	193
25.5. Additional Resources	194
26. Printer Configuration	197
26.1. Adding a Local Printer.....	198
26.2. Adding a Remote UNIX Printer	200
26.3. Adding a Samba (SMB) Printer	202
26.4. Adding a Novell NetWare (NCP) Printer.....	203
26.5. Adding a JetDirect Printer	205
26.6. Selecting the Print Driver and Finishing	206
26.7. Printing a Test Page.....	207
26.8. Modifying Existing Printers.....	208
26.9. Saving the Configuration File	209

26.10. Command Line Configuration	210
26.11. Managing Your Print Jobs.....	211
26.12. Configuring the CUPS Printing System.....	212
26.13. Additional Resources	214
27. Automated Tasks.....	215
27.1. Cron.....	215
27.2. Anacron.....	217
27.3. At and Batch	218
27.4. Additional Resources	220
28. Log Files	221
28.1. Locating Log Files.....	221
28.2. Viewing Log Files.....	221
28.3. Examining Log Files.....	222
29. Upgrading the Kernel.....	225
29.1. The 2.4 Kernel	225
29.2. Preparing to Upgrade	225
29.3. Downloading the Upgraded Kernel	226
29.4. Performing the Upgrade.....	227
29.5. Configuring the Boot Loader	228
30. Kernel Modules.....	231
30.1. Kernel Module Utilities	231
30.2. Additional Resources	232
V. Package Management	233
31. Package Management with RPM	235
31.1. RPM Design Goals	235
31.2. Using RPM	236
31.3. Checking a Package's Signature	241
31.4. Impressing Your Friends with RPM	242
31.5. Additional Resources	244
32. Package Management Tool	247
32.1. Installing Packages.....	247
32.2. Removing Packages	249
33. Red Hat Network	251
VI. Appendixes	253
A. Building a Custom Kernel.....	255
A.1. Building a Modularized Kernel.....	255
A.2. Making an initrd Image.....	257
A.3. Configuring the Boot Loader	257
A.4. Building a Monolithic Kernel	259
A.5. Additional Resources	260
B. Getting Started with Gnu Privacy Guard.....	261
B.1. An Introduction to GnuPG	261
B.2. Warning Messages.....	261
B.3. Generating a Keypair.....	262
B.4. Generating a Revocation Certificate.....	263
B.5. Exporting your Public Key	264
B.6. Importing a Public Key	266
B.7. What Are Digital Signatures?	267
B.8. Additional Resources	267
Index.....	269
Colophon.....	277