

Index

Symbols

- ! Boolean operator 319
- ! variable 298
- !! to reexecute the previous event 298
- !\$ last word of the previous event 300
- # comment 272, 819
- # prompt 371
- # variable 291
- #! to choose a script shell 271
- #define C preprocessor directive 808
- #include C preprocessor directive 809
- Note: Only variables that must always appear with a leading dollar sign are indexed with a leading dollar sign. Other variables are indexed without a leading dollar sign.
- \$ in regular expressions 906
- \$ in variable name 275
- \$! variable 292
- \$# variable 878
- \$\$ variable 291, 880
- \$(...) *see Command, substitution*
- \$* variable 291
- \$? variable 292
- \$@ variable 291, 866, 867
- \${}, expand variable 884
- \$0 variable 287
- % job number 206, 264
- & background 205, 257, 259, 263, 270, 292
- & background process 958
- & in replacement string 909, 912
- && Boolean operator 319, 460
- () command grouping 259
- () in shell functions 894
- * in regular expressions 906
- * special character 208
- */ C comment 808
- + in full regular expressions 910
- . (dot) builtin 286, 887, 892, 894
- . directory 167, 208, 437
- . in regular expressions 904
- ./ to execute a file in the working directory 255, 284
- .. directory 167, 208, 437
- .a filename extension 811, 814
- .autofsck file 447
- .bash_history file 294
- .bash_login file 272, 273
- .bash_logout file 272, 273
- .bash_profile file 272, 273, 282, 286, 294, 425, 894

1010 Index

- .bashrc** file 171, 272, 273, 426
- .bz2** filename extension 161
- .C** filename extension 819
- .c** filename extension 161, 807, 813, 819
- .c++** filename extension 819
- .cc** filename extension 819
- .conf** filename extension 399
- .config** file 510
- .cpp** filename extension 819
- .cshrc** file 966
- .cxx** filename extension 819
- .f** filename extension 819
- .forward** file 139, 615, 621
- .gif** filename extension 161
- .gz** filename extension 161
- .h** filename extension 809, 819
- .htaccess** file 767, 768, 797
- .html** filename extension 161
- .htpasswd** file 798
- .inputrc** file 302, 303
- .jpeg** filename extension 161, 979
- .jpg** filename extension 161, 979
- .l** filename extension 819
- .log** filename extension 544
- .login** file 981
- .logout** file 981
- .netrc** file 589
- .o** filename extension 161, 811, 813, 819
- .plan** file 139
- .ppd** filename extension 495
- .profile** file 165, 272, 273, 282, 286, 294, 425, 990
- .project** file 139
- .ps** filename extension 161
- .rhosts** file 344, 931
- .rpm** filename extension 455
- .s** filename extension 813
- .sh** filename extension 819
- .so** filename extension 811, 813
- .ssh** directory 565
- .tar.bz2** filename extension 161
- .tar.gz** filename extension 134, 161
- .tar.Z** filename extension 161
- .tbz2** filename extension 161
- .tgz** filename extension 134, 161
- .tiff** filename extension 1001
- .toprc** file 535
- .torrent** file 478
- .txt** filename extension 209
- .y** filename extension 819
- .Z** filename extension 161
- /** directory (root) 30, 160, 168
- /*** C comment 808
- /bin**
 - about 168
 - false file 431
- /boot**
 - about 168
 - grub/grub.conf** file 507, 514
 - location 60
 - partition 29
 - partition 30, 513
- /dev**
 - about 168, 195, 982
 - nst0** file 530
 - null** file 201, 426, 427, 542, 871, 892
 - pts** file 426
 - rmt/0** file 529
 - special files 437
 - st0** file 530
 - tty** file 889
 - zero** file 426
- /etc**
 - about 168
 - aliases** file 427, 539, 614
 - anacrontab** file 531
 - at.allow** file 427
 - at.deny** file 427
 - auto_master** file 672
 - bashrc** file 389
 - cron.*** directories 531
 - cron.allow** file 427
 - cron.d** directory 355
 - cron.deny** file 427
 - crontab** file 355
 - defaultrouter** file 356
 - dhclient.conf** file 410
 - dhclient.leases** file 410
 - dhcpd.conf** file 411
 - dumpdates** file 427, 529

- exports file 664, 665, 666
- fstab file 355, 387, 427, 445, 659, 663
- group file 389, 428, 523, 973
- grub.conf file 507, 514
- hosts file 339, 354, 428, 555, 637
- hosts.allow file 402, 403, 404
- hosts.deny file 402, 403, 404
- hosts.equiv file 343, 931
- httpd directory 766
- inittab file 220, 381, 390, 391, 429, 538
- issue file 107, 389
- lilo.conf file 507, 513, 516
- login.defs file 431, 523
- logrotate.conf file 543
- logrotate.d directory 543
- mail directory 617, 619
- motd file 107, 389, 430, 432, 536
- mtab file 430
- named.conf file 715, 718, 726, 731
- netgroup file 430
- nologin.txt file 420, 431
- nsswitch.conf file 354, 389, 413, 430, 638, 710
- ntp.conf file 356
- opt directory 168
- pam.conf file 421
- pam.d directory 416, 417, 419, 421, 430
- passwd file 282, 388, 430, 537, 637, 867, 973, 981
- printcap file 431
- profile file 272, 273, 274, 283, 378, 389, 431
- protocols file 432, 746
- rc.d
 - directory 432
 - directory hierarchy 385
 - init.d
 - about 382
 - independent services 383
 - init scripts 382
 - kudzu file 397
 - rc file 381
 - rc.local file 383
 - rc.sysinit file 381, 447
 - rcn.d directory 382
- resolv.conf file 432, 555
- rndc.conf file 719
- rndc.key file 719
- rpc file 359, 433
- securetty file 373
- security/access.conf file 373
- services file 354, 359, 433
- shadow file 388, 433
- share/magic file 436
- shells file 396
- skel directory 523
- ssh directory 565
- sudoers file 372
- sysconfig
 - about 434
 - hwconf file 397
 - iptables file 741, 751
 - network file 641
 - rhn/up2date file 462
 - selinux file 380
 - yppasswdd file 652
- sysctl.conf file 507
- syslog.conf file 357, 546
- termcap file 1001
- xinetd.conf file 383, 403
- xinetd.d directory 383, 403
- yp.conf file 642
- ypserv.conf file 646
- yum.conf file 469
- /home directory 168
- /home partition 30
- /lib
 - about 169
 - gcc and 812
 - ldd and 814
 - modules directory 169, 513
 - security directory 416, 419
- /lost+found directory 393
- /mnt directory 169
- /opt directory 30, 169, 458
- /proc
 - contents 169
 - filesystem 386, 434, 442
 - fs/nfs file 666
 - mounts file 430, 442
 - sys file 508

1012 Index

/root directory 169

/sbin

about 169

Superuser commands 371

/tmp directory 169, 543, 880

/usr

about 169

bin

about 169

X11 directory 169

doc directory 99, 169

games directory 169

include

about 169

C preprocessor 809

X11 directory 169

info directory 169

lib

about 169

cc 812

directory 814

shared libraries 813

terminfo directory 1001

X11 169

local

about 169, 458

partition 30

man directory 169

partition 30

pub/ascii file 957

sbin

about 169

daemons 355

Superuser commands 371

share

about 169

magic file 982

src directory 169, 508

X11R6 directory 170, 814

/var

about 170

lib/nfs/xtab file 665, 670

log

about 170, 436, 914

disk usage 543

lastlog file 170

maillog file 541

messages file 170, 417, 436, 538, 541,
542, 724, 914

secure file 417, 914

wtmp file 170, 544

log directory 932

mail directory 543

named directory 715, 719

partition 30

spool

disk usage 543

mail directory 284

spool directory 914

tmp directory 543

www

Apache files 767

html directory 762, 763, 767

: (null) builtin 885, 891

:= assign default value 885

:= substitute default value 885

?: display error message 886

; command separator 256

< redirect standard input 198, 260, 956

<< here document 882, 956

<0 redirect standard input 260

> redirect standard output 197, 260, 261, 262,
956

>& redirect standard output and standard error
262

>> append standard output 200, 956

? in full regular expressions 910

? special character 207

@ in a network address 341, 342

@ variable 866

@ with mail 342

[] character class 209, 905, 962, 998

**** escape character 118, 256, 275

\(in regular expressions 908

\) in regular expressions 908

\n in replacement strings 912

^ in regular expressions 906

^ quick substitution character 300

{ in a shell function 894

{ to isolate a variable 310

- {expansion 309
- || Boolean operator 319
- | Boolean operator 910
- | in full regular expressions 910
- | pipe 201, 202, 257, 261
- } expansion 309
- } in a shell function 894
- } to isolate a variable 310
- ~ (tilde) expansion 166, 311
- ~ home directory 283
- ~ home directory, *see also Home directory*
- `...` *see Command, substitution*

Numerics

- 1> redirect standard output 260
- 100BASET cable 327
- 10BASE2 cable 327
- 10BASE5 cable 327
- 10BASET cable 327
- 2> redirect standard error 260
- 3-DES encryption 925
- 802.11 955

A

- a Boolean operator 858
- a filename extension 811, 814
- a.out file 812
- Abort execution 108
- Absolute filename 286
- Absolute pathname 165, 193, 955
- accept utility 498
- Access 955
- Access Control List, *see ACL*
- access file 620
- Access permission
 - about 255
 - change using chmod 174
 - defined 173, 955
 - description of 174
 - directory 176
 - display using ls 173
 - execute 173, 254
 - group 173
 - other 173

- owner 173
- read 173
- write 173
- access.conf file 373
- Accessibility 92
- Account, FTP 431
- accton utility 932
- ACL 927, 951, 955
- Active filesystem 525
- Active View Indicator, Konqueror 241
- Active window 110, 956
- Add
 - device 397
 - software package 453, 457
 - user 522, 523
- add command (cvs) 841
- addbanner shell script 891
- Address
 - IP 978
 - class 335
 - representation 334
 - MAC 412, 981
 - mask 337
 - network 341, 985
 - space, private 989
- Address mask 956
- Address space, private 554
- adduser utility 523
- adfs filesystem 440
- Administrator, system *see, System, administrator*
- Advanced Encryption Standard, *see, AES encryption*
- AES encryption 925
- affs filesystem 440
- afterstep utility 112
- AIDE utility 379, 931, 937
- AIM 324
- Alert Notification Tool 466
- Alias
 - bash 305
 - defined 956
 - mail 614
 - recursive plunge 307
 - unalias 308
- aliases file 427, 539, 614, 621

- Alphanumeric character 956
- amanda utility 526
- Ambiguous file reference 207, 956
- American National Standards Institute 9
- Anaconda 27, 46
- anacron utility 531
- anacrontab** file 531
- AND** bitwise operator 336, 337, 338
- Andreessen, Marc 362
- Angle bracket 956
- ANI 934
- Animate 956
- Anonymous FTP 362, 589
- ANSI 9
- ANSI C 9
- ansi** terminal name 920
- Answers to questions, finding 361
- Antialiasing 956, 999
- Apache
 - .htaccess context 772
 - .htaccess file 767, 768, 797
 - .htpasswd file 798
 - <Directory> container 772, 789
 - <Files> container 773
 - <IfModule> container 773, 788
 - <Limit> container 774
 - <LimitExcept> container 774
 - <Location> container 775
 - <LocationMatch> container 775
 - <VirtualHost> container 776, 792
 - about 759
 - AddHandler directive 779
 - Alias directive 780
 - Allow directive 786
 - AllowOverride directive 786
 - authentication modules 797
 - CGI 794, 798
 - Common Gateway Interface, *see Apache, CGI*
 - configuration directives, *see Apache, directives*
 - containers 772
 - content 760, 762, 763
 - contexts 772
 - Deny directive 787
 - directives 767
 - control content 779
 - control processes 776
 - security 786
 - directory context 772
 - directory listings 791
 - DirectoryIndex directive 771, 790
 - document root 762
 - DocumentRoot directive 770, 789
 - DSO 760, 793
 - Dynamic Shared Objects 760, 793
 - error codes 799
 - ErrorDocument directive 780
 - ErrorLog directive 778
 - files, where to find 766
 - filesystem layout 766
 - group **apache** 762
 - Group directive 783
 - HostnameLookups directive 777
 - httpd** and 762
 - httpd** directory 766
 - httpd.conf** file 762, 767, 788
 - HTTPS protocol 795
 - Include directive 783, 789
 - index.html** file 771
 - index.html.var** file 771
 - indexing 791
 - IndexOptions directive 780
 - JumpStart, Apache, getting up and running 762
 - JumpStart, Apache, setting up with system-config-httpd 764
 - Listen directive 768, 789
 - LoadModule directive 784, 789
 - log 766
 - LogLevel directive 779
 - MaxClients directive 776
 - MaxRequestsPerChild directive 776
 - MaxSpareServers directive 777
 - MinSpareServers directive 777
 - mod_perl** module 798
 - mod_python** module 798
 - mod_ssl** module 795
 - modules 760, 793
 - more information 761

- MRTG 799
- multiviews 791
- Options directive 784
- Order directive 787
- pathname 768
- Perl 798
- PHP 798
- prerequisites 760
- privileged port 762
- process, defined 762
- public_html** directory 770
- Python 798
- Red Hat test page 789
- redhat-config-httpd utility 764
- redirect 790
- root** permission 762
- ScriptAlias directive 785
- scripting modules 798
- self-signed certificate 796
- server config context 772
- server, defined 762
- ServerAdmin directive 763, 769, 789
- ServerName directive 762, 769, 789
- ServerRoot directive 782, 788
- ServerSignature directive 783
- ServerTokens directive 782, 788
- Software Foundation 759
- special directives, *see Apache, containers*
- SSL 795
- StartServers directive 777
- system-config-httpd utility 764
- terminology 762
- test page, Red Hat 789
- Testing 763
- Timeout directive 778
- troubleshooting 792
- UseCanonicalName directive 778, 790
- User directive 785
- UserDir directive 770
- Users publishing content 770
- virtual host context 772
- virtual hosts 791
- webalizer utility 799
- www** directory 767
- API 956
- apm utility 392
- apmd** daemon 355
- Append
 - defined 956
 - standard output 200, 262
- Applet, defined 79, 956
- Appletalk 337
- Application
 - programmer 836
 - X Window System 219
- apropos utility 52, 95, 137, 914
- Apt
 - about
 - apt-get check** command 473
 - apt-get dist-upgrade** command 473
 - apt-get install** command 474
 - apt-get remove** command 474
 - apt-get update** command 472
 - apt-get upgrade** command 473
 - checking the dependency tree 473
 - configuring 475
 - creating a repository 478
 - GUI, *see synaptic*
 - update the local package list 472
 - using 472
- apt.conf** file 475
- Archive
 - library, using 814
 - pack with tar 133
 - shell 883
 - unpack with tar 133
- Argument
 - about 162, 190
 - command line 291
 - defined 957
 - display 291
 - testing 854
- Argus utility 937
- Arithmetic
 - expansion 313
 - expression 957
- Array, defined 957
- Arrow keys 18
- ASCII
 - defined 957
 - terminal 957

- ascii** file 957
- ASP** 957
- aspell** utility 869
- Assembly language 8, 811
- Asterisk special character 906
- Asymmetric encryption, *see* **Public key encryption**
- Asynchronous communication 439
- Asynchronous event 957
- at** utility 355, 427, 531
- AT&T Bell Laboratories 5, 252
- at.allow** file 427
- at.deny** file 427
- atd** daemon 355
- Athena, Project 217
- ATM link 326
- Attachment, defined 957
- Attachment, mail 144
- Authenticated relaying, mail 631
- Authentication
 - Apache 797
 - database 933
 - defined 957
 - OpenSSH 563, 566, 568
 - user 389
- authorized_keys** file 565
- auto_master** file 672
- autofs** filesystem 440, 672
- Automatic
 - mounting 355, 957
 - number identification 934
- automount** daemon 355, 672, 673
- automount utility 671
- Avoided 958

B

- b** language 8
- Back door 958
- Back tic 964
- Background
 - command grouping 259
 - defined 205
 - desktop 85
 - foreground, versus 204

- job control 13, 263
- PID stored in \$! 292
- process 270, 958
- running a command in the 204
- symbol (&) 257
- BACKSLASH escape character 118, 256, 275
- BACKSLASH in replacement strings 909
- BACKSPACE key
 - changing 108
 - function 108
- Backup
 - active filesystem 525
 - amanda 526
 - cpio utility 527
 - dump level 529
 - failing to perform 536
 - file 524, 529
 - full 525
 - incremental 525
 - media 525
 - offsite 524
 - policy 524
 - simple 528
 - tar utility 526
 - utilities 525
- badtabs.c** program 824
- Basename 958
- basename utility 879, 880, 891
- bash
 - see also* **Shell**
 - alias 305
 - arguments 291
 - assignment statement 253
 - background 252
 - command line, order of expansion 276
 - defined 960
 - directory stack manipulation 265
 - editing previous commands 295, 297
 - event number 294
 - execute permission 254
 - expand null variable 884
 - expand unset variable 884
 - history mechanism 293, 298
 - overlay 270
 - POSIX shell 252

- prompt 284
- quick substitution 301
- reexecuting events 295, 297
- shell script 254
- single-user mode 251
- special characters 118
- startup files 272
- substitution, quick 301
- symbolic link 182
- variable
 - assign default value 885
 - create and use 253
 - display error message 886
 - expansion 884
 - modifier 884
 - substitute default value 885
- x option 864
- BASH_ENV** variable 273
- bashrc** file 389
- Baud 958
- Baud rate 959
- BCPL language 8
- Bell Laboratories, *see AT&T Bell Laboratories*
- Berkeley
 - Internet Name Domain, *see DNS*
 - UNIX 5, 13, 959
- Berners-Lee, Tim 362
- bg** builtin 205, 264, 892
- bin** directory 284
- Binary file 254
- Binary files, fixing broken 815
- BIND 959
- bind** builtin 302
- BIND, *see also DNS*
- Binding, key 979
- BIOS
 - boot from CD 25
 - defined 959
 - security 541
 - setup 25
- birthday** shell script 882
- bison utility 16
- Bit 959
- Bit bucket 201, 426
- Bit depth 959
- Bit-mapped display 959
- BitTorrent
 - about
 - how it works 479
 - Obtain Fedora ISO images 38
 - peer 478
 - prerequisites 479
 - seed 478
 - torrent 478
 - tracker 478
 - using 479
- Bitwise operator, **AND** 336, 337, 338
- Blank character 118, 275, 959, 997
- Block
 - defined 959
 - device 439, 959
 - number 959
 - special file 959
- Blocking factor 959
- Blowfish encryption 925
- Bookmark
 - Konqueror 238
 - toolbar, Konqueror 239
- Boolean operator
 - ! 319
 - && 319, 460
 - | 910
 - || 319
 - a 858
- Boot
 - bootstrap 960
 - defined 959
 - dual 516
 - emergency mode 386
 - Linux 514
 - loader, defined 960
 - loader, grub 514
 - netboot 985
 - options, kernel 507
 - reconfigure 397
 - system 381
- boot** partition 29, 30, 513
- Bootstrap 960
- Bottleneck, network 347
- Bourne Again Shell, *see bash*

1018 Index

- Bourne Shell, *see* sh
- Bourne, Steve 252, 960
- Brace
 - around a variable 312
 - defined 960
 - expansion 309
 - shell functions 894
 - shell variable isolation 310
- Bracket 960
 - character class 905
 - filename expansion 209
- Branch 960
- break** control structure 874, 892
- Bridge, network 960
- Bringing the system down 390
- Broadcast
 - about 336
 - address 960
 - defined 960
 - network 326
 - packet 334
 - unicast, versus 334
- Browser
 - defined 362
 - Konqueror 87
 - Lynx (text only) 364
 - Mosaic 362
 - Mozilla 81, 360, 363, 461, 991
- BSD, *see* Berkeley, UNIX
- Buffer
 - defined 960
 - disk 391
 - primary 84
 - selection 84
- Bug
 - BugSplat 461
 - Bugtraq 932
 - Bugzilla 461
 - defect tracking system 461
 - defined 461, 961
 - system 461
- Builtin
 - . (dot) 286, 887, 892
 - : (null) 885, 891
 - about 211, 854, 887
 - bash, list of 892
 - bg 205, 264, 892
 - bind 302
 - cd 164, 182, 259, 282, 285, 893
 - colon 885
 - command 961
 - command editing using fc and pico 297
 - declare
 - see also* typeset
 - about 278
 - defined 211, 961
 - dirs 265
 - echo 128, 208, 275, 878, 893
 - eval 893, 895
 - exec 887, 893
 - execution of 270
 - exit 103, 293, 891, 893
 - export 270, 277, 279, 282, 432, 893
 - fc 295
 - fg 206, 264, 893
 - getopts 893
 - history 294, 295
 - jobs 109, 206, 263, 265, 893
 - kill 109, 206, 223, 374, 375, 376, 539, 881, 890, 893
 - let 313
 - null 890, 891, 892
 - popd 267
 - pushd 266
 - pwd 163, 164, 166, 893
 - read 246, 280, 871, 872, 877, 893
 - readonly 277, 279, 893
 - set 279, 289, 290, 861, 863, 864, 893
 - shift 288, 893
 - test 291, 852, 853, 854, 855, 858, 863, 866, 869, 893
 - times 893
 - tput 873
 - trap 873, 889, 893
 - type 854, 893
 - typeset 279
 - ulimit 828
 - umask 389, 398, 432
 - unalias 308
 - unset 253, 277, 893, 894

- utility, versus 854
 - wait 893
 - bundle** shell script 883
 - bunzip2 utility 133, 135
 - Burning installation CDs 35
 - Byte 961
 - bz2** filename extension 161
 - bzcat utility 133
 - bzip2 utility 133, 135, 528
 - bzip2recover utility 133
- C**
- C filename extension 819
 - c filename extension 161, 807, 813, 819
 - C programming language
 - #include** preprocessor directive 809
 - a.out** file 812
 - about 7, 8
 - archived library, about 814
 - assembler 810
 - badtabs.c** program 824
 - comments 808
 - compiler
 - phase 810
 - using 810
 - warning options 826
 - debugging 823
 - defined 961
 - function prototype 809
 - functions 806
 - getchar** macro 809
 - header file 809, 811
 - include file 809, 811
 - library
 - about 806
 - getpwnam()** function 639
 - getpwuid()** function 639
 - libc.so** 811
 - libm.so** 811
 - libwrap.a** 403, 404
 - link editor 810
 - macro expansion 808
 - main function 810
 - object file 811, 812
 - optimizer 812
 - portability 8
 - preprocessor 808, 810, 811
 - preprocessor directives 808
 - programming, about 805
 - putchar** macro 809
 - sample program 807
 - shared library, about 813
 - statically linked library, about 814
 - stdio.h** header file 809
 - symbolic debugger 828
 - tabs.c** program 808
 - c++** filename extension 819
 - C++ programming language 9
 - C, *see C programming language*
 - C89 programming language 9
 - Cable
 - 10BASE2 327
 - 10BASE5 327
 - 10BASET 327
 - category 5 327
 - category 5e 327
 - category 6 325, 327
 - category 7 325
 - coaxial 327
 - fiber optic 327
 - glass 327
 - modem 961
 - thicknet 327
 - thinnet 327
 - twisted pair 327
 - unshielded twisted pair 327
 - UTP 327
 - Cache, defined 961
 - Cache, DNS 717
 - Caching server, *see DNS, cache*
 - Call by value 277
 - Caller ID 934
 - Calling environment 961
 - Calling program, name of 287
 - cancel utility 492
 - Caret in regular expressions 906
 - Cascading windows 961
 - case control structure 874

1020 Index

Case-sensitive

- defined 961
- domain name, not 353
- filename 160
- password 107

cat utility 119, 195, 197, 199, 260, 858

Category 5 cable 327

Category 5e cable 327

Category 6 cable 325, 327

Category 7 cable 325

Catenate 119, 198, 961

cc filename extension 819

cd builtin 164, 182, 259, 282, 285, 893

CDPATH variable 285

CD-ROM

- download, burn, and install Red Hat 35
- ISO image 36

CERN 362

CERT 932, 937

CGI 794

Chain loading 962

Change

- access permission using **chmod** 174
- directories using **cd** 164
- filename using **mv** 122
- password using **passwd** 104

Character

- alphanumeric 956
- class 209, 962
- device 439, 962
- escaping 256
- quoting a 256
- special file 962
- typeface 18

Character-based

- defined 962
- terminal 962

checkout command (cvs) 839, 843

Checksum 962

Child

- directory 159, 160
- process 268, 270, 962

chkargs shell script 854, 856

chkconfig utility 385

chkrootkit utility 937

chmod utility 174, 255

chmod() system call 836

chown() system call 836

chroot jail

- BIND 713, 724

- DNS 724

- FTP 598

- named** daemon 724

- running a service in 408

- security considerations 408

- setting up 406

- using 406

- vsftpd** 598

chsh utility 396

CIDR 337, 962

CIFS 963

CIPE 963

Cipher 963

Ciphertext 922, 963

Clark, Jim 363

Class

- character 962

- IP address 335

Classless Inter-Domain Routing, *see* CIDR

Clear screen 142

clear utility 396

Cleartext 963

CLI 963

Click explained 77

Click-to-focus 110

CLID 934

Client 963

- messaging 82

- specifying 399

Client/server model 219, 351, 353, 362, 404, 583, 637, 655

Clipboard, KDE 246

Clipboard, X Window System 84

close() system call 836

CMOS setup 25

Coaxial cable 327

coda filesystem 440

Code, reentrant 992

CODEC 963

Collating sequence, machine 981

Colon builtin 885

- Color depth 963
- Color quality 963
- Color window
 - GNOME 234
 - KDE 244
- COLUMNS** variable 881
- Combo box 963
- Comer, Doug 4
- Command
 - ; separator 256
 - argument 190
 - builtin 211, 270, 961
 - completion 302
 - control flow, *see Control, structure*
 - control structure, *see Control, structure*
 - defined 189, 963
 - editing previous 297
 - execution of 270
 - export 425
 - grouping 256, 259
 - interpreter 87
 - Mode, vim 147
 - name 190
 - NEWLINE separator 256
 - option 190
 - reexecuting previous 297
 - repeating 109
 - run remotely, ssh 570
 - separation 256
 - separator 256, 856
 - substitution 281, 312, 863, 869, 880, 964
 - summary 892
 - syntax 190
 - terminator 256
 - usage message 190
- Command line
 - about 189
 - argument 190, 287
 - defined 189, 964
 - editing 301
 - execution 193
 - expansion 276, 308
 - interface 963
 - option 190
 - parse 192, 308
 - processing 192, 276, 308
 - syntax 190
 - token 308
 - word 190, 308
- command_menu** shell script 877
- Comments
 - C programs 808
 - makefile** 819
 - shell scripts 272
- commit** command (cvs) 840
- Common UNIX Printing System, *see CUPS*
- Communication
 - interprocess 127, 438, 439
 - network 341
 - talk 142
 - write 141
- comp.lang.c** newsgroup 360
- comp.os.linux.announce** newsgroup 362
- comp.os.linux.answers** newsgroup 379, 917
- comp.os.linux.misc** newsgroup 360, 361, 379, 917
- comp.os.linux.networking** newsgroup 361
- comp.os.linux.security** newsgroup 361
- comp.os.linux.setup** newsgroup 361
- comp.security.firewalls** newsgroup 931
- Compare files using diff 126
- Compiling a C program 810
- Completion
 - command 302
 - filename 302
 - Readline Library 302
 - variable 303
- Component architecture 964
- Components, KDE 224
- Compress
 - bunzip2 133, 135
 - bzcat 133
 - bzip2 133, 135, 528
 - bzip2recover 133
 - compress 132, 161
 - gunzip 132, 134
 - gzip 131
 - OpenSSH 581
 - uncompress 161
 - unzip 132
 - zcat 132
 - zip 132

- compress utility 132, 161
- Computer Systems Research Group 5
- Computer, diskless 968
- Computing, distributed 350, 968
- Concatenate, *see Catenate*
- Concurrent processes 258
- Concurrent Versions System *see cvs*
- Condition code, *see Exit status*
- Condition code, *see Exit, status*
- conf** filename extension 399
- config** file 573
- configs** directory 510
- Configure
 - and Build System 459
 - daemon 385
 - desktop window 85
 - monitor 64
 - Panel window 93
 - video card 64
- configure** shell script 459
- configure** utility 16
- Connectionless, protocol 964
- Connection-oriented protocol 333, 964
- Console
 - single user mode 387
 - system 104
 - terminal 964
 - virtual 103, 1004
- consolehelper utility 375, 391
- Content, Apache 760
- Context menu 83
- continue** control structure 874, 893
- Control
 - bar, Nautilus 229
 - Center, KDE 90
 - character 964
 - characters, printer 878
 - flow, *see Control, structure*
 - job 205
 - structure
 - about 852
 - break** 874, 892
 - case** 874
 - continue** 874, 893

- defined 965
- do** 864, 866, 868, 872
- done** 864, 866, 868, 872
- elif** 858
- elif** vs. **fi** 858
- else** 856
- esac** 874
- fi** 852, 856, 858
- fi** vs. **elif** 858
- for** 864, 866, 892
- for...in** 864, 866
- if** 852, 856, 858
- if...then** 852
- if...then...elif** 858
- if...then...else** 856
- in** 864
- select** 881
- shell scripts 254
- then** 852, 856, 858
- two-way branch 856
- until** 872
- while** 868, 891

- CONTROL key 18
- CONTROL-C key 84, 109
- CONTROL-D key 103, 196, 264
- CONTROL-H key 108, 118, 150, 192
- CONTROL-L key 142, 143, 151
- CONTROL-M key 118
- CONTROL-Q key 107
- CONTROL-R key 142, 143
- CONTROL-U key 108, 118, 150, 192
- CONTROL-V key 118
- CONTROL-V key 84
- CONTROL-W key 108, 150, 192
- CONTROL-X key 84, 108
- CONTROL-Z key 205, 264
- Convention
 - book, used in this 16
 - end line key 18
 - file naming 209
- Convert file to/from Windows format 130
- Cookie 965
- Coordinated Universal Time, *see UTC*
- cops utility 540, 937

Copy

- buffer 84
- directory recursively using mv 437
- directory, shell script 260
- file using cp 121, 172

Copyleft 4**Core**

- dump 828
- memory 828

core file 543, 828**Correct typing mistakes 107****count shell script 869****cp utility 121, 172, 260****cp vs. ln 179****cpdir shell script 260****cpio utility 527, 528****cpp filename extension 819****CPU**

- defined 965
- intensive processes, report 534

crack utility 540**Cracker 965****Crash 392, 965****Crash flag 447****creat() system call 836****Create**

- directory using mkdir 162
- file using vim 145
- file, null 426

Creation date, file, display using ls 173**cron directory 355****cron utility 53, 355, 427, 532****cron.* directories 531****cron.allow file 427****cron.d directory 355****cron.deny file 427****crond daemon 355****crontab file 355****crontab utility 531****Cryptography 965****csh 961****CSRG 5****CSS 961, 966****CUPS**

- about 485
- adding a printer 496
- command line interface 495
- configuring printers 493
- JumpStart, CUPS, configuring a remote printer 489
- JumpStart, system-config-printer, configuring a local printer 487
- KDE printing manager 501
- lpadmin utility 496
- lpinfo utility 495
- modifying a printer 496
- more information 486
- PPD files 495
- prerequisites 486
- print queue 498
- printing from Windows 502
- printing quotas 497
- printing to Windows 504
- sharing printers 499
- Web interface 493
- winprinter 489

Current directory, *see Working directory***Current, defined 966****Cursor 966****Customize the desktop 90****Cut and paste 84****cut utility 313****cvs command**

- add 841
- checkout 839, 843
- commit 840
- export 842
- import 843
- log 838
- release 842
- remove 841
- rtag 842
- update 840

cvs utility 837, 837**CVSROOT variable 838****cxx filename extension 819****Cycling, window 83****Cypher 963**

D**Daemon**

- apmd** 355
- atd** 355
- automount** 355, 672, 673
- configure** 385
- crond** 355
- defined** 966
- dhcpcd** 355
- dhcpd** 355, 409, 411
- finger** 342
- fingerd** 355, 939
- ftpd** 356, 938
- gated** 356
- gateway** 356
- gpm** 356
- httpd** 356
- imapd** 628
- inetd** 356
- ipop3d** 628
- lockd** 356
- login** 938
- lpd** 356, 485
- messages** 436, 538, 542, 932
- mountd** 356, 661
- name** 355
- named** 356, 712, 715
- naming** 355
- network** 324, 354
- nfsd** 356, 671
- nmbd** 357, 676, 694, 695
- ntpd** 356
- portmap** 356, 359, 401
- postfix** 928
- pppd** 356
- prefix**
 - in.** 355
 - rpc.** 355
- printer** 356, 382
- procmail** 609
- protocol** 355
- rexecd** 356, 938
- rhnsd** 468, 469
- rlogind** 933

- routed** 356
- routing** 356
- rquotad** 356
- rshd** 933
- secure replacements, logdaemon** 938
- sendmail** 357, 609, 610, 613, 616, 928
- services, providing** 354
- sfingerd** 939
- smbd** 357, 676, 694
- spamd** 622
- sshd** 355, 357, 574
- statd** 356
- Superserver, *see* Daemon, xinetd**
- syslogd** 170, 357, 542, 546, 932
- talkd** 357
- telnetd** 357, 933, 938
- tftpd** 357
- timed** 357
- xinetd** 357, 383, 385, 403, 681
- ypbind** 642, 643
- ypbind-mt** 642
- yppasswdd** 651
- ypxfrd** 650

Data

- Encryption Standard, *see* DES encryption**
- sink** 201
- structure** 966

Database

- authentication** 933
- dbm** 966
- DNS** 352
- gdbm** 966
- group** 973
- hardware** 397
- hosts** 354
- hwconf** 397
- initializing** 52
- Linux Software Map** 919
- locate** 135
- magic number** 436
- ndbm** 966
- NIS** 339, 354, 637, 986
- partition, raw** 60
- passwd** 521, 973, 981, 1003
- printcap** 431

- RHN 467
- rpm** 457
- search engine 364
- services** 989
- slocate** 53, 135, 232
- SQL 998
- system services** 976
- terminfo** 146
- whatis** 52, 137
- whois** 349
- Datagram, network 325, 966
- Dataless system 657, 966
- date** utility 128, 200
- Date, display 128
- dbm** database 966
- ddd** utility 828, 833
- DDoS attack 966
- Debug 967
- Debugger
 - about 823
 - ddd** 833
 - graphical symbolic 833
 - mxgdb** 833
 - option 864
 - shell script 864
 - symbolic 828
 - ups** 833
 - xxgdb** 833
- declare** builtin 278, 279
- Decorations, window 112
- Default, defined 967
- defaultrouter** file 356
- Defect Tracking System 461
- Delete
 - directory using **rmdir** 170
 - file 120
 - key 108
 - line 108
 - link using **rm** 182
 - word 108
- Delete key 108
- Delimiter, regular expression 904
- Delta, SCCS, defined 967
- Demand mounting, filesystem 672
- Denial of Service, *see* **DOS and DDos**
- Dependency line (**make**) 816
- depmod** utility 513
- Dereference, defined 967
- DES encryption 925
- Descriptor, file 260
- Desktop
 - appearance 92
 - background 85
 - changing 106
 - configure, window 85
 - customize 90
 - defined 967
 - Desktop menu 85
 - Generic Icon menu 85
 - hovering 79
 - icons 85
 - KDE, defined 237
 - launching applications 80
 - Main menu 80
 - manager, choosing 76
 - manager, defined 967
 - menu
 - about 85
 - Desktop 85
 - Generic Icon 85
 - Main 80
 - panel 79
 - Panel Icon menu 80
 - Panel menu 92
 - Post-it notes 80
 - switching 106
 - theme 78, 92
 - toolbar 83, 90
 - tooltips 79
 - window, defined 82
- Detached process, *see* **Background, process**
- dev** directory 437, 982
- Device
 - block 439, 959
 - character 439, 962
 - defined 967
 - driver 437, 439, 835, 967
 - file 195, 967
 - file, export 446, 667
 - filename 967

Device *continued*

- independence 13
- independent input and output 13
- name 530
- nonrewinding 530
- null 201
- number
 - major 438, 439, 982
 - minor 438, 439, 983
- physical 988
- raw 440
- tape 529
- tape, nonrewinding 530

devpts filesystem 440

df utility 657

dhclient utility 410

dhclient.conf file 410

dhclient.leases file 410

DHCP

- about 408
- client 410
- defined 967
- how it works 409
- MAC addresses 412
- more information 409
- prerequisites, client 410
- prerequisites, server 411
- protocol 408
- resolv.conf** file, and 433
- server 410
- static IP addresses 412

dhcpcd daemon 355

dhcpcd daemon 355, 409, 411

dhcpcd.conf file 411

Die, process 270

diff utility 126, 570

Diffie-Hellman encryption 924

dig utility 348, 710, 712, 725

Digital

- signature 923
- Signature Algorithm, *see* DSA

Directory

- . 167, 437
- .. 167, 437
- .ssh 565

- / (root) 30, 160, 168
- /bin** 168
- /boot** 29, 30, 168
- /dev**
 - about 168, 195, 982
 - special files 437
- /etc** 168
 - cron.*** 531
 - cron.d** 355
 - httpd** 766
 - logrotate.d** 543
 - mail** 617, 619
 - opt** 168
 - pam.d** 417, 419, 421, 430
 - rc.d** 432
 - about 385
 - init.d** 382, 383
 - rcn.d** 382
 - skel** 523
 - ssh** 565
 - sysconfig**
 - about 434
 - X11**
 - about 168
 - XFConfig** 63, 65
 - xorg.conf** 63, 65
 - xinetd.d** 383, 403
- /home** 168
 - about 30
- /lib**
 - about 169
 - gcc, and 812
 - ldd, and 814
 - modules** 169, 513
 - security 416, 419
- /lost+found** 393
- /mnt** 169
- /opt** 30, 169, 458
- /proc** 169
- /root** 169
- /sbin**
 - about 169
 - Superuser commands 371
- /tmp** 169, 543, 880
- /usr**

- about 30, 169
- bin**
 - about 169
 - X11 169
- doc** 99, 169
- games** 169
- include** 169
 - X11 169
- info** 169
- lib**
 - about 169
 - cc, and 812
 - linking, and 814
 - shared 813
 - terminfo 1001
 - X11 169
- local** 30
- man** 169
- sbin** 355, 371
- share** 169
- src** 169, 508
- X11R6** 170, 814
- /var**
 - about 30, 170
 - log** 170, 436, 543, 914, 932
 - mail** 543
 - named** 715, 719
 - spool**
 - disk usage 543
 - problem solving 914
 - tmp** 543
 - www**
 - Apache files 767
 - html 762, 763, 767
- ~ (home), *see* *Home directory*
- about 11, 438
- access permission 176
- bin** 169, 284
- boot** 29, 30, 513
- change using **cd** 164
- child 159, 160
- compact 545
- configs** 510
- copy recursively using **mv** 437
- copy, shell script 260
- create using **mkdir** 162
- cron** 355
- cron.*** 531
- cron.d** 355
- current, *see* *Directory, working*
- defined 11, 119, 159, 967
- delete using **rmdir** 170
- dev** 195, 437, 982
- doc** 99, 169
- empty 159
- erase using **rmdir** 170
- file 159, 967
- games** 169
- home 119, 164, 671, 974
- home** 30, 431
- home vs. working 164
- httpd** 766
- important 425
- include** 169, 809
- info** 169
- init.d** 382
- lib** 169, 812, 813, 814
- link 177
- list using **ls** 119
- listing 119
- local** 30, 169
- log** 170, 436, 543, 914, 932
- logrotate.d** 543
- mail** 543, 613, 617, 619
- make using **mkdir** 162
- man** 169
- modules** 169, 513
- move using **mv** 172
- named** 715, 719
- opt** 30, 168, 169, 458
- pam.d** 417, 419, 421, 430
- parent 159, 160
- pathname 159, 170
- proc** 169
- proc**, *see also* *Filesystem*, **proc**
- public_html** 770
- rc.d** 432
 - init.d** 382, 383
 - maintain 385
- rcn.d** 382

Directory *continued*

- remove unused space 545
- remove using `rmdir` 170
- rename using `mv` 172
- root 158, 160, 168, 994
- sbin** 169, 355, 371
- security** 416, 419
- service 968
- share** 169
- skel** 523
- spool**
 - disk usage 543
 - problem solving 914
- src** 169, 508
- ssh** 565
- stack manipulation 265
- standard 167
- sysconfig** 434
- terminfo** 1001
- tmp** 543, 880
- usr** 30
- var** 30
- working
 - change using `cd` 164
 - defined 163
 - home, versus 164
 - relative pathnames 166
 - significance of 163
 - with 170
- www** 767
- X11** 168, 169
- X11R6** 170, 814
- xinetd.d** 383, 403

Directory hierarchy 967

- dirs** builtin 265

- disable** utility 498

Disk

- buffer 391
- capacity planning 29
- cylinder number 29
- Druid 53
- filesystem 28
- formatting 27
- fragmentation 541
- free space 28, 542

- partition 28, 988
- partition table 59
- partition, primary and secondary 28
- quota system 545
- usage 541
- Volume label 396, 445

- Diskette, floppy 444, 525

Diskless

- defined 968
- system 656

Display

- date using `date` 128
- end of a file with `tail` 125
- file using `cat` 119
- graphical 973
- invisible filename 208
- machine name 120
- ordered file using `sort` 125
- resolution, changing 111
- sorted file using `sort` 125
- system load using `w` 140
- text using `echo` 128
- top of a file using `head` 124
- uptime using `w` 140
- user list using `finger` 138
- user list using `w` 140
- user list using `who` 138

- DISPLAY** variable 220

- Distributed computing 350, 671, 968

- Distribution, Linux 4

- dmesg** utility 382, 396, 517

- DMZ** 968

DNS

- \$INCLUDE** 717
- \$ORIGIN** 717
- \$TTL** 717
- A (address) record 705
- AAAA(address) record, IPv6 705
- about 340, 352
- authority 702
- cache 704, 708, 717
- caching server, *see* DNS, *cache*
- chroot jail 713, 724
- CNAME** record 705
- database 352, 705

- defined 968
- delegation 703
- dig utility 348, 710, 712, 725
- domain
 - defined 701
 - qualification 717
 - root 702
- FQDN 701
- full-functioned nameserver 725
- glue 721, 722
- hints zone 719
- host utility 348, 710
- how it works 710
- in-addr.arpa domain 709
- inverse mapping, *see* DNS, *reverse name resolution*
- iterative query 703
- JumpStart, DNS, setting up a domain with
 - system-config-bind 712
- JumpStart, setting up a DNS cache 711
- log 724, 727, 729
- master server 704
- more information 711
- MX record 620, 706
- named** daemon 356, 712, 715
- named** directory 715
- named.ca** file 719
- named.conf** file 715, 718, 726, 731
- nameserver, full-functioned 725
- node, *see* DNS, *domain*
- NS record 706
- nsswitch.conf** file 710
- overview 699
- prerequisites 711
- primary master server 704
- PTR record 706
- query 703, 707
- recursive query 703
- redhat-config-bind utility 712
- resolver 701
- resource record 705
- response 708
- reverse mapping, *see* DNS, *reverse name resolution*
- reverse name resolution 708
- rndc utility 719
- root domain 701, 702
- root zone 719
- secondary server 704
- security 700
- server
 - caching 717
 - master 704
 - primary master 704
 - secondary 704
 - slave 704, 729
 - split horizon 730
 - types of 704
- setting up 715
- slave server 704, 729
- SOA record 706
- split horizon server 730
- subdomain 702
- system-config-bind utility 712
- time format 717
- transactions signatures, *see* DNS, *TSIG*
- troubleshooting 724
- TSIG 722, 725
- TTL value 707
- TXT record 707
- zone
 - defined 702
 - files 717, 719
 - hints 719
 - root 719
 - section, **named.conf** 716
- do** control structure 864, 866, 868, 872
- doc** directory 99, 169
- Document Object Model, *see* DOM
- Document root, Apache 762
- Documentation
 - online 350
 - system 94
 - system, where to find 914
- Dollar sign
 - regular expression, in 906
 - variables, use with 275
- DOM 968

1030 Index

Domain

see also DNS

DNS, defined 701

in-addr.arpa 709

name 352, 968

Name Service, *see DNS*

name, not case-sensitive 353

NIS 638

root 702

done control structure 864, 866, 868, 872

Door 968

DOS

convert files 130

filename 160

filename extension 160

filesystem, mounting 442

mounting filesystems 443

DoS attack 968

dos2unix utility 590

DPMS 969

Drag, defined 969

DragonSquire utility 931

Driver, device 437, 967

Druid, defined 969

DSA 925, 969

DSL 326, 969

dsniff utility 937

DSO, Apache 760

Dual monitors, specifying 64

Dual-boot system 61, 516

Dump level 529

dump utility 529

dumpdates file 427, 529Duplicate lines, getting rid of using **uniq** 126

Dynamic

Host Configuration Protocol, *see DHCP*

IP address 334

library, *see shared library*

Shared Objects, Apache 760

E**e2label** utility 396**echo** builtin 128, 208, 275, 878, 893**ed** editor 123, 903

Editor

command line 301

defined 969

ed 123, 903**ex** 315

Readline Library 301

vi 145**vim** 145**edquota** utility 546

Edwards, Dan 1002

EEPROM 969

Effective user ID 969

egrep utility 909Electronic mail, *see Mail*

Electronic message, sending

talk 142**write** 141

Element, defined 969

El-Gamal encryption 924

elif control structure 858**else** control structure 856**emacs** mail 144Email, *see Mail*

Emblems, file, Nautilus 231

Emergency mode, system 386

Emoticon 969

Empty regular expression 908

Emulator

operating system 6

terminal 86

enable utility 498

Encryption

3-DES 925

about 922

AES 925

algorithm 922

asymmetric, *see Encryption, public key*

Blowfish 925

DES 925

Diffie-Hellman 924

digital signature 923

DSA 925

El-Gamal 924

GnuPG 926

host key 566

- IDEA 925
- implementation 925
- key 922
- MD5 433
- OpenSSH 566
- PEM 927
- person-in-the-middle scenario 926, 929
- PGP 926
- private key 923
- public key 923
- RC5 925
- ring of trust 926
- RSA 924, 994
- scheme, weaknesses of 923
- session key 566
- symmetric key 924
- Encryption, secret key 923
- End line key 18
- End of file, *see* EOF
- Enquire program 362
- Enter text using vim 148
- Enter-only focus 110
- ENV variable 273
- Environment
 - calling 961
 - defined 969
 - establish 431
 - exec 887
 - export 270, 277, 282
 - variable 274
- EOF 142, 196, 969
- EPROM 969
- Erase key 108, 109, 192, 425
- Erase word key 192
- Errata 461
- Error
 - codes, Apache 799
 - correcting 107
 - message
 - cannot execute 193
 - conditional 886
 - name of the calling script 880
 - NFS server xxx not responding** 657
 - not found 193
 - standard error, *see* *Standard, error*
 - system 436
 - shell script 863
 - standard, *see* *Standard, error*
- esac control structure 874
- Escape a character 118, 256
- Escape an end of line 256
- ethereal utility 937
- Ethernet network 323, 326, 327, 328, 970
- Eumulation, terminal 104
- eval builtin 893, 895
- Event
 - asynchronous 957
 - defined 970
 - history 293
 - modifying previous 300
 - number 294, 298
 - reexecuting 295
 - text 299
 - words within 299
 - X Window System 219
- Evolution utility 79, 144
- ex editor 315
- Exabyte 970
- Exclamation point 298
- exec builtin 887, 893
- exec() system call 270, 835
- Execute
 - access 173, 254, 255
 - command 193, 270
 - permission 255
 - program 271
 - shell script 270
- Exit
 - shell, from a 265
 - status 292, 970
- exit builtin 103, 293, 891, 893
- exit() system call 835
- exmh utility 144
- Expansion
 - arithmetic 313
 - brace 309, 312
 - command line 308
 - filename 316
 - macro 808
 - null variable 884

1032 Index

Expansion *continued*

- order of 276, 309
- parameter 311
- pathname 207, 276, 315, 316
- quotation marks, double 316
- tilde 171, 311
- unset variable 884
- variable 312

Explicit focus 110

Exploit 970

Export

- device file 446, 667
- link 446, 667
- variable 887

export builtin 270, 277, 279, 282, 432, 893

export command (cvs) 842

exportfs utility 392, 670

exports file 664, 665, 666

expr utility 869

Expression

- arithmetic 957
- defined 970
- logical 981

ext2 filesystem 440, 447

ext3 filesystem 441, 447

Extended multiuser mode 388

Extended regular expression 910

Extensible Markup Language, *see* XML

Extension, filename, *see* *Filename, extension*

Extra Toolbar, Konqueror 239

Extranet 324, 970

EXTRAVERSION number, kernel 511

F

f filename extension 819

Fahlman, Scott 996

Failsafe session 970

Failsafe terminal 102

false file 431

Family tree 157

fc builtin 295

FCEDIT variable 297

FDDI network 970

fdformat utility 444

fdisk utility 58

Fedora

see also Red Hat

Apache manual 761

BitTorrent, downloading with 38

CDs 34, 37, 47

classes of installation 27

Core versus Red Hat Enterprise Linux 26

desktop, initial 77

dual-boot caution 61

errata 462

installing 43

ISO files, testing 39

kernel 5

mirror sites 36

Red Hat Enterprise Linux, versus 26

Red Hat Network Alert Notification Tool 466

rescue CD 39

Samba 3 675

SELinux 44, 46, 379

switchdesk 106

up2date utility 462

updates 462, 932

Web site 36

X.org 62, 217

fg builtin 206, 264, 893

FHS 11, 95, 168

fi control structure 852, 856, 858

Fiber Distributed Data Interface, *see* FDDI

Fiberoptic cable 327

FIFO special file 437, 438

File

- .autofsck 447
- .bash_login 272, 273
- .bash_logout 272, 273
- .bash_profile 272, 273, 282, 286, 294, 425, 894
- .bashrc 171, 272, 273, 426
- .config 510
- .cshrc 966
- .forward 139, 615, 621
- .htaccess 767, 768, 797
- .htpasswd 798
- .inputrc 302, 303

- .login 981
- .logout 981
- .netrc 589
- .plan 139
- .profile 165, 272, 273, 282, 286, 294, 425, 990
- .project 139
- .rhosts 344, 931
- .toprc 535
- .torrent 478
- /bin
 - false 431
- /boot
 - grub
 - grub.conf 507, 514
- /dev
 - nst0 530
 - null 201, 426, 427, 542, 871, 892
 - pts 426
 - rmt/0 529
 - st0 530
 - tty 889
 - zero 426
- /etc
 - aliases 427, 539, 614
 - anacrontab 531
 - at.allow 427
 - at.deny 427
 - auto_master 672
 - bashrc 389
 - cron.allow 427
 - cron.deny 427
 - crontab 355
 - defaultrouter 356
 - dhclient.conf 410
 - dhclient.leases 410
 - dhcpd.conf 411
 - dumpdates 427, 529
 - exports 664, 665, 666
 - fstab 355, 387, 427, 445, 659, 663
 - group 389, 428, 523
 - grub.conf 507, 514
 - hosts 339, 354, 428, 555, 637
 - hosts.allow 402, 403, 404
 - hosts.deny 402, 403, 404
 - hosts.equiv 343, 931
 - inittab 220, 381, 390, 391, 429, 538
 - issue 107, 389
 - lilo.conf 507, 513, 516
 - login.defs 431, 523
 - logrotate.conf 543
 - motd 107, 389, 430, 432, 536
 - mtab 430
 - named.conf 715, 718, 726, 731
 - netgroup 430
 - nologin.txt 420, 431
 - nsswitch.conf 354, 389, 413, 430, 638, 710
 - ntp.conf 356
 - pam.conf 421
 - pam.d 416
 - passwd 282, 388, 430, 537, 637, 867, 981
 - printcap 431
 - profile 272, 273, 274, 283, 378, 389, 431
 - protocols 432, 746
 - rc.d
 - init.d 382
 - kudzu 397
 - rc 381
 - rc.local 383
 - rc.sysinit 381, 447
 - resolv.conf 432, 555
 - rndc.conf 719
 - rndc.key 719
 - rpc 359, 433
 - securetty 373
 - security
 - access.conf 373
 - services 354, 359, 433
 - shadow 388, 433
 - share
 - magic 436
 - shells 396
 - sudoers 372
 - sysconfig
 - hwconf 397
 - iptables 741, 751
 - network 641

File, /etc/sysconfig *continued*

- rh**
 - up2date** 462
 - selinux** 380
 - yppasswdd** 652
- sysctl.conf** 507
- syslog.conf** 357, 546
- termcap** 1001
- xinetd.conf** 383, 403
- yp.conf** 642
- ypserv.conf** 646
- yum.conf** 469
- /proc**
 - fs**
 - nfs** 666
 - mounts** 430, 442
 - sys** 508
- /usr**
 - include** 809
 - local**
 - about** 169
 - pub**
 - ascii** 957
 - sbin** 169
 - share**
 - magic** 982
- /var**
 - lib**
 - nfs**
 - xtab** 665, 670
 - log**
 - lastlog** 170
 - maillog** 541
 - messages** 170, 417, 436, 538, 541, 542, 724, 914
 - secure** 417, 914
 - wtmp** 170, 544
- a.out** 812
- access** 620
- access permission** 173, 174
- access.conf** 373
- aliases** 427, 539, 614, 621
- ambiguous reference** 207
- anacrontab** 531
- apt.conf** 475
- archive pack using tar** 133
- archive, unpack using tar** 133
- ascii** 957
- at.allow** 427
- at.deny** 427
- authorized_keys** 565
- auto_master** 672
- backup** 524, 529
- bashrc** 389
- binary, fixing broken** 815
- block special** 959
- character special** 962
- config** 573
- configuration, rules** 399
- copy using cp** 172
- core** 543, 828
- create using cat** 197
- creation date, display using ls** 173
- cron.allow** 427
- cron.deny** 427
- crontab** 355
- defaultrouter** 356
- defined** 11, 970
- descriptor** 260
- device** 195, 437, 967
- dhclient.conf** 410
- dhclient.leases** 410
- dhcpd.conf** 411
- directory** 159, 967
- directory vs. ordinary** 436
- display beginning of using head** 124
- display end of using tail** 125
- display using cat** 119
- dumpdates** 427, 529
- execute permission** 255
- exports** 664, 665, 666
- false** 431
- FIFO special** 437, 438
- forcefsck** 447
- fstab** 355, 387, 427, 445, 659, 663
- gdm.conf** 71
- group** 389, 428, 523
- group assignment** 428
- group, display using ls** 173
- growing** 542

- grub.conf** 507, 514
- header 809, 811
- hierarchical structure 157
- hosts** 339, 354, 428, 555, 637
- hosts.allow** 402, 403, 404
- hosts.deny** 402, 403, 404
- hosts.equiv** 343, 931
- html** 762, 763, 767
- httpd.conf** 762, 767, 788
- identifying using file 127
- important 425
- include 809
- index.html** 771
- index.html.var** 771
- inittab** 220, 381, 390, 391, 429, 538
- iptables** 741, 751
- issue 107, 389
- kdmrc** 71
- known_hosts** 566, 568, 569
- ks.cfg** 57
- large, rotate 543
- lastlog** 170
- lilo.conf** 507, 513, 516
- link 177
- list 119
- log 170, 541, 543
- login.defs** 431, 523
- logrotate.conf** 543
- magic** 436, 982
- mailtable** 620
- maillog** 541, 614
- Makefile** 806, 816, 818
- makefile** 816, 818
- manager
 - Konqueror 87, 90
 - Nautilus 226
- MD5SUM** 38
- message of the day, *see* **motd**
- messages** 170, 417, 436, 538, 541, 542, 724, 914
- motd** 107, 389, 430, 432, 536
- mounts** 430, 442
- move using **mv** 171
- mqueue** 613
- mtab** 430
- name, *see* *Filename*
- named pipe 437, 438
- named.conf** 715, 718, 726, 731
- netgroup** 430
- network** 641
- nfs** 666
- nicknames** 639
- nologin.txt** 420, 431
- nsswitch.conf** 354, 389, 413, 430, 638, 710
- nst0** 530
- ntp.conf** 356
- null** 201, 426, 427, 542, 871, 892
- object 811, 812
- open using Nautilus 230
- open, finding 539
- order using sort 125
- ordinary 159, 987
- ordinary vs. directory 436
- owner 255
- owner, display using **ls** 173
- pack archive using **tar** 133
- pam.conf** 421
- pam.d** 416
- passwd** 282, 388, 430, 537, 637, 867, 981
- pathname 159, 170
- permission 174, 255, 428
- permissions, Nautilus 231
- pointer to 177
- PPD 495
- printcap** 431
- profile** 272, 273, 274, 283, 378, 389, 431
- properties, Nautilus 230
- protocols** 432, 746
- pts** 426
- rc** 381
- rc.d**
 - init.d**
 - kudzu** 397
- rc.local** 383
- rc.sysinit** 381, 447
- reference, ambiguous 207, 956
- remove using **rm** 120
- rename using **mv** 171
- resolv.conf** 432, 555
- rmt/0** 529

File *continued*

- rndc.conf** 719
 - rndc.key** 719
 - rotate 543, 994
 - rpc** 359, 433
 - secure 417, 914
 - securenets 647
 - securetty 373
 - security 927
 - selinux** 380
 - sendmail.cf** 617
 - sendmail.mc** 612, 617
 - services 354, 359, 433
 - shadow 388, 433
 - shells 396
 - size, display using **ls** 173
 - smb.conf** 684
 - smbpasswd** 678
 - smbusers** 678
 - sort using **sort** 125
 - sparse 997
 - special 437, 962, 967, 997
 - ssh_config** 573
 - ssh_known_hosts** 565, 568, 569
 - sshd_config** 577
 - st0** 530
 - standard 167
 - startup 164, 272, 425, 537, 998
 - stdio.h** C header 809
 - structure 157
 - sudoers** 372
 - symbolic link 437
 - sys** 508
 - sysconfig**
 - hwconf** 397
 - rhn**
 - up2date** 462
 - sysctl.conf** 507
 - syslog.conf** 357, 546
 - tar** 133
 - temporary, name of 880
 - termcap** 1001
 - terminal 195
 - text 145
 - truncate 426, 542
 - tty** 889
 - type of, discover using **ls** 173
 - types, GNOME 235
 - typescript** 129
 - UNIX domain socket 437
 - virtustable** 621
 - vsftpd.conf** 596
 - window 195
 - wtmp** 170, 544
 - xinetd.conf** 383, 403
 - xtab** 665, 670
 - yp.conf** 642
 - yppasswdd** 652
 - ypserv.conf** 646
 - yum.conf** 469
 - zero 426
- file utility 127, 436, 543
- Filename
- / 160
 - about 145, 159
 - absolute 286
 - ambiguous reference, *see File, ambiguous reference*
 - case 17
 - case-sensitive 160
 - change using **mv** 122
 - characters in 159
 - choice of 160
 - completion 302, 303, 970
 - conventions 209
 - defined 166, 970
 - device 967
 - DOS 160
 - extension
 - a** 811, 814
 - about 161
 - bz2** 161
 - C** 819
 - c** 161, 807, 813, 819
 - c++** 819
 - cc** 819
 - conf** 399
 - cpp** 819
 - cxx** 819
 - defined 970

- DOS 160
- f 819
- gif 161
- gz 161
- h 809, 819
- html 161
- jpeg 161, 979
- jpg 161, 979
- l 819
- list of 819
- log 544
- MIME and 89, 230
- o 161, 811, 813, 819
- ppd 495
- ps 161
- remove a 301
- rpm 455
- s 813, 819
- sh 819
- shared object 813
- so 811, 813
- tar.bz2 161
- tar.gz 134, 161
- tar.Z 161
- tbz2 161
- tgz 134, 161
- tiff 1001
- torrent 478
- txt 209
- y 819
- Z 161
- generation 12, 207, 887, 970
- invisible 161, 208, 977
- length 159, 160, 880
- period, leading 208
- quoting 316
- reference, ambiguous, *see File, ambiguous reference*
- root directory 160
- simple 163, 166, 193, 996
- temporary file 880
- typeface 17
- unique 292, 880
- Windows 160
- Fileserver 351, 655
- Filesystem
 - /proc 386, 434, 442
 - active 525
 - adfs 440
 - affs 440
 - autofs 440, 672
 - check integrity of 447
 - coda 440
 - copy directory recursively using mv 437
 - defined 157, 971
 - demand mounting 672
 - devpts 440
 - disk 28
 - ext2 440, 447
 - ext3 441, 447
 - filename length 159
 - free list 437, 972
 - hfs 441
 - Hierarchy Standard 95
 - Hierarchy Standard, Linux 11
 - hpfs 441
 - independence 28
 - iso9660 441
 - journaling 441, 447, 978
 - minix 441
 - mount
 - automatically 672
 - demand 672
 - point 672
 - remote 658
 - msdos 441
 - ncpfs 441
 - NFS 383, 441, 659
 - ntfs 441
 - organize 158
 - proc 386, 434, 441, 442, 528
 - qnx4 441
 - RAID 31, 441
 - reiserfs 441
 - repair 393
 - romfs 441
 - root 994
 - smbfs 441
 - Standard, Linux 11, 167
 - structure 11, 157

Filesystem *continued*

- swap 29, 435
- sysv 441
- types, list of 440
- ufs 441
- umsdos 441
- use 157
- vfat 441
- virtual 442
- xfs 441

Filling 971

FILO stack 265

Filter 14, 204, 971

Find

- command name using *apropos* 137
- string using *grep* 123

find utility 232, 379, 543, 863*finger* utility 138, 341, 355, 867*fingerd* daemon 342, 355, 939

Firewall

- see also* *iptables*
- about 331
- building a 741
- defined 971
- OpenSSH 581
- toolkit 937

First in last out stack 265

Flag, crash 447

flex utility 16

Floppy diskette

- backup (not) 525
- mount 443, 444

Focus

- desktop 971
- follows-mouse 110
- strictly-under-mouse 110
- under-mouse 110
- window 83, 110

Folder, *see* *Directory*

Font

- antialiasing 956, 999
- preferences, GNOME 233
- window, GNOME 234

Footer 971

for control structure 864, 866, 892**for...in** control structure 864, 866**forcefsck** file 447

Foreground 13

- background, versus 204
- defined 204
- process 971

Fork

- child 835
- defined 971
- process 268

fork() system call 268, 270, 835

Formatting a hard disk 27

FQDN 339, 353, 701, 972

Fragmentation, disk 541

Frame, network 325, 972

Free

- list, filesystem 437, 972
- Software Foundation 301
- software, definition 943
- space 28, 972
- space, disk 542
- Standards Group 168

freedesktop.org group 225

Freefire, security solutions 937

fsck utility 393, 440, 447, 542

FSG 168

FSSTND 11, 167

fstab file 355, 387, 427, 445, 659, 663

FTP

- about 583
- account 431
- anonymous 589
- ASCII transfer mode 589
- automatic login 589
- basic commands 585
- binary transfer mode 589
- chroot jail 598
- client 585
- connection, active 584
- connection, passive 584
- ftp* utility 584, 590
- JumpStart
 - downloading files using *ftp* 585
 - starting a *vsftpd* server 595
- more information 584

- passive 988
- PASV connection 584
- PORT connection 584
- prerequisites 585
- pub** directory 589
- security 583, 590, 595
- server 594
- tutorial 586
- vsftpd** server 594
- vsftpd.conf** file 596
- ftp** utility 324, 584, 590
- ftpd** daemon 356, 938
- Full
 - backup 525
 - duplex 972
 - functioned nameserver, DNS 725
 - regular expressions
 - about 909
 - pipe 910
 - plus sign 910
 - question mark 910
 - summary 912
- Fully qualified domain name, *see* **FQDN**
- Function
 - C language 806, 810
 - defined 972
 - prototype 809
 - shell 894, 996
- fuser utility 445
- fvwm2 utility 112
- ftwk utility 937

G

- g++ utility 9
- gaim utility 82
- games** directory 169
- gated** daemon 356
- Gateway
 - daemon 356
 - defined 972
 - network 328
 - proxy 357
 - router, and 553
- gawk utility 867

- gcc
 - history 9
 - home page 806
 - using 810
 - warning options 826
- gcc, *see also* *C programming language*
- gdb utility 828
- gdbm** database 966
- gdm utility 70, 390
- gdm.conf** file 71
- gdmsetup utility 71
- GECOS and NIS 652
- GECOS, defined 972
- Generate filenames 207
- Generic Icon menu 85
- Generic operating system 7
- getchar** C macro 809
- gethostbyname()** system call 710
- getopts builtin 893
- Getting Started using Konqueror 88
- getty utility 268
- ghostscript utility 230
- GIAC, security certification and training 937
- gif** filename extension 161
- Giga- 972
- Global variable 274, 887
- Globbering 207, 887
- Glue, DNS 722
- Glyph 972
- GMT 973
- GNOME
 - about 76, 224
 - color window 234
 - Desktop, about 15
 - display manager, *see* gdm
 - file types 235
 - focus, window 110
 - font preferences 233
 - font window 234
 - gdm utility 70
 - gdm.conf** file 71
 - gdmsetup utility 71
 - gnome-font-properties utility 233
 - gnome-search-tool utility 232
 - GTK 224

GNOME *continued*

- KDE, compared 86, 225
- logging into 76
- Main menu 80
- manager, session 113
- menu
 - Main 80
 - Panel Icon 80
- MIME types 235
- Nautilus
 - control bars 229
 - emblems, file 231
 - file
 - manager** 226
 - permissions** 231
 - properties** 230
 - Location bar 229
 - Location dialog box 230
 - menubar 229
 - open file 230
 - side pane 228
 - spatial view 226
 - tear-away bar 229
 - toolbar 229
 - traditional view 227
 - view pane 228
- Panel Icon menu 80
- print manager 500
- run program window 235
- search 232
- session manager 113
- Start Here 231
- switching desktops 106
- terminal emulator 236
- titlebar 82
- toolbar 83
- window focus 110
- Window List 80
- Workspace Switcher 80
- gnome-font-properties utility 233
- gnome-lokkit utility 751
- gnome-search-tool utility 232
- gnome-terminal utility 236

GNU

- Configure and Build System 459

gcc

- compiler 810, 826
- home page 806

gdb utility 828**General Public License** 4**GnuPG** encryption 926**grub** utility 514

manuals 915

usage message 191

GnuPG encryption 926**gopher** utility 362**GPL**, *see GNU, General Public License***gpm** daemon 356**gprof** utility 16Grand Unified Boot Loader, *see grub*

Graphical display 973

Grave accent 964

grep utility 123, 199, 203, 867, 871, 883, 961, 971**Group**

about 428

access 173

add 523

apache 762

commands 256, 259

file assigned to 428

ID 428, 431, 973

name of, display using **ls** 173

password 428

user private 428

users 973

wheel 421

windows 973

group database 973**group** file 389, 428, 523**groupadd** utility 523**groupdel** utility 524**groupmod** utility 524**grub** utility 507, 514**grub.conf** file 507, 514**gs** utility 230**GTK** 224**GUI**

combo box 963

defined 973

- radio button 991
- scrollbar 995
- spinner 997
- text box 1001
- thumb 1001
- wysiwyg 1006
- X Window System 14
- gunzip utility 132, 134
- gwm utility 112
- gz filename extension 161
- gzip utility 131

H

- h filename extension 809, 819
- Hacker 973
- Half duplex 973
- halt utility 390, 391, 392
- Halt, program 108
- Hard disk, *see* *Disk*
- Hard link
 - create using ln 437
 - defined 973, 980
 - remove using rm 182
 - symbolic link, versus 437
- Hardcoded filename in shell scripts 880
- Hardware
 - database 397
 - device 397
 - help 100
- Hash
 - defined 974
 - one-way 986
 - table 974
- head utility 124
- Header
 - document 974
 - file 809, 811
- Help
 - see also More information*
 - answers, finding 361
 - apropos utility 95
 - Center 94
 - documentation 94
 - error messages 99

- getting 914
- GNU manuals 101
- hardware 100
- HOWTOs 98
- info pages 97
- Internet, from the 99
- KDE Help Center 94
- Linux Documentation Project 99, 101
- local 99
- man pages 94
- netnews 361
- Red Hat Web site 100
- support forums 100
- Here document 882, 883, 974
- Hesiod 974
- Heterogeneous network 637
- Heterogeneous, defined 974
- Hexadecimal number 974
- hfs filesystem 441
- Hidden file, *see* *Invisible filename*
- Hierarchical file structure 157
- Hierarchy 974
- HISTFILESIZE variable 294
- History
 - C Shell Mechanism, classic 298
 - defined 974
 - event
 - editing 297
 - number 298
 - previous
 - !*\$* last word of the 300
 - modifying** 300
 - reexecuting 297
 - text 299
 - words within 299
 - mechanism 293
 - viewing 296
- history builtin 294, 295
- HISTSIZE variable 294
- Home directory
 - .forward** file 615, 621
 - .netrc** 589
 - .rhosts** 931
 - .ssh** 565
 - ~* shorthand for 283

Home directory *continued*

- about 164
- automount 671
- defined 119, 974
- invisible file 161
- passwd** and 431
- startup file 164
- working directory, versus 164

home partition 30

HOME variable 274, 282, 389, 892

Host

- address 334
- key, OpenSSH 566
- security 931
- specifying 399
- trusted 343

host utility 348, 710

Hostname

- about 702
- resolution 429
- setting the system 556
- symbolic 354

hostname utility 120, 341

hosts database 354

hosts file 339, 354, 428, 555, 637

hosts.allow file 402, 403, 404

hosts.deny file 402, 403, 404

hosts.equiv file 343, 931

Hover 79, 974

HOWTO documents, finding 98

hpfs filesystem 441

hping utility 937

HTML

- defined 975
- history 362
- suffix 363

html file 762, 763, 767

html filename extension 161

HTTP 363, 975

httpd daemon 356

httpd directory 766

httpd, *see also* *Apache*

httpd.conf file 762, 767, 788

HTTPS protocol 363, 795

Hub 327, 552, 975

Humor 4, 930, 996

hunk (diff) 126

HUP signal 539

hwconf database 397

Hypermedia 363

Hypertext

- about 362
- defined 976
- link 362

Markup Language, *see* *HTML*

Transfer Protocol, *see* *HTTP*

World Wide Web 362

I

I/O device, *see* *Device*

I/O slave, KDE 224

IANA 354, 976

ICMP packet 346, 976

icmp_seq 346

Icon

- defined 976
- desktop 85
- moving 93

Iconify 976

ICQ 324

id utility 374

IDEA encryption 925

IDS

- about 931
- AIDE 931
- DragonSquire 931
- samhain 931
- tripwire 931

if control structure 852, 856, 858

if...then control structure 852

if...then...elif control structure 858

if...then...else control structure 856

IFS variable 314

Ignored window 976

IM 82

IMAP, mail 628

imapd daemon 628

Implied dependency, make 818

import command, cvs 843

in control structure 864

- in-addr.arpa domain 709
- include directive 809
- include** directory 169, 809
- Include file 809
- Incorrect login 103
- Incremental backup 525
- Indentation, *see Indention*
- Indention 976
- index.html** file 771
- index.html.var** file 771
- Indirect pointer 180
- inetd** daemon 356
- info** directory 169
- info utility
 - KDE Help Center, from the 94
 - manual 915
 - using 97
- Information, *see More information*
- Init script 381, 432
- init utility 268, 381, 388, 390, 391, 429
- init.d** directory 382
- initlog utility 381
- inittab** file 220, 381, 390, 391, 429, 538
- Inode
 - altering using mv 437
 - create another reference using ln 437
 - defined 180, 437, 976
 - file 437
 - filesystem 181
 - finding with find 863
 - lnks** shell script 860
 - number 437
- Input
 - defined 976
 - focus, changing 83, 110
 - Mode, vim 147
 - standard, *see Standard, input*
- Input/Output device, *see Device*
- INPUTRC** variable 303
- insmod utility 513
- Installation, computer, defined 976
- Installing Red Hat Linux, *see Red Hat, installing*
- Installing software 453
- Instant Messenger 82
- Integrated Services Digital Network, *see ISDN*
- Integrity, filesystem 447
- Interactive 977
- Interface
 - defined 977
 - user 977, 1003
- Internal Field Separator, *see IFS*
- International Organization for Standardization, *see ISO*
- Internet
 - about 16
 - Assigned Numbers Authority, *see IANA*
 - browser 362
 - connection sharing 752
 - Control Message Protocol, *see ICMP*
 - defined 977
 - look up a user 348
 - mirror site 916
 - multiple clients on a single connection 753
 - multiple servers on a single connection 755
 - netiquette 985
 - netnews, *see Netnews*
 - network 323
 - Printing Protocol, *see IPP*
 - Protocol Security, *see IPSec*
 - Protocol, *see IP and TCP/IP*
 - Relay Chat 324
 - search engine 364
 - service provider, *see ISP*
 - services 359
 - sharing a connection 752
 - speed 325
 - URI 1003
 - URL 363, 1003
 - Usenet 363
- internet (*small i*), defined 977
- Internetwork 323
- InterNIC 348
- Interprocess communication 14, 127, 438, 439
- Interrupt key 109, 889
- Intranet 323, 324, 977
- Intrusion detection system, *see IDS*
- Invisible filename
 - defined 161, 977
 - display 208
 - not displayed with a ? 208

IP

- address 334, 353, 978
- class, address 335
- defined 977
- IPng 340
- IPv6 340, 930, 951
- masquerading 739, 749, 753
- multicast, *see Multicast*
- Next Generation 340
- spoofing 343, 978
- version 6, *see IP, IPv6*

IPC 978

- ipchains** utility 738

- ipop3d** daemon 628

- IPP protocol 485, 486

- IPSec 929, 948

iptables

- about 737
- ACCEPT target 748
- building a set of rules 744
- chain policy 745
- chain, about 738
- classifiers, *see iptables, match*
- command line 742
- commands 744
- connection tracking, *see iptables, state machine*
- conntrack** module 740
- display criteria 746
- DNAT 738
- DNAT target 748
- DROP target 749
- Filter table 738
- gnome-lokkit utility 751
- how it works 737
- Internet connection sharing 752
- IP masquerading 753
- iptables** file 741, 751
- iptables-restore utility 750
- iptables-save utility 750
- jump 743
- JumpStart, building a firewall with system-config-securitylevel 741
- LOG target 749
- Mangle table 739

- MASQUERADE 739, 749

- masquerade 982

match

- about 738
- criteria 743
- extension 746
 - explicit** 748
 - implicit** 746

- more information 740

- NAT table 738

- netfilter** 737

- network packet 739

- non-terminating target 744

- packet match criteria 743, 745

- patch-o-matic 737

- policy 745

- prerequisites 740

- protocols** file 746

- redhat-config-securitylevel utility 741, 751

- REJECT target 749

- resetting rules 741

- RETURN target 749

- RH-Firewall-1-INPUT chain 751

- router 752

rule

- about 738
- defined 738
- match criteria 743
- number 743
- saving 750
- specification 743

- sharing an Internet connection 752

- SNAT 739, 753

- SNAT target 749

- state machine 740

- system-config-securitylevel utility 741, 751

- target 738, 743, 748

- iptables** file 741, 751

- iptables-restore utility 750

- iptables-save utility 750

IPv6

- about 340

- address record, DNS 705

- defined 978

- in 2.6 kernel 951

IRC 324

is_regfile shell script 855

ISDN 326, 978

ISO

defined 978

image 36

ISO9660 filesystem 441, 978

protocol model 332

ISP 978

issue file 107, 389

iwconfig utility 557

J

Job

control 13

about 262

bg builtin 264

defined 978

fg builtin 264

how to use 205

jobs builtin 263

defined 205

number 205, 206

stop foreground 205

jobs builtin 109, 206, 263, 265, 893

John the Ripper utility 937

Journaling filesystem 441, 447, 978

Joy, Bill 961

JPEG 979

jpeg filename extension 161, 979

jpg filename extension 161, 979

JumpStart

Apache, getting up and running 762

Apache, setting up with **system-config-httpd** 764

building a firewall with **system-config-securitylevel** 741

configuring a Samba server with **system-config-samba** 679

configuring **sendmail** on a client 612

configuring **sendmail** on a server 612

CUPS, configuring a remote printer 489

DNS, setting up a cache 711

DNS, setting up a domain with **system-con-**

fig-bind 712

downloading files using **ftp** 585

NFS server, configuring with **system-config-nfs** 664

NFS, mounting a remote directory 658

OpenSSH, starting the **sshd** daemon 575

OpenSSH, using **ssh** and **scp** 567

starting a **vsftpd** server 595

system-config-printer, configuring a local printer 487

Justify 979

K

K&R 9

kcolorchooser utility 244

kcron utility 532

kdbg utility 828

KDE

about 76, 224

active view indicator, Konqueror 241

bookmark toolbar, Konqueror 239

bookmark, Konqueror 238

browser, Konqueror 87

clipboard 246

Color window 244

components 224

Control Center 90

desktop

about 15

defined 237

Extra toolbar, Konqueror 239

FAQ 94

file manager, Konqueror 87, 90

focus, window 111

getting started, Konqueror 88

GNOME, compared 86, 225

Help Center 94

I/O slaves 224

kcolorchooser utility 244

kdbg utility 828

kdm utility 71

kfind utility 239

klipper utility 246

KNotes utility 80

KDE *continued*

- konsole utility 244
 - Kparts 224
 - link indicator, Konqueror 241
 - Location bar, Konqueror 239
 - lock to current location, Konqueror 242
 - logging into 76
 - Main menu 80
 - Main panel 79
 - manager, session 113
 - menu
 - Main 80
 - Panel 92
 - Panel Icon 80
 - Menubar Desktop menu 238
 - Navigation panel, Konqueror 243
 - pager 80
 - Panel Icon menu 80
 - Panel menu 92
 - portability 224
 - printmgr utility 501
 - Qt 224
 - Run Command window 245
 - search using *kfind* 239
 - shade-hover mode 84
 - shortcut, Konqueror 242
 - switching desktops 106
 - taskbar 80
 - terminal emulator 244
 - titlebar 82
 - toolbar
 - defined 83
 - Konqueror 90, 239
 - User's Manual 94
 - view, Konqueror 90, 241, 242
 - Web Shortcuts (Konqueror) 237
 - window focus 111
 - workspace (Konqueror) 241
- kdm** KDE utility 71
- kdmrc** file 71
- Kerberos** 933, 938, 979
- Kernel**
- /proc** filesystem 434
 - 2.4 947
 - 2.6 features
 - 2TB filesystem 952
 - 4GB-4GB memory split 951
 - ACL 951
 - AIO 948
 - asynchronous I/O 948
 - BIO 952
 - block I/O 952
 - hugeTLBFS 950
 - HyperThreaded CPUs 952
 - I/O elevators 953
 - IGMPv3 951
 - interactive scheduler response tuning 953
 - Internet protocol virtual server 951
 - IPSec 948
 - IPv6 951
 - IPVS 951
 - kksymoops 949
 - native Posix thread library 947
 - network stack features 951
 - NPTL 947
 - O(1) scheduler 949
 - OOPS 949
 - OProfile 949
 - PAE 951
 - physical address extension 951
 - remap_file_pages 950
 - reverse map virtual memory 950
 - rmap VM 950
 - TLBFS 950
 - translation look-aside buffer file system 950
 - XFS journaling file system 952
- 2.6 release 947
- about 6
 - boot 381
 - boot options 507
 - cleaning the source tree 509
 - compiling 512
 - configuring 510
 - defined 979
 - device driver 835
 - display messages using *dmesg* 396
 - dmesg* utility 517
 - export table 666
 - EXTRAVERSION number 511
 - install binary 458

- installing 513
- installing the source code 508
- locating the source code 508
- messages 517
- module 512
- module, *see also Loadable module*
- network packet filtering, *see iptables*
- packet filtering, *see iptables*
- parameter 508
- programming interface 9
- raw device 440
- rebuild 507
- responsibilities 834
- rpm file 509
- special files 437
- system calls 834
- kernel space 979
- Kernighan & Ritchie, *see K&R*
- Key
 - arrow 18
 - BACKSPACE 108
 - binding 979
 - CONTROL 18
 - CONTROL-C 84, 109
 - CONTROL-D 103, 196, 264
 - CONTROL-H 108, 118, 150, 192
 - CONTROL-L 142, 143, 151
 - CONTROL-M 118
 - CONTROL-Q 107
 - CONTROL-R 142, 143
 - CONTROL-U 108, 118, 150, 192
 - CONTROL-V 84, 118
 - CONTROL-W 108, 150, 192
 - CONTROL-X 84, 108
 - CONTROL-Z 205, 264
 - Delete 108
 - encryption 922
 - end line 18
 - ENTER 18
 - erase 108, 109, 192, 425
 - interrupt 108, 109
 - kill 108
 - line kill 108, 192
 - META 982
 - NEWLINE 18, 256, 291
 - RETURN 18, 107, 192, 256
 - SPACE bar 118
 - suspend 108, 109, 152, 205, 264, 890
 - TAB 118
 - typeface 18
 - word erase 192
- Keyboard
 - defined 979
 - move cursor to next line 18
 - system-config-keyboard, configuring with 394
- Keyword
 - searching with *apropos* 137
 - variable 274, 282
- kfind utility 239
- Kickstart utility 57
- kill builtin 109, 206, 223, 374, 375, 376, 539, 881, 890, 893
- Kill key 108
- Kill line key 108, 192
- KILL signal 539
- kill() system call 835
- killall utility 377
- kilo- 979
- klaxon utility 938
- klipper utility 84, 246
- KMail 629
- KNotes utility, KDE 80
- Knowledgebase, Red Hat 915
- known_hosts file 566, 568, 569
- Konqueror
 - active view indicator 241
 - bookmark 238
 - bookmark toolbar 239
 - browser 87
 - Extra toolbar 239
 - file manager 87, 90
 - getting started 88
 - link indicator 241
 - location bar 239
 - lock to current location 242
 - menubar 238
 - Navigation panel 243
 - shortcut 242
 - toolbar 90, 239
 - view 90, 241, 242
 - Web Shortcuts 237
 - workspace 241

konsole utility 244
Korn Shell, *see* ksh
Korn, David 252, 979
Kparts, KDE 224
ks.cfg file 57
ksh
 defined 979
 history 252
kudzu utility 397, 554

L

l filename extension 819
L6 utility 938
LAN
 about 16, 327
 compared to intranet 324
 configuring 551
 defined 979
 example 329
 more information, setting up a LAN 559
 setting up 551
Language, used by the system 102
Large number 980
Last Line Mode, vim 147
lastlog file 170
LBX 333
ld utility 814
LD_LIBRARY_PATH variable 815, 816
LD_RUN_PATH variable 815
LDAP 980
ldd utility 814
ld-linux library 814
ld-linux.so utility 814
Leaf 980
Least privilege 371, 434, 980
Left-handed mouse 91, 223
Length of filename 160
less utility 95, 120, 204, 257, 858
let builtin 313
lib directory 169, 812, 813, 814
libattr library 814
libc library 814
libc.so library 811
libm.a library 811

libm.so library 811

Library

 about 806
 archived 814
 dynamic, *see* *Shared libraries*
 ld-linux 814
 libacl 814
 libattr 814
 libc 814
 libc.so 811
 libm.so 811
 shared 813, 816
 statically linked 814
libwrap.a library 403, 404
lids utility 938
Lightweight Directory Access Protocol, *see*
 LDAP
lilo utility 507, 513, 516
lilo.conf file 507, 513, 516
Line kill key 108, 192
Line Printer Daemon, *see* lpd daemon
LINES variable 881
Link
 about 11
 create using ln 178
 defined 177, 980
 delete using rm 182
 export 446, 667
 hard 437, 973, 980
 hard versus symbolic 178
 hypertext 362
 indicator, Konqueror 241
 inode 437
 number of, display using ls 173
 point-to-point 989
 remove using rm 182, 437
 soft, *see* *Link, symbolic*
 symbolic
 bash, and 182
 create using ln 181
 defined 437, 980
 versus hard 178
 versus hard link 180
 symlink, *see* *Link, symbolic*
links utility 364, 463

lint utility 826

Linux

2.6 kernel, *see* *Kernel*

boot 514

distribution 4

documentation 94

Documentation Project 99, 101

Filesystem Hierarchy Standard 11, 168

Filesystem Standard 11, 167

kernel, *see* *Kernel*

manual 95

newsgroup 379, 917

PAM, *see* *PAM*

Pluggable Authentication Modules, *see* *PAM*

Standard Base 168

Terminal Server Project 656

Linux Software Map database 919

linux terminal name 920

linux.redhat.install newsgroup 360, 361

linux.redhat.misc newsgroup 361

linux.redhat.rpm newsgroup 361

List server 343, 917

Listserv 343, 917

llibacl library 814

ln utility 178, 181, 437

ln versus cp 179

lnks shell script 860

Load average 140

Load, system, display with w 140

Loadable module 980

Loader, boot, *see* *Bootloader*

Local

area network, *see* *LAN*

variable 270, 277, 887

local directory 30, 458

local file 169

Locale 981

Localhost 428

localhost 339

locate database 135

locate utility 135

Location bar

illustration 89

Konqueror 239

Nautilus 229

Location dialog box, Nautilus 230

Lock to current location, Konqueror 242

lock utility 872

lockd daemon 356

locktty shell script 872, 873

Log

Apache 766

display 396

DNS 724, 727, 729

file, check 541

file, rotate 543

files 170

in, *see* *Login*

machine 539

mail 614

OpenSSH 578

out 390, 981

sendmail 614

syslogd daemon 357

system 357

vsftpd 603

log command (cvs) 838

log directory 170, 436, 543, 914, 932

log filename extension 544

logdaemon, secure replacement daemons 938

Logical

expression 981

Volume Manager, *see* *LVM*

Login

Choose a session dialog box 76

defined 981

description of 388

failsafe session 102

GUI 102

incorrect 103

name 431, 433, 981

problems 103, 537

procedure 106

prompt 106, 388

remote 104

root 371, 541, 994

screen 76, 102

security 932

shell 268, 389, 431, 981

login daemon 938

- login utility 268, 388
- login.defs** file 431, 523
- LOGNAME** variable 389
- Logout 103
- logrotate utility 543
- logrotate.conf** file 543
- logrotate.d** directory 543
- logwatch utility 541
- Loopback service 428
- lost+found** directory 393
- lp utility 492
- lpadmin utility 496
- lpd** daemon 356, 485
- lpinfo utility 495
- lpq utility 123, 492
- LPR line printer system 485
- lpr utility 122, 199, 203, 205, 492
- lprm utility 123, 492
- lpstat utility 492
- ls utility 119, 162, 173, 176, 180, 208, 255
- LSB 168
- lseek() system call 836
- lsmod utility 513
- lsuf utility 539
- LVM 32
- lynx text browser 364

M

- m4 macro processor 618
- MAC address 412, 981
- Machine
 - collating sequence 981
 - independence 8
 - log 539
 - name, display 120
- Macintosh 218
- Macro
 - C preprocessor 808, 809
 - defined 982
 - expansion 808
 - m4, processor 618
 - make 821
 - processor, m4 618
- magic** file 436, 982
- Magic number 89, 436, 982

- magic number** database 436

Mail

- .forward** file 615, 621
 - about 144
- accepting mail from unknown hosts 619
- access** file 620
- aliases 427, 614
- aliases** file 621
- attachment 144
- authenticated relaying 631
- backup server 619
- check **root** 541
- communicate with users 535
- delivery agent 357
- forwarding email 620
- how **sendmail** works 613
- IMAP 628
- imapd** daemon 628
- ipop3d** daemon 628
- JumpStart
 - configuring **sendmail** on a client 612
 - configuring **sendmail** on a server 612
- KMail 629
- list server 343, 917
- log 614
- mail** directory 613, 617, 619
- mailbox 284
- maildir** format 614
- mailertable** file 620
- mailing list 627
- maillog** file 614
- Mailman 627
- mailq utility 616
- mailstats utility 616
- makemap utility 616, 617
- masquerading 618
- mbox** format 613
- MDA 609, 982
- more information 611
- mqueue** file 613
- MTA
 - defined 984
 - discussion 609
 - security 928
- MUA

- defined 984
- discussion 609
- security 928
- network addresses 145
- newaliases utility 615
- POP 628
- Postfix 633
- postmaster 541
- praliases utility 615
- prerequisites 610
- procmail** daemon 609
- Qmail 633
- relay host 620
- security
 - about 927
 - GnuPG 927
 - MTA 928
 - MUA 928
 - PEM encryption 927
- self-signed certificate 632
- sending to remote user 342
- sendmail** daemon 609, 610, 613, 616
- sendmail.cf** file 617
- sendmail.mc** file 612, 617
- serving multiple domains 620
- SMTP 609
- spam 348
- SpamAssassin 622
- spamd** daemon 622
- SquirrelMail 626
- SSL 632
- user agent 357
- virtusertable** file 621
- Webmail 625
- mail** directory 543, 613, 617, 619
- mail** utility 144, 541
- MAIL** variable 284, 389
- Mailbox 284
- MAILCHECK** variable 284
- maildir** format 614
- mailertable** file 620
- Mailing list
 - about 627
 - bugtraq 937
 - netsys 938
- maillog** file 541, 614
- Mailman 627
- MAILPATH** variable 284
- mailq utility 616
- mailstats utility 616
- Main
 - memory 982
 - menu 80
 - panel, KDE 79
- main** function 810
- Mainframe computer 7, 8
- Maintenance, *see System, administration*
- Major device number 438, 439, 982
- make utility 134, 816, 821
- make_smbcodepage utility 676
- makedbm utility 648
- Makefile** file 806, 818
- makefile** file 816, 818
- makefile, discussion 817
- makemap utility 616, 617
- makewhatis utility 53, 137
- MAN 328, 982
- man** directory 169
- man pages 94
- man utility 14, 94, 98
- Manager
 - session 112, 113
 - window 111
- Man in the middle, *see Person in the middle*
- Manuals
 - GNU 101, 915
 - man 94
 - reference, finding 914
 - system, about 94
- Map file 672
- mason utility 938
- Masquerading
 - defined 982
 - IP 739, 749, 753
 - mail 618
- Massachusetts Institute of Technology, *see MIT*
- Master Boot Record, *see MBR*
- Master server, DNS 704

1052 Index

- mbox** format 613
- MBR 514
- mcop utility 130
- MD5 encryption 433, 982
- MD5SUM** file 38
- MDA 609, 982
- Mega- 982
- Memory
 - main 982
 - paging 435
 - test 45
 - virtual 435
- memtest86 utility 45
- Menu
 - context 83
 - defined 982
 - Desktop 80, 85
 - Generic Icon 85
 - Main 80
 - Panel 92
 - Panel Icon 80
 - Panel, KDE 92
 - shell script 877
- Menubar 89
 - Konqueror 238
 - Nautilus 229
- Merge 982
- mesg utility 144
- Message
 - daemon, from 436
 - deny with mesg 144
 - Digest 5, *see MD5*
 - of the day 536
 - of the day, *see motd* file
 - sending
 - email 535
 - talk 142, 535
 - wall 535
 - write 141, 535
 - syslog directory 932
 - system 436, 538
 - truncating 542
 - usage 190, 856, 862, 880, 1003
- messages file 170, 417, 436, 538, 541, 542, 724, 914
- Messaging client 82
- META key 982
- Metabit 957
- Metacharacter 207, 983
- Metacity window manager 112
- Metadata 983
- Method of Last Resort, kill 375
- Metropolitan area network, *see* MAN
- Microprocessor 8
- Middle mouse button 84
- MIME
 - defined 983
 - explained 89
 - types, GNOME 235
- mingetty utility 268, 388, 429
- Minicomputer 7
- mini-HOWTO documents, finding 98
- Minimize window 983
- MINIX 4
- minix** filesystem 441
- Minor device number 438, 439, 983
- Mirror site 916
- misc.jobs.offered** newsgroup 360
- Mistake, correct typing 107
- MIT 14
 - Athena, project 217
 - X Consortium 217
- mkdir utility 162, 166, 167, 658
- mkfifo utility 438
- mkfs utility 28, 61, 397, 444, 542
- mkswap utility 435
- Mode, shade-hover 84
- Modem
 - cable 961
 - defined 983
- Modify
 - user 522
- modinfo utility 513
- modprobe utility 513
- Module
 - see also Loadable module*
 - kernel 512
- modules** directory 169, 513
- Monitor, configure 64

- Monitors, dual 64
 - More information
 - Apache 761
 - CUPS 486
 - DHCP 409
 - DNS 711
 - FTP 584
 - iptables 740
 - mail 611
 - NFS 658
 - NIS 640
 - OpenSSH 567
 - PAM 417
 - Samba 677
 - security 936
 - setting up a LAN 559
 - system administration 379
 - more utility 120, 858
 - Morris, Robert T. Jr. 934
 - Mosaic Web browser 362
 - motd** file 107, 389, 430, 432, 536
 - Mount
 - automatic 355, 957
 - defined 983
 - filesystem automatically 672
 - floppy diskette 443
 - point 442, 446, 672, 983
 - remote filesystem 658
 - table 427
 - mount utility 387, 392, 430, 442, 443, 659
 - mountd** daemon 356, 661
 - mounts** file 430, 442
 - Mouse
 - about 983
 - click explained 77
 - configure 394
 - left-handed 91, 223
 - middle button 84
 - pointer 984
 - pointer, hover 79, 974
 - remap buttons 223
 - right-handed 223
 - wheel 223
 - window manager 15
 - Mouseover 984
 - Move
 - directory using **mkdir** 172
 - file using **mv** 171
 - Mozilla
 - history of 363, 461
 - netnews 360
 - proxy 991
 - starting 81
 - mqqueue** file 613
 - MS Windows, *see Windows*
 - msdos** filesystem 441
 - MS-DOS, *see DOS*
 - mt utility 531
 - MTA 609, 984
 - MTA, security 928
 - mtab** file 430
 - Mtools utility 130
 - MUA 609, 984
 - MUA, security 928
 - Multiboot specification 984
 - Multicast 336, 984
 - Multipurpose Internet Mail Extension, *see MIME*
 - Multitasking 10, 205, 258, 984
 - Multithreaded program 833
 - Multuser
 - about 388
 - defined 984
 - Linux design 7, 10
 - mode
 - about 388
 - extended 388
 - initiate 387
 - Superuser 372
 - mv** utility 122, 171, 437
 - MX record, DNS 620, 706
 - mxgdb** utility 828, 833
- ## N
- Name
 - command 190
 - daemons 355
 - domain, *see Domain, name*
 - login 431, 433, 981
 - server 352, 353
 - variable 274

- named** daemon 356, 712, 715
- named** directory 715, 719
- Named pipe 437, 438
- named.conf** file 715, 718, 726, 731
- NAT 738, 984
- National Center for Supercomputer Applications 362
- Nautilus
 - control bars 229
 - file
 - emblems 231
 - manager 226
 - open with 230
 - permissions 231
 - properties 230
 - Location bar 229
 - Location dialog box 230
 - menubar 229
 - open file 230
 - side pane 228
 - spatial view 226
 - tear-away bar 229
 - toolbar 229
 - traditional view 227
 - view pane 228
- Navigation panel, Konqueror 243
- nawk utility 867
- NBT 984
- ncpfs** filesystem 441
- ndbm** database 966
- nessus utility 938
- net use utility (Windows) 695
- net utility 676
- net view utility (Windows) 694
- NetBIOS 984
- Netboot 656, 985
- netcat utility 938
- netgroup** file 430
- Netiquette 985
- Netmask 985
- Netnews
 - answers, finding 361
 - archive, **groups.google.com** 361
 - comp.lang.c** newsgroup 360
 - comp.os.linux.announce** newsgroup 362
 - comp.os.linux.misc** newsgroup 360, 361
 - comp.os.linux.networking** newsgroup 361
 - comp.os.linux.security** newsgroup 361
 - comp.os.linux.setup** newsgroup 361
 - comp.security.firewalls** newsgroup 931
 - group structure 360
 - groups 360
 - hierarchical structure of groups 360
 - history of 360
 - linux.redhat.install** newsgroup 360, 361
 - linux.redhat.misc** newsgroup 361
 - linux.redhat.rpm** newsgroup 361
 - misc.jobs.offered** newsgroup 360
 - Mozilla News 360
 - Netscape News 360
 - newsgroups 360
 - nn utility 360
 - readnews utility 360
 - rec.skiing** newsgroup 360
 - rn utility 360
 - sci.med** newsgroup 360
 - soc.singles** newsgroup 360
 - structure of groups 360
 - talk.politics** newsgroup 360
 - tin utility 360
 - xrn utility 360
 - xvnews utility 360
- Netscape
 - BugSplat 461
 - history of 363
 - Navigator 363
 - netnews 360
- netstat utility 336
- Network
 - @ in an address 341, 342
 - @ with mail 342
 - 100BASET cable 327
 - 10BASE2 cable 327
 - 10BASE5 cable 327
 - 10BASET cable 327
 - address
 - @ sign in 341
 - defined 985
 - mail 145

- mask 337
- space, private 554, 989
- Address Translation, *see* NAT
- boot 985
- bottleneck 347
- broadcast 960
 - about 326
 - address 960
 - defined 960
 - multicast, compared 336
 - packet 334
 - unicast, compared 334
- broadcast packet 334
- browser 362
- category 5 cable 327
- category 5e cable 327
- category 6 cable 325, 327
- category 7 cable 325
- class, IP address 335
- coaxial cable 327
- connection, test using ping 346
- daemon 324, 354
- datagram 325, 966
- DNS 352
- domain name 352
- dynamic IP address 334
- Ethernet 323, 326, 327, 328, 970
- extranet 324, 970
- FDDI 970
- fiberoptic cable 327
- fileserver 655
- Filesystem, *see* NFS
- firewall 331
- frame 325, 972
- gateway 328, 553, 972
- heterogeneous 637
- hops 347
- host address 334
- hostname, FQDN 339
- hostname, nickname 339
- hub 327, 552, 975
- ICMP packet 976
- Information Service, *see* NIS
- interface card, *see* Network, NIC
- Internet 323
- intranet 323, 324
- IP
 - address 334
 - address class 335
 - Next Generation 340
- Local Area, *see* LAN
- Metropolitan Area, *see* MAN
- multicast 336, 984
- nameserver 352, 353
- netmask 985
- netnews, *see* Netnews
- newsgroup 360
- NIC 551, 553
- number, *see* Network, address
- packet 325, 346, 987
- packet filtering, defined 987
- packet filtering, *see also* iptables
- packet sniffer 987
- partner net 324
- passive hub 327, 552
- ping to test 346
- point-to-point link 326
- port forwarding 989
- PPP protocol 333
- private address space 554, 989
- privileged port 990
- protocol 331
- remote filesystem 324
- resolver 353
- route trace 347
- router 327, 329, 331, 553, 994
- router, SmoothWall Linux distribution 553
- security
 - about 928
 - guidelines 930
 - solutions 929
- segment 985
- services 324, 354
- setting up 551
- SLIP protocol 333
- sniff 997
- socket 439
- static IP address 334

Network *continued*

- subnet 337
 - about 337
 - address 999
 - defined 999
 - mask 337, 999
 - number 999
 - specifying 400
- switch 326, 327, 552, 985
- switching hub, *see* **Network**, *hub*
- TCP/IP protocol 331
- thicknet cable 327
- thinnet cable 327
- Time Protocol, *see* **NTP**
- token ring 1002
- topology, shared 995
- trace route 347
- transfer rate 327
- trusted hosts 343
- tunneling 1002, 1004
- twisted pair cable 327
- UDP 331, 1003
- unicast 334, 1003
- unicast vs. broadcast 334
- unshielded twisted pair cable 327
- user communication 341
- utilities 324, 343
- UTP cable 327
- virtual private 324
- VPN 324, 1004
- WAN 328
- WAP 552
- wide area, *see* **WAN**
- Wi-Fi 1005
- wireless
 - access point, about 552
 - access point, defined 1005
 - bridge 553
 - mode 553
 - NIC 557
- network** file 641
- newaliases** utility 615
- NEWLINE** key 18, 256, 291
- News, Internet, *see* **Netnews**

Newsgroup

- comp.lang.c** 360
- comp.os.linux.announce** 362
- comp.os.linux.answers** 379, 917
- comp.os.linux.misc** 360, 361, 379, 917
- comp.os.linux.networking** 361
- comp.os.linux.security** 361
- comp.os.linux.setup** 361
- comp.security.firewalls** 931
- linux.redhat.install** 361
- linux.redhat.misc** 361
- linux.redhat.rpm** 361
- list of 917
- misc.jobs.offered** 360
- rec.skiing** 360
- sci.med** 360
- soc.singles** 360
- talk.politics** 360

NFS

- /proc/fs/nfs/exports** file 666
- about 655
- all_squash** option 669
- attribute caching options 660
- block size 662
- client, setting up 658
- daemons 356
- data flow 656
- defined 986
- error handling options 661
- Error message, **NFS server xxx not responding** 657
- exchanging files 558
- export
 - device file 667
 - directory hierarchy 665
 - link 667
 - table, kernel 666
- exportfs** utility 670
- exports** file 665, 666
- filesystem 441
- fstab** file 659, 663
- home directories 558
- JumpStart, configuring an NFS server with
 - system-config-nfs** 664
- JumpStart, mounting a remote directory 658

- line speed, testing 662
- link, export 667
- miscellaneous options 661
- more information 658
- mount a filesystem 658
- mount utility 659
- nfsnobody** 668
- NIS and 668
- options
 - all_squash** 669
 - attribute caching 660
 - error handling 661
 - miscellaneous 661
 - root_squash** 669
- performance, improving 662
- portmap utility 658, 671
- prerequisites 658, 664
- root_squash** option 669
- security 657
- server-server dependency 672
- setuid 659
- showmount utility 669
- stop 383
- testing 670
- timeout 661, 662
- umount utility 660
- user ID mapping 668
- xtab** file 665, 670
- nfs** file 666
- nfsd** daemon 356, 671
- nfsnobody** 668
- NIC 353, 551, 553, 986
- nice()** system call 835
- Nickname, host 339
- nicknames** file 639
- NICNAMESERVER** variable 349
- NIS
 - about 637
 - adding users 644
 - client setup 640
 - client, test 642
 - database 339, 354, 986
 - defined 986
 - domain 638
 - domain name 641, 986
 - GECOS 652
 - login 389
 - makedbm utility 648
 - Makefile** 648
 - map
 - about 639
 - displaying 639
 - names 639
 - nicknames 639
 - master server 638
 - more information 640
 - need for 339
 - network** file 641
 - NFS and 668
 - nicknames** file 639
 - nisdomainname utility 641
 - passwd utility 643
 - prerequisites, client 640
 - prerequisites, server 645
 - removing users 644
 - rpcinfo utility 643
 - securenets** file 647
 - server setup 645
 - server specify 642
 - slave server 638
 - source files 638
 - testing 651
 - Yellow Pages 638
 - yp.conf** file 642
 - ypbind** daemon 642
 - ypbind-mt** daemon 642
 - ypinit utility 649
 - yppasswd utility 643
 - yppasswdd** daemon 651
 - ypserv.conf** file 646
 - ypwhich utility 642
 - ypxfr utility 650
 - ypxfrd** daemon 650
- nisdomainname utility 641
- nmap utility 938
- nmbd** daemon 357, 676, 694, 695
- nmblookup utility 695, 696
- nn utility 360
- NNTP 360, 986
- No news is good news 823

noarch 456, 479
noclobber variable 199, 262

Node

defined 986
DNS, *see* DNS, *domain*

nologin utility 431

nologin.txt file 420, 431

Nonprinting character 986

Nonrewinding tape device 530

Nonvolatile storage 986

nslookup utility 348

nsswitch.conf file 354, 389, 413, 430, 638, 710

nst0 file 530

ntfs filesystem 441

NTP 986

ntp.conf file 356

ntpd daemon 356

Null

device 201
string 278, 986

null builtin 890, 891, 892

null file 201, 426, 427, 542, 871, 892

Number

block 959
device
 major 982
 minor 983
giga- 972
hexadecimal 974
job 205
kilo- 979
large 980
magic 89, 982
mega- 982
octal 986
sexillion 995
tera- 1000
undecillion 1003

O

o filename extension 161, 811, 813, 819

Object file 811, 812

Octal number 986

od utility 426

One-time password 933

Online documentation 94, 350

Open Group 217

open() system call 836

OpenOffice 81

OpenPGP Message Format 927

OpenSSH

.ssh directory 565
authentication 563, 566
authorized keys 575
authorized_keys file 565
automatic login 575
clients 567
compression 581
config file 573
configuration files 573, 577
debugging 579
defined 986
diff utility 570
encryption 566
files 564
firewall 581
global files 565
host key 566
how it works 566
initial connection to 568
JumpStart, starting the **sshd** daemon 575
JumpStart, using **ssh** and **scp** 567
known hosts 568
known_hosts file 566, 568, 569
log file 578
more information 567
NFS shared home directories, and 558
port forwarding 579
prerequisites 567, 574
protocol versions 1 and 2 564
public-key encryption 563
recommended settings 568, 575
remote commands 570
rhost Authentication 564
scp utility 567, 572
security 563
server authentication 568
session key 566
setup 568

- sftp utility 573
- shell, remote 570
- ssh directory 565
- ssh utility 564, 567, 570
- ssh_config file 573
- ssh_known_hosts file 565, 568, 569
- sshd daemon 574
- sshd_config file 577
- ssh-keygen utility 576
- Troubleshooting 578
- tunneling 579
- user files 565
- X11 forwarding 568, 574, 578, 580
- Operating system
 - defined 987
 - generic 7
 - proprietary 7
- Operations menu, window 83
- Operator
 - bitwise
 - AND 336, 337, 338
 - Boolean
 - ! 319
 - && 319, 460
 - | 910
 - || 319
 - a 858
- OPIE utility 933, 938
- opt directory 30, 168, 169, 458
- Optimizer, C compiler 812
- Option
 - combining 191
 - defined 190, 987
- Order file with sort 125
- Order of expansion, command line 276
- Ordinary file 159, 987
- Organize a filesystem 158
- Other access 173
- out shell script 857
- Output
 - append, *see Append, standard output*
 - defined 987
 - redirect 127
 - standard, *see Standard, output*
- Overlay a shell 270
- Owner
 - access 173
 - file, name of, display using ls 173, 255
- P**
- P2P 987
- Pack archive file using tar 133
- Package, *see Software, package*
- Packet
 - broadcast 334
 - defined 987
 - filtering, defined 987
 - filtering, *see also iptables*
 - network 325, 346
 - sniffer 987
 - unicast 334
- Page break 151
- Pager 80, 95, 120, 987
- Paging 435, 987
- PAM
 - about 416
 - defined 987
 - features 389
 - more information 417
 - security, login 933
 - stack 419
- pam.conf file 421
- pam.d directory 416, 417, 419, 421, 430
- Panel
 - desktop 79
 - Icon menu 80
 - menu 92
 - menu, KDE 92
 - Navigation, Konqueror 243
- Parameter
 - expansion 311
 - positional 287, 289
 - shell 273
 - special 291
 - substitution 275
- Parent
 - directory 159, 160
 - of all processes 381
 - process 268, 887, 987

1060 Index

Parentheses

- grouping commands 259
- shell functions 894

Parse 192, 308

Partition

- /boot 29, 30, 60, 513
- /home 30
- /usr 30
- /var 30
- backup 60
- database, raw 60
- disk 28, 988
- Disk Druid 53
- LVM 32
- overlap 60
- planning 29
- primary and secondary 28
- RAID 31, 450
- sizes 29

Partner net 324

Passive FTP 988

Passive hub 327, 552

Passphrase 988

passwd database 521, 973, 981, 1003**passwd** file 282, 388, 430, 537, 637, 867, 981**passwd** utility 371, 372, 433, 643

Password

- breaking 540
- change 104, 371
- criteria 105
- defined 988
- group 428
- hashed 433
- one-time 933
- Samba 678
- security 105
- Superuser 540

PASV FTP, *see* *Passive FTP***PATH** variable

- about 283
- inherited 274
- login 389
- Superuser 371, 378
- usage 878

Path, search 135

Pathname

- absolute 165, 193, 955
- defined 159, 988
- element 988
- expansion 207, 276, 315, 316
- last element of 988
- relative 163, 166, 193, 992
- special 171
- using 170

Peer, BitTorrent 478

Period, leading in a filename 208

Peripheral device, *see* *Device*

Permission

- access 955
 - change using **chmod** 174
 - control of 174
 - directory 176
 - display using **ls** 173
 - execute 255
 - read 255
 - types of 174
- execute 255
- file access 174, 428
- setgid 175
- setuid 175
- setuid, set using **chmod** 372

Persistent 988

Person in the middle 926, 929

PGP encryption 926

Philosophy, UNIX 341, 823

Physical device 988

Physical security 935

pico, **fc** and 297

PID

- !** variable, and 292
- \$\$** variable 291
- about 268
- background process, and 205, 257
- defined 988
- fg** 263
- number 1 268, 381
- temporary file, use in name of 880

pidof utility 377

ping utility 346, 397, 432, 694

Pipe

- command separator 257
- defined 201, 988
- end of line, at 868
- filter 14, 204
- introduction 127
- named 437, 438
- noclobber** and 262
- standard error, and 261
- symbol 910
- syntax exception 868

Pipeline, *see Pipe*

Pixel 988

Plaintext 922, 988

plan file, *see .plan*

Pluggable Authentication Module, *see PAM*

Plus sign 910

Point to give focus 110

Point to Point Protocol, *see PPP*

Pointer to a file 177

Point-to-point link 326, 555, 989

POP, mail 628

popd builtin 267

Port

- defined 989
- forwarding, defined 989
- forwarding, OpenSSH 579
- privileged 929

Portability 7, 8

portmap daemon 356, 359, 401

portmap utility 658, 671

Portmapper, defined 989

Positional parameter 274, 287, 289

POSIX

- about 8
- shell 252

Postfix 633

postfix daemon 928

Postmaster 541

PostScript Printer Definition, *see PPD*

Power management 92, 355

Power, turn off 392

poweroff utility 390

ppd filename extension 495

PPD files 495

PPID, *see Parent, process*

PPP protocol 333, 433, 555

pppd daemon 356

praliases utility 615

Preboot Execution Environment, *see PXE*

Preprocessor directive

- #define** 808
- #include** 809
- defined 808
- macro 808, 811
- symbolic constant 808, 811

Prerequisites

- Apache 760
- automount 671
- BitTorrent 479
- CUPS 486
- DHCP client 410
- DHCP server 411
- DNS 711
- FTP 585
- iptables 740
- make 816
- NFS 658, 664
- NIS client 640
- NIS server 645
- Samba 677
- sendmail** 610
- vsftpd** 594

Pretty Good Privacy, *see PGP*

Primary buffer 84

Primary master server, DNS 704

Print

- IPP protocol 485, 486
- manager, GNOME 500
- queue 498

Printable character 989

printcap file 431

printconf-gui utility 487

Printer

- capability database 431
- configuring with CUPS 493
- control characters 878
- daemon 356, 382
- lpr** and 122
- page break 151

1062 Index

Printer *continued*

- sharing 499
- skip to top of page 151
- top of form 151
- using the 122

Printing

- a file, *see Printer, using the*
 - CUPS 485
 - manager, KDE 501
 - quotas 497
 - system, about 485
 - UNIX traditional 492
 - Windows, from 502
 - Windows, to 504
- printmgr utility 501
- Privacy Enhanced Mail, *see PEM encryption*
- Private address space 554, 989
- Private key 923
- Privilege, least 371, 980
- Privileged port 929, 990
- Probe devices 397
- Problems
- hung program 375
 - login 103
- proc** filesystem 169, 386, 434, 441, 442, 528
- Procedure 990
- Process
- a command line 192
 - background 267, 270, 958
 - child 267, 268, 270, 962
 - concurrent 258
 - defined 193, 267, 990
 - die 267, 270
 - first 381
 - foreground 971
 - fork 267, 268
 - ID, *see PID*
 - init** 381
 - kill 375
 - parent 267, 268, 987
 - parent of all 381
 - parent-child relationship 269
 - search for using **ps** and **grep** 376
 - sequential 258
 - sleep 193, 270

- spawn, *see fork*
- spontaneous 268
- start a 193
- structure 268
- wake up 193, 267, 270

procmail daemon 609**procmail** utility 145**profile** file 272, 273, 274, 283, 378, 389, 431

Program

see also Builtin

see also Utility

badtabs.c 824

defined 990

execution 271

keeping current 816

running a 89

stop 108

tabs.c 808

terminate 109

X Window System 219

Programmer, applications 836

Programmer, systems 836

Programming tools 805

Project Athena 217

PROM 990

Prompt

371

\$ 18

% 18

bash 284

defined 990

job control and 263

login 106, 388

PS2 895

PS3 882

representation 18

root 371

shell 107, 189

Superuser 371

Proprietary operating system 7

Protocol

connectionless 964

connection-oriented 333, 964

datagram-oriented 333

defined 331, 990

- DHCP 408
- HTTP 363
- HTTPS 363, 795
- ICMP 346
- IPP 485, 486
- IPSec 929, 948
- ISO model 332
- network 331
- NNTP 360
- point-to-point 555
- PPP 333, 555
- SLIP 333
- TCP/IP 331
- TELNET 357
- UDP 331
- protocols** file 432, 746
- Proxy**
 - defined 357, 990
 - gateway 357, 358, 990
 - server 357, 358, 991
- ps** filename extension 161
- ps** utility 206, 269, 291, 538, 542
- PS1** variable 284, 286
- PS2** variable 285, 895
- PS3** variable 882
- Pseudoterminal 426
- pstree** utility 269
- pts** file 426
- pub** directory 589
- Public key encryption 923
- Public License, GNU, *see* GNU, *General Public License*
- public_html** directory 770
- Public-key encryption, OpenSSH 563
- pushd** builtin 266
- putchar** C macro 809
- pwd** builtin 163, 164, 166, 893
- pwd** utility 182
- PXE 656
- Python 991

Q

- Qmail 633, 928
- qnx4** filesystem 441

- Qt 224
- Question mark 910
- Questions, finding answers to 361
- Quick substitution 301
- Quiescent 387
- quota** utility 545
- quotaon** utility 546
- Quotation mark
 - double 275, 289, 313, 852
 - single 118, 275, 867
 - single versus double 305, 316
 - usage message 862
- Quoting
 - characters 118, 256
 - defined 991
 - shell variables 275
 - special characters 276
 - whitespace 275

R

- Radio button 991
- RAID**
 - about 31, 449
 - backups, does not replace 524
 - defined 991
- RAM**
 - defined 991
 - disk 991
 - swap, and 435
- Random Access Memory, *see* RAM
- RAS** 934, 992
- Raw**
 - device 440
 - mode 440
- rbac** utility 938
- rc** file 381
- rc.d**
 - about 385
 - directory 432
 - init.d** directory 382, 383
 - init.d/kudzu** file 397
- rc.local** file 383
- rc.sysinit** file 381, 447
- RC5 encryption 925

- rcn.d** directory 382
- rcp utility 343
- RDF 992
- Read
 - access 173, 255
 - user input 280
- read builtin 246, 280, 871, 872, 877, 893
- read()** system call 834, 836
- Readline Library
 - about 295, 301
 - completion 302
- readnews utility 360
- readonly builtin 277, 279, 893
- Read-Only Memory, *see* ROM
- Readonly variable 274
- reboot utility 390
- Reboot, system 102
- Rebuilding Linux 507
- rec.skiing** newsgroup 360
- Recursion, infinite, alias 307
- Recursive plunge, *see* *Recursion, infinite, alias*
- Red Hat
 - Anaconda 27, 46
 - druid 969
 - Enterprise Linux versus Fedora Core 26
 - errata 461
 - installing
 - Anaconda 27, 46
 - BIOS setup 25
 - BitTorrent 38
 - boot commands 44
 - boot prompt 44
 - burning CDs 35
 - CDs, testing 47
 - CMOS setup 25
 - configuring the display 63
 - configuring the X Window System 63
 - Disk Druid 53
 - disk setup 54
 - disk space 25
 - display problems 44
 - download, burn, and install CD set 35
 - dual monitors 64
 - dual-boot system 61
 - explained 23
 - fdisk 58
 - Fedora Core versus Red Hat Enterprise Linux 26
 - firewall 50
 - floppy diskette 43
 - formatting 27
 - free space 28
 - how it works 32
 - install, type of 27
 - installation class 27
 - installation type 48
 - Kickstart 57
 - MD5SUM** file 38
 - memory test 45
 - network configuration 50
 - network installation 35
 - non-CD installations 44
 - partition 28
 - partition planning 29
 - planning 24
 - Red Hat Enterprise Linux versus Fedora Core 26
 - requirements 25
 - rescue CD 39
 - SATA adapters, disabling 44
 - SELinux 44
 - source 34
 - start 43
 - upgrade 48
 - upgrading versus installing 26
 - versus upgrading 26
 - virtual consoles 46
 - X Window System 62
 - X.org 62
 - XF86Config** file 63
 - XFree86 62
 - xorg.conf** file 63
- Kickstart 57
- Knowledgebase 915
- Network, *see* *RHN*
- Package Manager, *see* *RPM*
- rescue CD 39
- software, add 453
- upgrade, *see* *Red Hat, installing*

- redhat-config-bind utility 712
- redhat-config-date utility 394
- redhat-config-httpd utility 764
- redhat-config-keyboard utility 394
- redhat-config-kickstart utility 57
- redhat-config-language utility 394
- redhat-config-mouse utility 394
- redhat-config-netboot utility 395
- redhat-config-network utility 555
- redhat-config-network-cmd utility 395
- redhat-config-nfs utility 664
- redhat-config-packages utility 453
- redhat-config-printer utility 487
- redhat-config-proc utility 395
- redhat-config-rootpassword utility 395
- redhat-config-samba utility 679
- redhat-config-securitylevel utility 741, 751
- redhat-config-services utility 383
- redhat-config-soundcard utility 396
- redhat-config-users utility 521
- redhat-config-xfree86 utility 63
- redhat-logviewer utility 396, 541
- redhat-switch-mail utility 396
- Redirect
 - output 127
 - standard
 - error 260, 888, 892
 - input 198, 888
 - output 197, 262, 888
 - output and error 262
 - output of background job 206
 - output with tee 204
 - output, and append 200
- Redirection 13, 196, 992
- Redundant Array of Inexpensive Disks, *see* RAID
- Reentrant code 834, 992
- Reexecuting commands 295
- Refresh screen 142
- Regular character 992
- Regular expression
 - \(...\) bracket expression 908
 - about 903
 - ampersand 909, 912
 - asterisk 906
 - bracket 905
 - bracketing 908
 - caret 906
 - defined 992
 - delimiter 904
 - dollar sign 906
 - empty 908
 - extended 910
 - full 909
 - longest match 907
 - period 904
 - quoted digit 909
 - quoting parentheses 908
 - quoting special characters 907
 - replacement string 908
 - rules of use 907
 - simple string 904
 - special character 903, 904
 - special character, quoting 907
 - square bracket 962
 - summary 911
- reiserfs filesystem 441
- reject utility 498
- Relative pathname 163, 166, 193, 992
- release command (cvs) 842
- Release, CVS 837
- Religious statue, miniature, *see* Icon
- Remap mouse buttons 223
- Remote
 - access security 933
 - AccessServer, *see* RAS
 - computing and local displays 220
 - filesystem 324
 - login 104
 - Name Daemon Control, *see* DNS, *rndc*
 - procedure call, *see* RPC
- Remove
 - device using kudzu 397
 - directory using rmdir 170
 - file using rm 120
 - link using rm 182
 - software package 453, 457
 - user 523
 - variable 276
- remove command 841

1066 Index

Rename

- directory using mv 172
- file using mv 122, 171

Repair filesystem 393

Repeating a command 109

Replacement string 908, 909, 912

Reports, system 532

Request for Comments, *see* RFC

Rescue CD 39

Rescue mode 40, 377

reset utility 397

Resolution, changing the display 111

resolv.conf file 432, 555

Resolver 353, 432, 701, 993

Resource Description Framework, *see* RDF

Resource record, DNS 705

Respawn 429

Restore 993

restore utility 529

Return code, *see* *Exit*, *status*

RETURN key 18, 107, 192, 256

Reverse name resolution, DNS 708

rexecd daemon 356, 938

RFC 993

RFS 993

RHN

- about 467

- Alert Notification Tool 466

- database 467

- download and install new packages 463

- entitle 467

- rhnsd** daemon 469

- server 467

- subscribing to 467

- up2date utility 462

- up2date-config utility 463

rhn-applet-gui utility 466**rhnsd** daemon 468, 469**rhost** Authentication, OpenSSH 564

Right-handed mouse 223

Ring of trust 926

Ritchie, Dennis 8

rlogin utility 324**rlogind** daemon 933**rm** utility 120, 182, 437, 858**rmdir** utility 170**rmmod** utility 513**rmt/0** file 529**rn** utility 360**rndc** utility 719**rndc.conf** file 719**rndc.key** file 719

Roam 993

ROM 993

romfs filesystem 441

Root

- directory 158, 160, 168, 994

- domain, DNS 702

- filesystem 994

- login 371, 541, 994

- window 84

root user, *see* *Superuser*

Rotate file 543, 994

routed daemon 356

Router

- defined 994

- discussion 553

- network 327, 329, 331

- setting up with iptables 752

- SmoothWall Linux distribution 553

Routing daemon 356

RPC 358, 639, 994

rpc file 359, 433**rpcinfo** utility 401, 643

RPM

- about 455

- binary package 455

- database 457

- install 457

- install kernel binary 458

- noarch 456

- query file 456

- query package 456

- RPMS 455

- source package 455

- SRPMS 455

- uninstall 457

- upgrade 457

rpm filename extension 455**rpm** utility 461, 544

rquotad daemon 356
RSA encryption 924, 994
rsh utility 324, 343
rshd daemon 933
rtag command (cvs) 842
Run

- background command 204
- command script 432
- Command window, KDE 245
- defined 994
- program 390
- program window, GNOME 235
- shell script 270

Runlevel
2 388
3, *see Multiuser*
4 388
5 388
initdefault, and 381, 429
table of 381
ruptime utility 538

S

s filename extension 813
S/Key utility 933
safedit shell script 878
saint utility 938
Samba

- [homes] share 691
- about 675
- administration, *see Samba*, *swat*
- browser parameters 689
- browsing Linux shares from Windows 691
- communication parameters 690
- daemons 676
- defined 994
- global parameters 685
- home directories, sharing 691
- JumpStart, configuring a Samba server with
 - system-config-samba** 679
- Linux shares
 - accessing from Windows 691
 - setting up 680
- logging parameters 688

- make_smbcodepage** utility 676
- manual configuration 684
- mapping a share 691
- more information 677
- NBT 984
- net use** utility (Windows) 695
- net** utility 676
- net view** utility (Windows) 694
- NetBIOS 984
- nmbd** daemon 676, 694, 695
- nmblookup** utility 695, 696
- password 678
- ping** utility 694
- prerequisites 677
- printing from Windows 502
- printing to Windows 504
- redhat-config-samba** utility 679
- security parameters 686
- share 995
- share parameters 690
- shared directory 558
- SMB, defined 996
- smb.conf** file 684
- smbclient** utility 676, 692, 695
- smbd** daemon 676, 694
- smbmount** utility 693
- smbpasswd** file 678
- smbstatus** utility 676, 694
- smbtree** utility 676, 692
- smbusers** file 678
- suite of programs 676
- swat** utility 681
- system-config-samba** utility 679
- testparm** utility 694
- testprns** utility 676, 694
- troubleshooting 694
- user
 - adding 679
 - map 678
 - name 678
 - nobody** 680
- utilities 676
- versions 675
- Web Administration Tool, *see swat*

Samba *continued*

Windows

- networks, browsing 693
- share 995
- shares from Linux, accessing 692
- shares, connecting to 692
- shares, displaying 692
- shares, mounting 693

WINS, defined 1005

xinetd daemon 681**samhain** utility 931, 939**sara** utility 939**sbin** directory 169, 371

Scheduling

- jobs 9
- routine tasks 531

Schema 995

sci.med newsgroup 360**scp** utility 324, 439, 567, 572**scp**, *see also* **OpenSSH**

Screen, login 102

Screen, refresh 142

script utility 129

Script, init 432

Scroll 995

Scrollbar 995

Search

engine

- database 364
- defined 364
- find a 364
- index 364
- Web crawler 364

keyword using **apropos** 137

path 135

string using **grep** 123tool, **GNOME** 232using **kfind** 239Secondary server, **DNS** 704Secret key encryption, *see* **Symmetric key encryption****secure** file 417, 914Secure Socket Layer, *see* **SSL****securenets** file 647**securetty** file 373**Security**encryption, *see also* **Encryption**

access permission 173, 174

accton utility 932**ACL** 951, 955**AIDE** utility 379, 931, 937**ANI** 934**Apache** security directives 786**Argus** utility 937

authentication 957

automatic number identification 934

back door 958

BIND, *see* **Security**, **DNS****BIOS** 541**Bugtraq** 932

caller ID 934

CERT 540, 932, 937

checksum 962

chkrootkit utility 937**chroot** jail, *see* **chroot** jail

cipher 963

ciphertext 922, 963

cleartext 963

CLID 934

cookie 965

cops utility 540, 937**crack** utility 540

cracker 965

cryptography 965

cypher 963

DDoS attack 966

digital signature 923

DNS 700, 724**DoS** attack 968**DragonSquire** IDS 931**dsniff** utility 937Enhanced Linux, *see* **SELinux****ethereal** utility 937**Fedora** 932

file 927

finger utility 342

firewall 331

Firewall toolkit 937

Freefire solutions 937

FTP 590, 595

- fwtk utility 937
- GIAC certification and training 937
- hole 461
- host 931
- host based trust 343
- host, trusted 343
- hosts.equiv** file 343
- hping utility 937
- in.rexecd** daemon 356
- Internet, **root** access 373
- IP spoofing 343
- IPng 340
- IPSec 929, 948
- IPv6 340
- John the Ripper utility 937
- keep the system secure 540
- Kerberos 938, 979
- kill 375
- klaxon utility 938
- L6 utility 938
- lids utility 938
- Linux features 12
- locktty** script 872
- logdaemon replacement daemons 938
- login account 344
- login shell 431
- login, about 932
- mail 927
- mailing list
 - bugtraq 937
 - netsys 938
- mason utility 938
- messages 436
- more information 936
- MTA 928
- MUA 928
- nessus utility 938
- netcat utility 938
- network
 - about 928
 - guidelines 930
 - solutions 929
- NFS 657
- nmap utility 938
- one-time password 933
- OpenSSH, *see* **OpenSSH**
- OPIE utility 933, 938
- PAM 389, 933
- partition 30
- password 105, 371, 431
- patch 461
- PATH** and Superuser 374
- PATH** variable 284
- person in the middle 926, 929
- physical 935
- plaintext 922
- priv utility 372
- RAS 934
- rbac utility 938
- remote access 933
- resources 936
- ring of trust 926
- rlogind** daemon 933
- root** access, Internet 373
- RSA 994
- rshd** daemon 933
- saint utility 938
- samhain utility 931, 939
- sara utility 939
- SecurityFocus tools and lists 939
- senry utility 939
- setgid 175
- setuid 175, 176, 372, 541
- sfingerd** daemon 939
- shadow** file 433
- skey utility 939
- smart card 933
- snort utility 939
- software, up-to-date 460
- spoofing 343
- srp utility 939
- ssh, *see* **ssh**
- SSL 928
- STARTTLS 633, 928
- su utility 374
- sudo utility 372, 939
- Superuser and **PATH** 374
- Superuser password 540
- swatch utility 939
- syslogd** daemon 932

1070 Index

Security *continued*

- TCP wrappers 404
- tcp_wrappers utility 939
- tct utility 940
- telnet 345
- telnetd daemon 933
- titan utility 940
- tklogger utility 940
- TLS 928
- Treachery, tools 940
- tripwire utility 931, 940
- Trojan horse 378, 1002
- trust 343
- trusted host 343
- up-to-date software 460
- virtual private network 324
- virus 934, 1004
- VPN 324
- vsftpd 600
- worm 934, 1004, 1006
- xhost 222
- xinetd daemon, *see* xinetd daemon
- security directory 416, 419
- SecurityFocus, security tools and lists 939
- sed utility 543
- Seed, BitTorrent 478
- Segment, network 985
- select control structure 881
- Selection buffer 84
- Self-signed certificate 632, 796
- SELinux 379
- selinux file 380
- sendmail daemon 357, 609, 610, 613, 616, 928
- sendmail utility 357, 427
- sendmail, masquerade 982
- sendmail, *see also* Mail
- sendmail.cf file 617
- sendmail.mc file 612, 617
- sentry utility 939
- Separating commands 256
- Sequential processes 258
- Server
 - defined 995
 - DNS
 - cache 717
 - full-functioned 725
 - master 704
 - primary master 704
 - secondary 704
 - slave 729
 - split horizon 730
 - types of 704
 - file 655
 - FTP 594
 - mail list 343, 917
 - Message Block Protocol, *see* Samba
 - name 352, 353
 - process 351
 - proxy 357
 - setting up 399, 557
 - vsftpd 594
 - X 219
- service utility 383
- Service, directory 968
- Services
 - daemons providing 354
 - Internet 359
 - network 354
 - nsswitch.conf file 413
- services database 989
- services file 354, 359, 433
- Session
 - defined 113, 995
 - failsafe 970
 - key, OpenSSH 566
 - manager 112, 113
- set builtin 279, 289, 290, 861, 863, 864, 893
- Set group ID, *see* Setgid
- Set user ID, *see* Setuid
- Setgid
 - about 175
 - defined 995
 - root, files belonging to the group 175, 372
- setserial utility 397
- Setuid
 - about 175, 372
 - at 372
 - crontab 372
 - defined 995
 - finding files using find 378

- grant privileges 372
- mount 443, 659
- NFS 659
- nosuid** option to mount 443, 659
- root**, files owned by 175, 372
- security 541
- Sexillion 995
- sfingerd** daemon 939
- sftp utility 573
- sh defined 960
- sh** filename extension 819
- sh Shell 252
- Shade-hover mode 84
- Shading, window 83
- shadow** file 388, 433
- shar** shell script 883
- Share 995
- share** directory 169
- Shared
 - library, creating 816
 - library, using 813
 - network topology 995
 - object, filename extension 813
- Shares, adding Linux (Samba) 680
- Sharing an Internet connection 752
- Shell 315
 - see also* bash
 - about 189
 - archive 883
 - arithmetic expansion 313
 - brace expansion 309
 - calling program, name of 287
 - command
 - grouping 256, 259
 - interpreter 87
 - separation 256
 - substitution 312, 863, 869, 880
 - comment 862
 - control structure
 - break** 874
 - case** 874
 - continue** 874
 - do** 864, 866, 868, 872
 - done** 864, 866, 868, 872
 - elif** 858
 - else** 856
 - esac** 874
 - fi** 852, 858
 - for** 864, 866, 892
 - for...in** 864, 866
 - if** 852, 856, 858
 - if...then** 852
 - if...then...elif** 858
 - if...then...else** 856
 - in** 864
 - then** 852, 856, 858
 - until** 872
 - while** 868, 891
 - defined 995
 - environment variable 274, 277
 - exit from 265
 - filename expansion 316
 - function 894, 996
 - job control 262
 - keyword, variable 274
 - login 268, 389, 431, 981
 - name of the calling program 287
 - order of expansion 309
 - parameter
 - about 273
 - expansion 311
 - positional 274
 - special 275
 - prompt 18, 107, 189, 284
 - quotation marks, double 313
 - readonly variable 274
 - script, *see* **Shell script**
 - sh 252
 - sleep 193
 - tilde expansion 311
 - user-created variable 274
 - variable, *see* **Shell variable**
 - word splitting 314
- Shell script
 - #** comment 272
 - #!** shell to use 271
 - /dev/tty** for a terminal 889
 - about 251, 254
 - addbanner** 891
 - birthday** 882

Shell script *continued*

- bundle** 883
 - chkargs** 854, 856
 - command_menu** 877
 - comment** 272
 - configure** 459
 - count** 869
 - cpdir** 260
 - create** 254
 - debug** 864
 - defined** 996
 - double quotation marks** 280, 289
 - error message** 863, 880
 - executing** 254, 270
 - here document** 882
 - infinite loop** 891
 - invocation** 270, 271
 - is_regfile** 855
 - lnks** 860
 - locktty** 872, 873
 - menu** 877
 - out** 857
 - PATH** usage 880
 - quote in** 289, 852, 862, 867
 - read user input** 280
 - running a** 270, 271
 - safedit** 878
 - shar** 883
 - specifying a shell** 271
 - spell_check** 869, 870
 - temporary filename** 292, 880
 - usage message** 862, 880
 - user input** 280
 - whos** 867
 - whoson** 254
- SHELL** variable 389
- Shell variable
- !** 292
 - #** 291, 878
 - \$** 291, 880
 - *** 291
 - ?** 292
 - @** 291, 866, 867
 - \$** 287
 - BASH_ENV** 273
 - CDPATH** 285
 - COLUMNS** 881
 - CVSROOT** 838
 - DISPLAY** 220
 - ENV** 273
 - expansion** 312
 - FCEDIT** 297
 - HISTFILESIZE** 294
 - HISTSIZE** 294
 - HOME** 274, 282, 389, 892
 - IFS** 314
 - INPUTRC** 303
 - isolation** 310
 - keyword** 282
 - LD_LIBRARY_PATH** 815, 816
 - LD_RUN_PATH** 815
 - LINES** 881
 - LOGNAME** 389
 - MAIL** 284, 389
 - MAILCHECK** 284
 - MAILPATH** 284
 - naming** 273
 - NICNAMESEVER** 349
 - noclobber** 199, 262
 - PATH**
 - about** 283
 - example** 878
 - keyword shell variable** 274
 - login** 389
 - root** 371
 - security** 378
 - PS1** 284, 286
 - PS2** 285, 895
 - PS3** 882
 - quoting** 275
 - readonly** 274
 - SHELL** 389
 - summary** 318
 - TERM** 104, 389, 425
 - WHOISSEVER** 349
 - shells** file 396
 - shift builtin** 288, 893
 - Shortcut, Konqueror** 242
 - Shortcut, *see* *Link***
 - showmount utility** 669

- Shutdown system 102
- shutdown utility 390, 435
- Side pane, Nautilus 228
- Signal
 - defined 889, 996
 - hang up 890
 - HUP 539
 - KILL 539, 890
 - list of 889
 - quit 890
 - software termination 890
 - TERM 109
 - terminal interrupt 890
- Signature, digital 923
- Silicon Graphics 363
- Simple filename 163, 166, 193, 996
- Single quotation mark 118, 867
- Single-user
 - about 387
 - from multiuser 392
 - maintenance 387
 - mode, bash 251
 - Superuser 372
 - system 996
- Size of file, display using ls 173
- skel directory 523
- skey utility 939
- Skip to top of page 151
- Slave server, DNS 704, 729
- sleep system call 270
- Sleep, shell 193
- Slice, *see Partition*
- SLIP protocol 333
- slocate database 53, 135, 232
- slocate utility 53, 135, 232
- Sloppy focus 110
- Slow system 538
- Smart card 933
- SMB, *see Samba*
- smb.conf file 684
- smbclient utility 676, 692, 695
- smbd daemon 357, 676, 694
- smbfs filesystem 441
- smbmount utility 693
- smbpasswd file 678
- smbstatus utility 676, 694
- smbtree utility 676, 692
- smbusers file 678
- Smiley 996
- Smilies, *plural of smiley*
- SmoothWall, Linux router distribution 553
- SMTP 609, 996
- Snap, window 996
- SNAT 753
- Sneakernet 996
- Sniff 997
- snort utility 939
- so filename extension 811, 813
- SOA record, DNS 706
- soc.singles newsgroup 360
- Socket
 - about 439
 - UNIX domain 437
- SOCKS 997
- Soft link, *see Symbolic, link*
- Software
 - add 453
 - bug 461
 - free, definition 943
 - installing 453
 - keep up-to-date 460
 - package
 - add 457
 - defined 453
 - information 456
 - remove 457
 - termination signal 890
 - upgrading 453
- sort utility 13, 125, 199, 203, 204, 971
- Sort, defined 997
- Source code management 836
- Source repository 838
- SPACE 118, 997
- Spam
 - defined 997
 - SpamAssassin 622
 - whois and 348
- spamd daemon 622
- Sparse file 997
- Spawn, *see Fork*

Special

character 997

* 208

? 207

[] 209

defined 118, 207

filename generation 207

Here document 883

pathname expansion 207

quoting 275, 276

regular expressions 903

standard input 883

summary 319

file

about 437

block 438

character 438

device file 967

parameters, shell 275, 291

pathname 171

Speed, Internet 325

spell_check shell script 869, 870

Spinner 997

splint utility 826

Split horizon server, DNS 730

Splitting, word 314

Spontaneous process 268

Spoofing, IP 978

spool directory 543, 914

Spool, defined 997

SQL 998

Square bracket

defined 998

test 855

SquirrelMail 626

src directory 169, 508**srp** utility 939**ssh** directory 565**ssh** utility 104, 324, 355, 439, 556, 564, 567,
570, 933, 939**ssh**, *see also* *OpenSSH***ssh_config** file 573**ssh_known_hosts** file 565, 568, 569**sshd** daemon 355, 357**sshd_config** file 577**ssh-keygen** utility 576

SSL

Apache 795

SSL, mail 632

SSL, security 928

st0 file 530

Stack

directory, manipulation 265

FILO 265

PAM 419

Stallman, Richard 2

Stand-alone computer 323

Standard

directories and files 167

error

defined 195, 998

error message 886

example 863

exec 888

file descriptor 260

redirect 260

shell script 862

trap 892

input

defined 194, 998

exec 888

file descriptor 260

pipe (l) 257

redirect 198

special character 883

output

append 200

defined 194, 998

exec 888

file descriptor 260

pipe (l) 257

redirect 197, 204

Standards

FHS 168

Free Standards Group 168

FSG 168

FSSTND 167

Linux Filesystem Hierarchy Standard 168

Linux Standard Base 168

LSB 168

OpenPGP Message Format 927

- Start Here, GNOME 231
- STARTTLS, security 633, 928
- Startup file
 - .bash_login** 273
 - .bash_logout** 273
 - .bash_profile** 273, 425
 - .bashrc** 171, 273, 426
 - .cshrc** 966
 - .login** 981
 - .logout** 981
 - .profile** 273, 425, 990
 - .toprc** 535
 - /etc
 - bashrc** 389
 - profile** 389, 431
 - about 164
 - bash 272
 - check for problems 537
 - defined 998
- startx utility 107, 220
- stat()** system call 836
- statd** daemon 356
- Static IP address 334
- Statically linked library 814
- Status
 - exit 970
 - line, defined 998
- stdio.h** C header file 809
- Sticky bit 998
- Stop a job 205
- Stop a program 108
- strace utility 834
- Streaming tape 998
- Streams, *see Connection-oriented protocol*
- String
 - defined 999
 - double quotation marks 275
 - finding with **grep** 123
- Stroustrup, Bjarne 9
- Structure, data 966
- Structured Query Language, *see SQL*
- stty utility 425, 873
- Stylesheet, *see CSS*
- su utility 372, 373, 374, 541
- Subdirectory 157, 999
- Subdomain 702
- Subnet
 - about 337
 - address 999
 - defined 337, 999
 - mask 337, 999
 - number 999
 - specifying 400
- Subpixel hinting 999
- Subroutine, *see Procedure*
- Subshell 259, 270, 999
- Substitution
 - command 281, 312
 - parameter 275
- sudo utility 372, 939
- sudoers** file 372
- sulogin utility 386
- Sun Microsystems 339, 637, 655
- Superblock 999
- Supercomputers 8
- Superserver daemon, *see xinetd* daemon
- Superuser
 - about 75
 - becoming 371
 - defined 371, 999
 - explained 75
 - multiuser mode 372
 - password 540
 - password, changing a user's 106
 - PATH** variable 371
 - PATH**, and security 374
 - powers 175
 - privileges 371
 - prompt 371
 - setuid 372
 - single-user mode 372
 - su utility 372
 - sudo utility 372, 939
- Suspend key 108, 109, 152, 205, 264, 890
- SVID, *see System, V Interface Definition*
- Swap
 - defined 435, 1000
 - filesystem 29, 435
 - space 1000

- swapon utility 435
- swat utility 681
- swatch utility 939
- Switch, *see Network, switch*
- switchdesk utility 106
- Switching hub 327, 552
- sylpheed utility 144
- Symbol table 829
- Symbolic
 - constant 808
 - debugger 828
 - hostname 354
 - link 437
 - about 180
 - creating using ln 181
 - defined 980, 1000
 - deleting using rm 182
- symlink, *see Symbolic, link*
- Symmetric key encryption 924
- synaptic utility 477
- sync utility 391
- Syntax, command line 190
- sys file 508
- sysconfig
 - about 434
 - hwconf file 397
 - rhn
 - up2date file 462
- sysctl utility 507, 508
- sysctl.conf file 507
- syslog utility 357
- syslog.conf file 357, 546
- syslogd daemon 170, 357, 542, 546, 932
- System
 - administration
 - at utility 531
 - back up files 529
 - bug 461
 - chkconfig utility 385
 - client, specifying 399
 - communicate with users 535
 - configuration file rules 399
 - consolehelper utility 375, 391
 - crontab utility 531
 - disable utility 498
 - dmesg utility 382, 396
 - dump utility 529
 - e2label utility 396
 - edquota utility 546
 - emergency mode 386
 - enable utility 498
 - exportfs utility 392
 - fdisk utility 58
 - file
 - backup 524
 - growing 542
 - filesystem
 - integrity 447
 - mount remote 658
 - filesystem repair 393
 - free space, disk 542
 - fsck utility 393, 447
 - gdmsetup utility 71
 - group, add 523
 - groupadd utility 523
 - groupdel utility 524
 - groupmod utility 524
 - halt utility 390, 391, 392
 - host, specifying 399
 - hosts.allow file 402
 - hosts.deny file 402
 - init scripts 381
 - init utility 388, 390
 - KDE 92
 - Kickstart utility 57
 - kill builtin 374, 376
 - killall utility 377
 - kudzu utility 397
 - log in problem 537
 - log, machine 539
 - logs, display 396
 - logwatch utility 541
 - lpadmin utility 496
 - lpinfo utility 495
 - ls of utility 539
 - memtest86 utility 45
 - mkfs utility 397
 - more information 379
 - mount remote filesystem 658
 - mount utility 387, 392

- mouse, configure 394
- multiuser mode 387
- multiuser/graphics mode 388
- password, modify 523
- pidof utility 377
- poweroff utility 390
- printconf-gui utility 487
- problems 537
- ps utility 538, 542
- quota utility 545
- quotaon utility 546
- reboot utility 390
- reject utility 498
- reports 532
- rescue mode 377
- restore utility 529
- rhn-applet-gui utility 466
- rpcinfo utility 401
- rpm utility 455
- runlevels 381
- schedule tasks 531
- SELinux 379
- service utility 383
- setuid files, finding 378
- shutdown utility 390
- single-user 392
- single-user mode 387
- slow system 538
- su utility 373
- subnet, specifying 400
- sulogin utility 386
- synaptic utility 477
- sync utility 391
- syslogd daemon 546
- system does not boot 393
- telinit utility 392
- tools 371
- top utility 534
- Trojan horse 378
- trouble alias 539
- tune2fs utility 397, 447
- umask builtin 398
- umount utility 392, 445
- uname utility 398
- up2date utility 462, 463
- up2date-config utility 463
- user
 - add 522, 523
 - cannot log in 537
 - getting information to 535
 - modify 522, 523
 - remove 523
- useradd utility 523
- userdel utility 523
- usermod utility 523
- vmstat utility 533
- wall utility 392
- wget utility 481
- xinetd daemon 403
- administrator
 - about 75
 - defined 1000
 - powers 175, 371
 - responsibilities 369
 - Superuser 175
- boot 381
- bring down 390
- bring up 381
- bug 461
- call
 - about 805, 834
 - bad, trapping 889
 - C, from 805
 - chmod() 836
 - chown() 836
 - close() 836
 - creat() 836
 - defined 9, 834
 - device, raw 440
 - exec 270, 835
 - exec() 835
 - exit() 835
 - filesystem operations 835
 - fork 270
 - fork() 268, 835
 - gethostbyname() 710
 - getpid() 835
 - kill() 835
 - lseek() 836
 - manual section 96

System, call *continued*

- nice()** 835
- open()** 836
- process control 835
- read()** 834, 836
- sleep** 270
- stat()** 836
- tracing with **strace** 834
- unlink()** 836
- wait()** 835
- write()** 834, 836
- console 104, 387, 1000
- crash 392
- dataless 657, 966
- diskless 656
- does not boot 393
- emergency mode 386
- error messages 436
- initialization, customize 382
- logging in 76
- logs 546
- maintenance 387
- messages 436, 546
- mode 1000
- operation 380
- powering down 392
- programmer 836
- reboot 102, 391
- redhat-config-nfs utility 664
- reports 532
- rescue mode 40
- security 540
- shutdown 102, 390
- single-user 996
- system-config-nfs utility 664
- V Interface Definition 8
- V UNIX 1000
- well-maintained 369

system services database 976

- system-config-bind utility 712
- system-config-boot utility 394
- system-config-date utility 394
- system-config-display utility 63
- system-config-httpd utility 764
- system-config-keyboard utility 394

- system-config-kickstart utility 57
- system-config-language utility 394
- system-config-network utility 555
- system-config-network-cmd utility 395
- system-config-nfs utility 664
- system-config-packages utility 453
- system-config-printer utility 487
- system-config-proc utility 395
- system-config-rootpassword utility 395
- system-config-samba utility 679
- system-config-securitylevel utility 380, 741, 751
- system-config-services utility 383
- system-config-soundcard utility 396
- system-config-users utility 521
- system-logviewer utility 396
- system-switch-mail utility 396
- sysv filesystem 441

T

- T-1 line 326
- T-3 line 326
- TAB key 118
- Table, hash 974
- tabs.c** program 808
- tail** utility 125, 206
- talk** utility 142, 342, 357, 535
- talk.politics** newsgroup 360
- talkd** daemon 357
- Tanenbaum, Andrew 4, 441
- Tape
 - archive, *see* **tar** utility
 - device 529, 530
 - mt** utility 531
 - nonrewinding 530
 - streaming 998
- tar** file 133
- tar** utility 133, 134, 259, 526, 528
- tar.bz2** filename extension 161
- tar.gz** filename extension 134, 161
- tar.Z** filename extension 161
- Target file, make 816
- taskbar, KDE 80
- tbz2** filename extension 161
- TC Shell 1000

- Tcl/Tk 222
- TCP wrappers 404
- TCP, defined 1000
- TCP/IP 331, 358
- tcp_wrappers utility 939
- tcsh, defined 1000
- tct utility 940
- Tear-away bar, Nautilus 229
- tee utility 204
- Teletypewriter 1002
- telinit utility 388, 392
- telnet utility 104, 324, 344, 345, 928
- telnetd daemon 357, 933, 938
- Temporary file 880
- Tera- 1000
- TERM signal 109
- TERM variable 104, 389, 425
- Termcap 920
- termcap file 1001
- Terminal
 - ASCII 957
 - character-based 962
 - console 964
 - defined 1001
 - emulator
 - GNOME 86, 236
 - KDE 86, 244
 - telnet 104
 - failsafe 102
 - file 195
 - interrupt signal 890
 - name
 - ansi 920
 - linux 920
 - vt100 425, 920
 - vt102 920
 - vt220 920
 - xterm 920
 - pseudo 426
 - Server Project, Linux 656
 - specifying 920
 - standard input 195
 - standard output 195
 - X 1006
- Terminate a program 109
- Terminfo 920
- terminfo database 146
- terminfo directory 1001
- test builtin 291, 852, 853, 854, 855, 858, 863, 866, 869, 893
- test utility 854
- testparm utility 694
- testprns utility 676, 694
- Text
 - box 1001
 - echo 128
 - editor, vim 145
 - file 145
- tftp utility 656
- tftpd daemon 357
- tgz filename extension 134, 161
- Theme, defined 1001
- Theme, desktop 78, 92
- then control structure 852, 856, 858
- Thicknet 327, 1001
- Thinnet 327, 1001
- Thompson, Ken 8, 958
- Thread
 - about 833
 - reentrant code 834
 - safe, *see Reentrant code*
- Three-finger salute 391
- Thumb 1001
- tiff filename extension 1001
- Tilde expansion 166, 171, 311
- Tiled windows 1001
- time builtin 893
- Time to live, *see TTL*
- timed daemon 357
- tin utility 360
- titan utility 940
- Titlebar 82
- tkcvs utility 837, 845
- tklogger utility 940
- TLS, security 928
- tmp directory 543, 880
- Toggle 1001
- Token 308
- Token ring network 1002

1080 Index

Toolbar

- defined 83
- Extra, Konqueror 239
- illustration 89
- Konqueror 90, 239
- Nautilus 229

Tooltip 79, 1002

Top of form 151

top utility 534, 538

torrent filename extension 478

Torrent, BitTorrent 478

Torvalds, Linus 1, 2, 3, 6, 979

touch utility 820

tput builtin 873

tr utility 130, 202, 261

traceroute utility 347

Tracker, BitTorrent 478

Transactions signatures, DNS, *see* DNS, TSIG

Transfer rate, network 327

Transient window 1002

Transmission Control Protocol, *see* TCPTransmission Control Protocol/Internet Protocol, *see* TCP/IPTransport Layer Security, *see* TLS

trap builtin 873, 889, 893

Treachery, security tools 940

Tree structure 157

tripwire utility 931, 940

Trojan horse 378, 815, 1002

Trolltech 224

Troubleshooting, DNS 724

true utility 891

Trusted host 343

tset utility 397

TTL, defined 1002

TTL, DNS 707

tty file 889

tty utility 195

TTY, *see* Teletypewriter

tune2fs utility 397, 447

Tunneling, defined 1002

Tunneling, OpenSSH 579

Tutorial

FTP 586

Using vim to create and edit a file 145

Twisted pair cable 327

txt filename extension 209**type** builtin 893

Type of file, display using ls 173

Typeface conventions 18

typescript file 129**typeset***see also* declare

builtin 278, 279

Typo, correcting 107

U

U.S. Library of Congress 345

UCE, *see* Spam

UDP 331, 1003

UDP/IP 358

ufs filesystem 441

ufsdump utility 427

UID

defined 1003

effective 969

passwd file, in 431

ulimit builtin 828

umask builtin 389, 398, 432, 893

umount utility 392, 430, 445, 660

umsdos filesystem 441

unalias builtin 308

uname utility 398

uncompress utility 161

Undecillion 1003

Undeclared variable 278

Unicast packet 334

Unicast packet, defined 1003

Unicast vs. broadcast 334

uniq utility 126

Unique filename 292, 880

University of Illinois 362

UNIX

domain socket 437

philosophy 341

printing, traditional 492

System V 5, 1000

System V Interface Definition, *see* System, V
Interface Definition

- unix2dos utility 590
- unlink()** system call 836
- Unlock view, Konqueror 242
- Unmanaged window 1003
- Unmount a busy filesystem 445
- Unpack archive file with tar 133
- unset builtin 253, 277, 893, 894
- Unshielded twisted pair, *see* UTP
- until** control structure 872
- unzip utility 132
- up2date utility 462, 463
- up2date-config utility 463
- update** command (cvs) 840
- updatedb utility 53, 232
- Upgrade, *see* Red Hat, installing
- Upgrading software 453
- ups utility 828, 833
- uptime utility 141
- Uptime, display using w 140
- URI 1003
- URL 363, 1003
- Usage message 190, 856, 862, 880, 1003
- Usenet 359, 363
- User
 - accounts, manage 521
 - add 522, 523
 - authentication 389
 - cannot log in 537
 - communication, network 341
 - created variable 274, 275
 - Datagram Protocol, *see* UDP
 - finger 138
 - ID, *see* UID
 - interface 977, 1003
 - map, Samba 678
 - mode 1003
 - modify 522, 523
 - name, Samba 678
 - nfsnobody** 668
 - nobody**, Samba 680
 - private groups 428
 - remove 523
 - root**, *see* Superuser
 - Samba 679
 - w 140
 - who 138

- useradd utility 523
- userdel utility 523
- usermod utility 523
- Userspace 1003
- usr** partition 30
- UTC 1004
- Utility
 - accept 498
 - accton 932
 - adduser 523
 - afterstep 112
 - AIDE 379, 931, 937
 - amanda 526
 - Anaconda 27
 - anacron 531
 - apm 392
 - apropos 52, 95, 137, 914
 - Apt, *see* Apt
 - Argus 937
 - aspell 869
 - at 355, 427, 531
 - automount 671
 - basename 879, 880, 891
 - bison 16
 - BitTorrent, *see* BitTorrent
 - builtin, versus 854
 - bunzip2 133, 135
 - bzcat 133
 - bzip2 133, 135, 528
 - bzip2recover 133
 - cancel 492
 - cat 119, 195, 197, 199, 260, 858
 - chkconfig 385
 - chkrootkit 937
 - chmod 174, 255
 - chsh 396
 - clear 396
 - compress 132, 161
 - configure 16
 - consolehelper 375, 391
 - cops 540, 937
 - cp 121, 172, 260
 - cpio 527, 528
 - crack 540

1082 Index

Utility *continued*

cron 53, 355, 427, 532
crontab 531
cut 313
cvs 837, 837
date 128, 200
ddd 828, 833
defined 1004
depmod 513
df 657
dhclient 410
diff 126, 570
dig 348, 710, 712, 725
disable 498
dmesg 382, 396, 517
dos2unix 590
DragonSquire 931
dsniff 937
dump 529
e2label 396
edquota 546
egrep 909
emacs 144
enable 498
ethereal 937
Evolution 79, 144
exmh 144
exportfs 392, 670
expr 869
fdformat 444
fdisk 58
file 127, 436, 543
find 232, 379, 543, 863
finding using whereis 135
finding using which 135
finger 138, 341, 355, 867
flex 16
fsck 393, 440, 447, 542
ftp 324, 431, 584, 590
fuser 445
fvwm2 112
fwtk 937
g++ 9
gaim 82
gawk 867
gcc 9, 810
gcc (GNU) 826
gdb 828
gdm 390
gdm (GNOME) 70
gdmsetup 71
getty 268
ghostscript 230
gnome-font-properties 233
gnome-lokkit 751
gnome-search-tool 232
gnome-terminal 236
gopher 362
gprof 16
grep 123, 199, 203, 867, 871, 883, 961, 971
groupadd 523
groupdel 524
groupmod 524
grub 507, 514
gs 230
gunzip 132, 134
gwm 112
gzip 131
halt 390, 391, 392
head 124
host 348, 710
hostname 120, 341
hping 937
id 374
info 97, 915
init 268, 381, 388, 390, 391, 429
initlog 381
insmod 513
ipchains 738
iptables 737
iptables-restore 750
iptables-save 750
iwconfig 557
John the Ripper 937
kcolorchooser 244
kcron 532
kdbg 828
kdm (KDE) 71
kerberos 933, 938
kfind 239

Kickstart 57
killall 377
klaxon 938
klipper 84, 246
konsole 244
kudzu 397, 554
L6 938
ld 814
ldd 814
ld-linux.so 814
less 95, 120, 204, 257, 858
lids 938
lilo 507, 513, 516
links 364, 463
lint 826
ln 178, 181, 437
locate 135
lock 872
login 268, 388
logrotate 543
logwatch 541
lp 492
lpadmin 496
lpinfo 495
lpq 123, 492
lpr 122, 199, 203, 205, 492
lprm 123, 492
lpstat 492
ls 119, 162, 173, 176, 180, 208, 255
lsmod 513
lsof 539
lynx 364
mail 144, 541
mailq 616
mailstats 616
make 134, 816, 821
make_smbcodepage 676
makedbm 648
makemap 616, 617
makewhatis 53, 137
man 14, 94, 98
mason 938
mcopy 130
memtest86 45
mesg 144
mingetty 268, 388, 429
mkdir 162, 166, 167, 658
mkfifo 438
mkfs 28, 61, 397, 444, 542
mkswap 435
modinfo 513
modprobe 513
more 120, 858
mount 387, 392, 430, 442, 443, 659
mt 531
Mtools 130
mv 122, 171, 437
mxgdb 828, 833
names, typeface 17
nawk 867
nessus 938
net 676
net use (Windows) 695
net view (Windows) 694
netcat 938
netstat 336
network 324, 343
newaliases 615
nisdomainname 641
nmap 938
nmblookup 695, 696
nn 360
nologin 431
nslookup 348
od 426
OPIE 933, 938
option 190
passwd 371, 372, 433, 643
pico 297
pidof 377
ping 346, 397, 432, 694
portmap 658, 671
poweroff 390
praliases 615
printconf-gui 487
printmgr 501
procmail 145
ps 206, 269, 291, 538, 542
pstree 269
pwd 182

Utility *continued*

qmail 928
quota 545
quotaon 546
rbac 938
rcp 343
readnews 360
reboot 390
redhat-config-bind 712
redhat-config-date 394
redhat-config-httpd 764
redhat-config-keyboard 394
redhat-config-kickstart 57
redhat-config-language 394
redhat-config-mouse 394
redhat-config-netboot 395
redhat-config-network 555
redhat-config-network-cmd 395
redhat-config-nfs 664
redhat-config-packages 453
redhat-config-printer 487
redhat-config-proc 395
redhat-config-rootpassword 395
redhat-config-samba 679
redhat-config-securitylevel 741, 751
redhat-config-services 383
redhat-config-soundcard 396
redhat-config-users 521
redhat-config-xfree86 63
redhat-logviewer 396, 541
redhat-switch-mail 396
reject 498
reset 397
restore 529
rhn-applet-gui 466
rlogin 324
rm 120, 182, 437, 858
rmdir 170
rmmod 513
rn 360
rndc 719
rpcinfo 401, 643
rpm 461, 544
rsh 324, 343
ruptime 538
S/Key 933
saint 938
samhain 931, 939
sara 939
scp 324, 439, 567, 572
scp, *see* OpenSSH
script 129
sed 543
sendmail 357, 427
sentry 939
service 383
setserial 397
sftp 573
showmount 669
shutdown 390, 435
skey 939
slocate 53, 135, 232
smbclient 676, 692, 695
smbmount 693
smbstatus 676, 694
smbtree 676, 692
snort 939
sort 13, 125, 199, 203, 204, 971
splint 826
srp 939
ssh 104, 324, 355, 439, 556, 564, 567, 570, 933, 939
ssh, *see* OpenSSH
ssh-keygen 576
startx 107, 220
strace 834
stty 425, 873
su 372, 373, 374, 541
sudo 372, 939
sulogin 386
swapon 435
swat 681
swatch 939
switchdesk 106
sylpheed 144
synaptic 477
sync 391
sysctl 507, 508
syslog 357
system-config-bind 712

system-config-boot 394
system-config-date 394
system-config-display 63
system-config-httpd 764
system-config-keyboard 394
system-config-kickstart 57
system-config-language 394
system-config-network 555
system-config-network-cmd 395
system-config-nfs 664
system-config-packages 453
system-config-printer 487
system-config-proc 395
system-config-rootpassword 395
system-config-samba 679
system-config-securitylevel 380, 741, 751
system-config-services 383
system-config-soundcard 396
system-config-users 521
system-logviewer 396
system-switch-mail 396
tail 125, 206
talk 142, 342, 357, 535
tar 133, 134, 259, 526, 528
tcp_wrappers 939
tct 940
tee 204
telinit 388, 392
telnet 104, 324, 344, 345, 928
test 291, 852, 854, 858, 863, 893
testparm 694
testprns 676, 694
tftp 656
tin 360
titan 940
tkcvs 837, 845
tklogger 940
top 534, 538
touch 820
tr 130, 202, 261
traceroute 347
tripwire 931, 940
true 891
tset 397
tty 195
tune2fs 397, 447
typeset 278
ufsdump 427
umount 392, 430, 445, 660
uname 398
uncompress 161
uniq 126
unix2dos 590
unzip 132
up2date 462, 463
up2date-config 463
updatedb 53, 232
ups 828, 833
uptime 141
useradd 523
userdel 523
usermod 523
uucp 360
vimtutor 145
vmstat 533
vtwm 112
w 140, 538
wall 392, 535
wc 313
webalizer 799
wget 481
whatis 52, 137
whereis 136, 463
which 136
who 138, 195, 200, 203, 431, 544
whois 348
write 138, 141, 535
X Window System 219
xargs 543
xclock 89
xev 220
xhost 222
Xinerama 1006
xmodmap 223
xrn 360
xvnews 360
xxgdb 828, 833
ypinit 649
yppasswd 643
ypwhich 642

Utility *continued*

- ypxfr 650
- yum, *see* yum
- zcat 132
- zip 132

UTP cable 327

uucp utility 360

V

var partition 30

Variable

- see also Shell variable*

- about 274
- braces 310, 312
- completion 303
- default value, assign 885
- defined 1004
- display error message 886
- environment 274
- expansion 312, 884
- exported 887
- global 274, 887
- isolation with braces 310
- keyword 274
- local 270, 887
- modifiers 884
- naming 274
- readonly 274
- remove 276
- shell 273
- substitute default value 885
- substitution 275
- undeclared 278
- user created 274, 275

Verisign 924

vfat filesystem 441

vi, *see* vim

Video card, configure 64

View pane, Nautilus 228

View, Konqueror 90, 241

Viewport, *see* Workspace

vim

- case sensitivity 961
- Command Mode 147

- correct a mistake 150, 151

- create a file 145

- d** command 150

- delete text 150

- edit a file 145

- end a session 151

- enter text 148

- exit from 152

- exit, emergency 146

- getting started 145

- Input Mode 147, 148

- insert text 151

- Last Line Mode 147

- move the cursor 150

- page break 151

- quit 151

- replacement string 912

- safedit** script 878

- special characters 912

- starting 145

- terminal specification 920

- u** command 150

- undo changes 150

- Work Buffer 151

- x** command 150

- ZZ** command 152

vimtutor utility 145

Virtual

- console 103, 1004

- filesystem 442

- memory 435

- private network, *see* VPN

virtusertable file 621

Virus 934, 1004

VLAN 1004

vmstat utility 533

Volume label 396, 445

VPN 324, 1004

vsftpd

- see also* FTP

- chroot jail 598

- configuration file 596

- connection parameters 603

- display 602

- downloading files 600

- files 606
- log 603
- logging in (users) 597
- messages 602
- PASV connections 604
- PORT connections 604
- prerequisites 594
- security 600
- server 594
- standalone mode 594, 596
- starting 595
- testing 595
- uploading files 600

vsftpd.conf file 596

vt100 terminal 425, 920

vt102 terminal 920

vt220 terminal 920

vtwm utility 112

Vulcan death grip 391

W

w utility 140, 538

W2K 1004

W3, *see* *World Wide Web*

W3C 1004

wait builtin 893

wait() system call 835

Wake up, process 270

wall utility 392, 535

WAN 16, 326, 328, 329, 1004

WAP 552, 1004

wc utility 313

Web

- see also* *World Wide Web*
- crawler 364
- ring 1005
- shortcuts, Konqueror 237

webalizer utility 799

Webmail 625

Weissman, Terry 461

wget utility 481

whatis database 52, 137

whatis utility 52, 137

wheel group 421

whereis utility 136, 463

which utility 136

while control structure 868, 891

Whitespace

- command line 256
- defined 118, 1005
- quoting 275

who am i 138

who utility 138, 195, 200, 203, 431, 544

whois database 349

whois utility 348

WHOISSERVER variable 349

whos shell script 867

whoson shell script 254

Wide area network, *see* *WAN*

Widget 1005

Wi-Fi 1005

Wildcard 1005

Wildcard, *see also* *Metacharacter*

Window

- active 110
- cascading 961
- clipboard 84
- Configure Panel 93
- context menu 83
- cut and paste 84
- cycling 83
- decorations 112
- defined 82, 1005
- file 195
- focus
 - click-to-focus 110
 - enter-only focus 110
 - Explicit focus 110
 - explicit focus 110
 - focus-follows-mouse 110
 - focus-strictly-under-mouse 110
 - focus-under-mouse 110
 - input focus 110
 - point to give focus 110
 - sloppy focus 110
- ignored 976
- input focus 83, 110
- List, GNOME 80
- location bar 89

Window *continued*

- manager 15, 16, 1005
 - about 111
 - Metacity 112
 - vtwm 112
- menubar 89
- minimize 983
- mode, shade-hover 84
- mouse buttons, remap 223
- Operations menu 83
- root 84
- scrollbar 995
- shade-hover mode 84
- shading 83
- share, *see Samba, share*
- snap 996
- thumb 1001
- tiled 1001
- titlebar 82
- toolbar 89
- transient 1002
- typical 82
- unmanaged 1003

Windows

- convert file to/from 130
- convert files 130
- dual-boot system 61
- filename limitation 160
- integration, *see Samba*
- lilo, booting with 516
- net use utility (Samba) 695
- net view utility (Samba) 694
- networks, browsing using Samba 693
- privileged port 990
- Samba, *see Samba*
- shares from Linux, accessing using Samba 692
- shares, connecting to using Samba 692
- shares, displaying using Samba 692
- shares, mounting using Samba 693

- winprinter 489

- WINS 1005

- Wire, *see Cable*

- Wireless, *see Network, wireless*

Word

- defined 108, 190, 281, 1005
- deleting 108
- erase key 192
- parse a command line 308
- splitting (bash) 314

- Work Buffer 1005

- Work Buffer, vim 151

Working directory

- change using cd 164
- defined 163, 1005
- execute a file in 284
- PATH** 255
- relative pathnames and 166
- significance of 163
- versus home directory 164

Workspace

- defined 78, 1006
- GNOME 15
- Konqueror 241
- Switcher, GNOME 80

- Workstation 7, 8, 1006

World Wide Web

- about 362
- Berners-Lee, Tim 362
- CERN 362
- Consortium 1004
- Enquire 362
- HTML 362
- hypermedia 363
- hypertext 362
- link, hypertext 362
- Mosaic browser 362
- name 362
- origins 362
- overview 362
- search engine 364
- URL 363
- Web crawler 364

- Worm 934, 1004, 1006

- Write access 173

- write utility 138, 141, 535

- write()** system call 834, 836

- wtm** file 170, 544

www directory 767
WWW, *see* *World Wide Web*
wysiwyg 1006

X

X

Consortium 217
terminal 219, 1006

X Window System

about 14
application (client) 219
client 219
client and server 219
color depth 222
defined 1006
display number 221
DISPLAY variable 220
display, access to 222
emergency exit 223
event 219
exiting from 222
freedesktop.org group 225
history 217
ID string 221
layers 218
library 112
Metacity window manager 112
mouse
 buttons, remap 223
 left-handed 223
 right-handed 223
 wheel 223
multiple X servers 221
program 219
remote computing and local displays 220
resolution, changing 111
screen number 221
server 219
server process 539
setup, *redhat-config-display* utility 63
setup, *system-config-display* utility 63
stack 218
starting 107, 220

utilities

clients 219
startx 220
xhost 222
xmodmap 223
window manager 112
X stack 218
X.org 217
X.org versus XFree86 218
X11 forwarding, OpenSSH 568, 574, 578, 580
X11R6.6 217
xev utility 220
XFree86 217
XFree86 versus X.org 218
Xinerama 1006
Xlib 218
X.org X Window System 217
X11 directory 168, 169
X11R6 directory 170, 814
X11R6.6 217
xargs utility 543
xclock utility 89
XDMCP 1006
xDSL 1006
xev utility 220
XFree86 217
xfs filesystem 441
xhost utility 222
Xinerama 1006
xinetd daemon 354, 357, 383, 385, 403, 681
xinetd.conf file 383, 403
xinetd.d directory 383, 403
XINU 4
Xlib 218
XML 1006
xmodmap utility 223
Xremote 333
xrn utility 360
XSM 1006
xtab file 665, 670
xterm terminal name 920
xvnews utility 360
xxgdb utility 828, 833

Y

y filename extension 819

Yellow Pages 638

yp.conf file 642

ypbind daemon 642, 643

ypbind-mt daemon 642

ypinit utility 649

yppasswd utility 643

yppasswdd daemon 651

yppasswdd file 652

ypserv.conf file 646

ypwhich utility 642

ypxfr utility 650

ypxfrd daemon 650

yum

- about

- configuration file 469

- install** option 471

- remove** option 471

- update** option 470

- using 470

yum.conf file 469

Z

Z filename extension 161

Z Shell 1007

ZBR 29

zcat utility 132

zero file 426

Zimmerman, Phil 926

zip utility 132

Zone, DNS, defined 702

Zone-bit recording 29

zsh shell 1007

Zulu time, *see* UTC