

# INDEX

## ***Symbols***

- !! command 126
- !\$ command 127
- !n command 127
- \$HOME/.printers file 392
- . command 437
- .rhosts only (v1 or v2) 361
- .rhosts with RSA (v1 361
- / directory 188
- <> operators 122
- > PROM prompt 32
- | operator 122

## ***Numerics***

- 1/2-inch front-loaded reel drives 245
- 3.5-inch diskettes 288
- 4mm Wang/DAT tape drive 245
- 8mm Exabyte tape drive 245

## ***A***

- aborting boot process 41
- absolute path names 247, 252
- accept command 403
- accounts
  - configuring mail 160
  - deleting 168
  - disabling 163

- groups, setting up 164
- role 176
- setting up user 153, 155, 158, 159
- user, setting up 145
- acronyms, tape drives controllers 244
- adapter
  - BIOS 29
  - print protocol 391
- administration tools 67
- administrative state (1) 20
- administrator, primary RBAC 175
- AIT tapes 245
- alert.sh shell 402
- alert.vars file 402
- alerts
  - file 401
  - LP print service 399
- alias command 132
- aliases
  - Bourne shell 123
  - C shell 125
  - file 160
  - Korn shell
    - creating 131
    - preset 132
  - local mail, creating 334
  - mail, creating 335

- Aliases table 351
- allexport option 130
- allocate command 233, 237
- alphanumeric terminals, SAF 313
- alternative
  - fdisk partition 261
  - multiuser state (4) 20
- appending
  - files to diskettes 291
  - files to tape 248
- ARCH environment variable 118
- architecture, determining 316
- archiving files, *See* backing up file systems
- atomic-style printer name 410
- attributes, extended option 68, 72
- audio CDs
  - creating 264
  - supported formats 264
- audlinks command 231
- auth\_attr database, description of 177
- authentication
  - network, rlogin command 344
  - public key, SSH 377
  - remote login 342
  - remote system 343
  - SSH methods 360
- authorizations, RBAC
  - defining 177
  - description of 173
- authorized\_keys file 380
- auths command 178
- Auto\_Home table 351
- Auto\_Master table 351
- autoboot process, interrupting
  - IA platform 29
- auto-boot? command 24
- autoconfiguration 231
- AutoFS
  - cache file system 226
  - description of 207
  - maps 207
- autoload alias 132
- automatic device configuration 231
- automounting
  - cache file system 226
  - directories 207
  - home directories 149
- awk command 144

## B

- back file system 223, 226
- backing up file systems 212
- backing-store file 218
- Backspace key, C shell, setting 121
- backup
  - incremental 213
  - schedule 211
  - tapes, choosing for restore 214
- bad blocks, repairing 307
- banner command 23
- banner pages
  - optional 424
  - turning off 425
- bar command 293
- bash command 115, 137
- BASH\_ENV environment variable 137
- ~/bash-logout file 137
- ~/bash\_profile file 137
- ~/bashrc file 137
- Basic Security Module, *See* BSM
- bgnice option 130
- bidirectional modems, configuring 314
- BigAdmin Web site 169
- BIOS
  - adapter 29
  - boot phase 31
  - onboard 29
  - self-test diagnostic 29
- block device name 296
- blocks, repairing 307
- boot
  - aborting 41
  - boot time, determining 330
  - command 34
  - commands, table of 32
  - configuration parameters 24–26
  - debugger, using 38
  - diskette, IA platform 30
  - message file 35
  - messages, viewing 35
  - new hardware 36
  - parameters menu, IA platform 29, 30
  - process
    - /etc/inittab file 23
    - /sbin/init process 23
    - IA platform 31
    - init phase 23
    - kernel initialization 23

- SPARC 22
- reconfiguration 36, 232
- recovery
  - IA platform 39
  - SPARC platform 38
- subsystems
  - IA platform 29, 30
  - primary, IA platform 29
- time, determining 330
- boot -a command 34
- boot environment
  - activating Live Install 112
  - creating Live Upgrade 110
  - upgrading Live Install 112
- boot -s command 34
- boot.bin command 31
- bootblk
  - primary boot program 22
  - program 31
- boot-command command 24
- boot-device command 24
- boot-file command 24
- booting
  - interactively 34
  - multiuser states 34
  - single-user state 34
  - systems 32
- Bootparams table 350
- Bourne shell 123–124
  - aliases 123
  - default prompt 115
  - environment variables
    - defining 123
    - PATH 119
  - functions 123
  - search paths, setting 436
  - sourcing dot files 437
- Bourne, Steve 123
- Bourne-Again shell
  - /etc/profile file 137
  - ~/bash-logout file 137
  - ~/bash-profile file 137
  - ~/bashrc file 137
  - ~/profile file 137
  - initialization files 137
  - prompt 115
- Break key 41
- BSD 1
- BSD protocol 392

- BSM
  - disabling 234
  - enabling 233
- bsmconv command 233
- bus controllers
  - disks 297
  - naming conventions 297

## C

- C shell 124–128
  - aliases 125
  - Backspace key, setting 121
  - command history 124
  - default prompt 114
  - environment variables
    - defining 125
    - setting paths 119
  - history
    - command 126
    - editing 128
    - setting 126
  - rehash command 127
  - repeating
    - commands 126
    - last word 127
    - numbered command 127
  - search paths, setting 437
- cache file system, description of 223
- CacheFS
  - commands
    - cachefslog 228
    - cachefspack 228
    - cachefsstat 228
    - cachefswssize 228
  - creating 224–227
  - description of 184, 223
- caches
  - automounting 226
  - back file system 223, 226
  - checking 228
  - creating 224
  - example of creating 225
  - fscck 228
  - maintaining 227
  - maintenance commands 227
  - mount point, creating 225
  - mounting 224
  - mounting a file system 225
  - vfstab file 224, 226

- CALENDAR environment variable 118
- cancel command 433
- cancelling print requests 433
- carrier-detect, ignoring 26
- cartridge tapes, file systems, backing up 212
- cat command
  - appending text 89
  - description of 89
  - example of use 89
- catman command 96
- cd command 68
- CD writing 262–265
  - creating audio discs 264
  - creating data discs 264
- CDE
  - diskettes, displaying contents 279
  - diskettes, formatting with File Manager 281
  - input variables 79
  - search path environment variables 79, 80
  - variables 79
- CDPATH environment variable 118
- /cdrom mount point 269
- CD-ROMs
  - files, accessing shared 274
  - finding users of 275
  - ISO 9660 standard format 271
  - mounting 265
  - mounting local 271
  - unmounting 275
  - volume management
    - automated mounting 265
    - mount points 269
- cdwr command
  - audio formats, supported 264
  - options 262
- cfgadm command 239
- cfsadmin command 223, 224, 227
- changing
  - directories 68
  - file
    - ownership 438
    - permissions 439
    - priority of a running process 66
    - shells from command line 114
- checklist, user account 144
- chgrp command 79, 153, 441
- chmod command
  - numeric arguments 440
  - syntax 439
- chown command 77, 153, 439
- classes file 401
- classes, scheduling *See* scheduling class
- clear command 121
- clearing windows 121
- client failover 192
- clients, print 411
- clone systems, Flash installation 102
- clri command 195
- cmdk driver 298
- command history, C shell 124
- command line
  - changing shells 114
  - commands, combining 121
  - diskettes, formatting 277
- command mode, new 23
- command security level 28
- commands
  - basic vi 93
  - combining
    - on command line 121
    - with | operator 122
  - device configuration 232
  - executing 438
  - file system administrative 179, 195
  - generic file system syntax 196
  - Korn shell
    - displaying 135
    - editing 134
    - options 129
  - LP print service 393, 403
  - maintaining cache file systems 227
  - manual pages 94–96
  - NIS+ administrative 352
  - output, redirecting 122
  - printing 427
  - RBAC 178
  - repeating in C shell 126
  - reusing, Korn shell 136
  - roles 178
  - SAF 313
  - shell 114
  - SSH 359
  - streaming tape 246
  - user account administration 143
- commands alias 133

- comment file 402
  - Common Desktop Environment, *See* CDE
  - communication with users 6
  - comparison, shell table 113
  - Computers and Networks tool, SMC 353
  - configuration
    - device commands 232
    - devices 231
    - files, LP print service 401, 402
    - parameters, OpenBoot PROM 23
    - system disk 302
    - variables
      - modifying 27
      - viewing 27
  - configuration assistant, IA platform 30
  - configuring
    - bidirectional modems 314
    - disk slices 300
    - Group databases 166
    - mail accounts 160
    - PostScript print clients 426
    - print servers 421, 422
    - print services 411
    - printers 161
    - swap space 332–334
    - system environments 79
  - console window
    - wall command 9
    - write command 8
  - Console, SMC, elements of 83
  - context-based style printer names 411
  - controllers
    - bus 297
    - direct IA-based 299
    - direct SPARC 299
    - SCSI
      - device-naming conventions 296
      - maximum number 244
      - tape drive abbreviations 244
  - conventions
    - disk naming 296
    - tape drive naming 242
    - this book xxiii
  - conversions, locale-specific 117
  - converting xfn formats 420
  - copying
    - data from disks 305
    - directories to tape 246, 247, 251
    - files
      - to multiple diskettes 293
      - to tape 246, 247, 253
  - corefiles 47
  - corrupt file systems 209
  - cp command 90
  - cpio command 241, 250, 285
  - crash dumps
    - administering 38
    - forcing 37
  - creating
    - caches 224
    - file systems, new 309
    - files
      - with cat command 89
      - with touch command 90
    - home directories 149, 150
    - user account initialization files 154
  - Cred table 350
  - cron job, lp 398
  - csch command 114
  - ~/.cschdirs file 138
  - current search path, displaying 436
- ## D
- daemons
    - defined 20
    - devfsadmd 36, 232
    - lpsched 394, 395, 396
    - vold 266
  - data CDs, creating 264
  - databases
    - auth\_attr 177
    - exec\_attr 177, 178
    - Group
      - description of 164
      - setting up 166
    - NIS+ 349
    - path\_to\_inst 231
    - printers 389
    - prof\_attr database 177
    - RBAC 177
    - terminfo 402
    - user\_attr 177
  - date and time, system
    - determining 331
    - setting 331
  - date command 331
  - dd command 305
  - deallocate command 233, 238

- debug messages, volume management 269
- debugger 38
- default
  - /etc/motd file 7
  - /etc/vold.conf file 266
  - Bourne-Again shell prompt 115
  - file systems 188
  - init state 11
  - initialization files 154
  - inittab file 15
  - local.cshrc file 155
  - local.login file 154
  - local.profile file 155
  - root shell 5
  - run control scripts 15
  - setting shell 114
  - TC shell prompt 115
  - UNIX groups 167
  - Z shell prompt 115
- default printer
  - printing to 428
  - setting 408
- default prompt
  - Bourne shell 115
  - Bourne-Again shell 115
  - C shell 114
  - Korn shell 115
  - TC shell 115
  - Z shell 115
- defaultrouter file 339
- defect list 307
- defining
  - environment variables
    - Bourne shell 123
    - C shell 125
  - groups 164
  - initialization files 154
  - system administrator's job, 2
- definitions, LP print services 402
- densities, tape drives
  - specifying 242, 243
  - syntax 243
- DESKSET environment variable 118
- /dev directory 36, 231
- /dev/diskette device name 288
- /dev/rdiskette device name 288
- /dev/rmt directory 241
- devfsadm command 36, 231
- devfsadmd daemon 36, 232
- device names
  - block 296
  - diskette drives 288
  - physical 240
  - raw 296
  - tape drives 242
- device to fsck field 191
- device to mount field 191
- device\_maps file 236
- devices
  - AIT tape 245
  - allocating 232, 237
  - allocation commands 233
  - configuration 231
    - automatic 231
    - commands 232
  - connecting DVD-ROM 257
  - deallocating 238
  - diskette locations 270
  - diskettes, formatting with Removable Media Manager 282–285
  - DLT tape 245
  - DVD-ROM 256
  - hot-pluggable 231
  - hot-plugging SCSI 239
  - instance names 240
  - listing information 235
  - logical device name 240
  - physical names 240
  - removable media 255
  - tape drive number 242
  - tape naming conventions 241
- /devices directory 36, 231, 241
- devlinks command 231
- devnm command 198
- df command 98, 195
- df -F command 99
- df -h command 98
- diag-device command 24
- diag-file command 24
- diag-level command 24
- diag-switch? command 24
- direct controllers
  - disks 299
  - IA-based 299
- direct I/O performance enhancements 180
- directio command 180
- directories
  - automounting 207

- changing 68
- copying to tapes 251
- creating home 149
  - /dev 231
  - /dev/rmt 241
  - /devices 231, 241
  - /export/home 189
  - /home 189
- home directories 151, 152
- lost+found 209
- LP print service 399
  - /opt 189
- postscript 397
- print spooling 407
  - /proc 185, 190
- process commands 55
- retrieving from tapes 249
- root 188
  - /tmp 184, 189
  - /usr 189
  - /usr/lib/rmmount 268
  - /usr/lib/vold 268
  - /var 189
  - zoneinfo 331
- disabling
  - Solaris User Registration 170
  - volume management 287
- disk use, checking 303
- disk-based file systems 182
- diskette drives
  - device names 288
  - volume management 267
- diskettes
  - 3.5-inch 288
  - CDE File Manager, formatting 281
  - determining who is using 278
  - /dev/diskette device name 288
  - /dev/rdiskette device name 288
  - device locations 270
  - displaying contents 279
  - DOS file system 288
  - double-sided 288
  - ejecting 278
  - files
    - appending to 291
    - copying to multiple 293
    - listing 291
    - retrieving 292
  - /floppy mount point 270
  - formatting
    - from command line 277
    - PCFS 294
    - Removable Media Manager 282–285
    - UFS 289
  - high density 288
  - PCFS
    - file system 294
    - mounting 294
    - unmounting 295
  - raw device name 288
  - reformatting 289
  - removing 290
  - volcheck command 269
  - volume management 265, 276
- disks
  - administering 295
  - block device file 296
  - blocks, repairing 307
  - bus controller naming conventions 297
  - checking use 303
  - copying data from 305
  - defect list, adding 307
  - direct controllers 299
  - IA slice naming conventions 301
  - information
    - checking 304
    - finding 97
  - naming conventions 296
  - partitions, *See* slices
  - raw device file 296
  - reformatting 307
  - repairing 305–311
  - replacing 307
  - slices
    - assignments 298
    - choosing 302
    - configurations 302
    - configuring 300
    - description of 297
    - SPARC slice naming conventions 300
- disks command 231
- Disks tool, SMC 303
- dispadm command 46, 62
- displaying
  - current search paths 436
  - diskette contents 279
  - environment variables
  - settings 120

- file information 70
  - files 75
  - history 126
  - host ID numbers 315
  - Korn shell commands 135
  - manual pages 94
  - mnttab contents 187
  - printer status 430, 432
  - processes
    - global priorities 61
    - information 56, 57, 58
    - scheduling class information 60
  - scheduling class information 60
  - system configurations 317
  - system environments 79
  - system-specific information 315
  - tape drive status 246
  - dividing superuser capabilities 173
  - DLT tapes 245
  - dmesg command 35, 232
  - dminfo command 233, 236
  - DOS file system, diskette 288
  - dot files, sourcing 437
  - drivers, cmdk 298
  - drives
    - AIT tape 245
    - DLT tape 245
    - Jaz 260
    - Zip 260
  - DS (double-sided) diskettes 288
  - DTAPPSEARCHPATH environment
    - variable 79
  - DTDATABASESEARCHPATH
    - environment variable 80
  - DTHELPSEARCHPATH environment
    - variable 80
  - dtpad command 92
  - DTSPSYSAPPHOSTS environment
    - variable 79
  - DTSPSYSDATABASEHOSTS
    - environment variable 80
  - DTSPSYSHELP environment variable 80
  - DTSPSYSICON environment variable 80
  - DTSPUSERAPPHOSTS environment
    - variable 79
  - DTSPUSERDATABASEHOSTS
    - environment variable 80
  - DTSPUSERHELP environment variable 80
  - DTSPUSERICON environment variable 80
  - du (disk use) command 303
  - dumpadm command 37, 38
  - dumps
    - administering 38
    - forcing 37
  - DVD-ROM devices 256–259
    - connecting 257
    - mount point 257
    - volume management 267
  - dynamic reconfiguration
    - description of 239
    - error messages 230
- E**
- echo \$PATH command 436
  - editing
    - commands, Korn shell 134
    - files with dtpad 92
    - history
      - C shell 128
      - Korn shell 136
    - user initialization files 158
  - EDITOR environment variable 134
  - editor, visual 92
  - eeeprom
    - command 26
    - setting security level 28
  - egrep command 74
  - eject command 290
  - ejecting diskettes 278
  - electronic mail 6
  - emacs option 130
  - e-mail
    - accounts, configuring 160
    - messages, sending 11
  - empty file, creating 90
  - Enhanced Storage tool, SMC 303
  - entries, creating in vfstab file 193
  - env command 120
  - ENV variable 129
  - environment variables 79–119
    - ARCH 118
    - BASH\_ENV 137
    - C shell, defining 125
    - CALENDAR 118
    - CDE
    - CDE search path 79
    - CDPATH 118
    - defining in Bourne shell 123



- DESKSET 118
- DTAPPSEARCHPATH 79
- DTDATABASESEARCHPATH 80
- DTHELPSEARCHPATH 80
- DTSPSYSAPPHOSTS 79
- DTSPSYSDATABASEHOSTS 80
- DTSPSYSHELP 80
- DTSPSYSICON 80
- DTSPUSERAPPHOSTS 79
- DTSPUSERDATABASEHOSTS 80
- DTSPUSERHELP 80
- DTSPUSERICON 80
- EDITOR 134
- ENV 129
- history 118
- HOME 116
- LANG 117, 160
- LANG values 118, 160
- LC 117, 160
- LC values 118
- LC\_COLLATE 160
- LC\_CTYPE 160
- LC\_MESSAGES 160
- LC\_NUMERIC 160
- LD\_LIBRARY\_PATH 118
- LOGNAME 117
- LPDEST 118
- MAIL 118
- MANPATH 118
- MANSECTS 119
- OPENWINHOME 119
- PATH 117
- prompt 119
- PS1 116
- root 5
- settings, displaying 120
- SHELL 119
- storing 119
- TERM 119
- TERMINFO 119
- TZ 119
- VISUAL 134
- XMICONBMSEARCHPATH 80
- XMICONSEARCHPATH 80
- environments
  - information, finding 120
  - system
    - displaying 79
    - setting 79
    - user, defining 153, 155, 158, 159
- errexit option 130
- error messages, dynamic reconfiguration 230
- errors, user registration 169
- /etc/auto\_master file 149
- /etc/bootrc script 32
- /etc/csh.cshrc file 138
- /etc/csh.login file 138
- /etc/defaultrouter file 339
- /etc/group file 164
- /etc/hosts.equiv file 343
- /etc/inet/hosts file 338
- /etc/inet/ipnodes file 338
- /etc/inet/netmasks file 339
- /etc/init.d directory 16
- /etc/inittab file
  - boot process 23
  - default 15
  - fields 12
  - run levels 11, 12
- /etc/mail/aliases file 160, 335
- /etc/mnttab file
  - changes to 181
  - displaying contents 187
- /etc/mnttab file system 187, 188
- /etc/motd file
  - default 7
  - description of 7
  - ownership, write permission 7
  - time stamp 7
- /etc/nsswitch.conf file
  - configuring 338
  - description of 349
  - printers database 389, 409
  - See also* nameservice switch file
- /etc/passwd file, editing 145
- /etc/pooladm.conf file 60
- /etc/prints.conf file 392
- /etc/profile file 137
- /etc/rmmount.conf file 268
- /etc/security/auth\_attr database 177
- /etc/security/device\_maps file 236
- /etc/security/exec\_attr database 177
- /etc/security/prof\_attr database 177
- /etc/shadow file 162
- /etc/skel/local.cshrc file 155
- /etc/skel/local.login file 154
- /etc/skel/local.profile file 155

- `/etc/ssh/ssh_config` file 362
- `/etc/ssh/sshd_config` file 368
- `/etc/TIMEZONE` file 331, 332
- `/etc/user_attr` database 177
- `/etc/vfstab` file 190–194
  - cache file systems 224, 226
  - contents 190
  - device to fsck field 191
  - device to mount field 191
  - entries, creating 193
  - fields 191
  - FS type field 191
  - fsck pass\* field 192
  - mount at boot field 192
  - mount options field 192
  - mount point field 191
  - mountall command 191
- `/etc/vold.conf` file, default 266
- `/etc/zlogin` file 139
- `/etc/zprofile` file 139
- `/etc/zshenv` file 139
- `/etc/zshrc` file 139
- Ethers table 351
- Exabyte 8mm tape drive 245
- examples
  - cache file system, creating 225
  - client failover 193
  - site initialization file 156
- `exec_attr` database 177
- execute permissions, granting 439
- execute-only permissions 440
- executing commands 438
- `exit` command 5, 115, 346
- exiting shells 115
- `/export/home` directory 189
- extended attribute option 68, 72
- extended file attributes 180
- F**
  - failover, client 192
  - fair-share (FS) scheduling class
    - description of 59
    - parameters 64
  - `fcntl` information 46
  - `fcode-debug?` command 24
  - `fd` file 401
  - `fdformat` command 277, 289, 294
  - FDFS (file descriptors) 188
  - fdisk partition, Zip or Jaz disks 261
  - fdisk table 31
  - `ff` command 195
  - fields
    - group password 166
    - `inittab` file 12
    - `vfstab` file 191
  - FIFOS (first-in first-out) 187
  - file attributes, extended 180
  - file command 73
  - File Manager CD-ROM window 272
  - file ownership
    - changing 438
    - troubleshooting 438
  - file permissions, changing 439
  - file system backup/restore 211–218
    - back up
      - full backup 212
      - planning for 212
    - restore
      - full backup 215
      - interactive 216
      - preparing for 214
      - single file 218
  - file system commands
    - administrative 179, 195
    - for maintaining cache 227
    - generic command syntax 196
    - manual pages 197
  - file system restoring, *See* file system backup/restore
  - file system types 182–188
    - CacheFS
      - automounting 226
      - description of 184, 223
    - determining 98, 197
    - disk-based 182
    - FDFS 188
    - FIFOS 187
    - HSFS 182, 183
    - LOFS 185
    - MNTFS 181, 187, 188
    - NAMEFS 188
    - network-based 183
    - NFS 183
    - PCFS 182, 183, 288
    - PROCFS 46, 185, 190
    - S5 183
    - S5FS 182, 183
    - SPECFS 188

- SWAPFS 188
- TMPFS 181, 184, 189
- UDF
  - compatibility 257
  - creating 258
  - description of 181, 182
  - determining type 258
  - labeling 259
  - media devices 183
  - mounting 259
  - parameters, displaying 258
  - requirements 257
  - unmounting 259
- UDFS 256
- UFS
  - description of 182
  - media devices 183
  - /opt directory 189
  - root directory 188
  - /var directory 189
- XMEMFS 181
- file systems
  - availability 199
  - back 223, 226
  - checking interactively 210
  - corruption 209
  - data consistency, checking 208
  - default 188
  - disk slices 297
  - DOS diskette 288
  - formats, Removable Media Manager 282
  - mounted, finding 99, 200, 203
  - mounting 199–205
    - all 204
    - cache 224, 225
    - inconsistencies 200
    - local, determining 98
    - single 205
    - specific types 204
  - navigating 68
  - need checking 209
  - new, creating 309
  - process 46
  - remaking 309
  - unmounting 206
    - all remote 206
    - busy file systems 200
    - individual 206
  - VFS 179
  - virtual 184
  - virtual architecture 179
  - virtual file system table 190
  - ways the term is used 179
- file transfer program 347
- files
  - absolute path names 247, 252
  - archiving 305
  - CD-ROMs, accessing shared 274
  - copying
    - to multiple diskettes 293
    - to tape 246, 247, 251, 253
  - creating 89
    - empty 90
    - with touch command 90
  - diskettes, appending files to 291
  - displaying
    - file contents 75
    - information about 70
  - editing with dtpad 92
  - file types, finding 73
  - group ownership, changing 79
  - initialization
    - Bourne-Again shell 137
    - C shell 124
    - defining 154
    - Korn shell 129
    - TC shell 138
  - listing
    - from diskettes 291
    - from tape 248
  - moving 92
  - naming with metacharacters 249
  - ownership, changing 77, 438
  - permissions
    - changing 77
    - finding 68
  - retrieving
    - from diskettes 292
    - from tape 249, 252, 254
  - searching with grep 74
  - sharing, servers 207
  - subsets, retrieving from tapes 252
  - text string, searching 74
  - text, appending 89
  - transferring between systems 346
  - viewing
    - beginning 76

- end of 76
    - volume management 266
  - filtering print files 397
  - find command 72
    - example of 72
    - options 72
  - finding
    - disk information 97
    - environment information 120
    - file information 68
    - files
      - information 74
      - text strings 74
      - types 73
    - GID settings 88
    - manual page section numbers 95, 96
    - mounted file systems 99, 200, 203
    - processes 46
    - UID settings 88
    - user information 85
  - finger command 85, 86
  - firmware, OpenBoot PROM security levels 28
  - fixed-priority (FX) scheduling class
    - description of 59
    - setting parameters 64
  - flarcreate command 104, 105
  - Flash archive
    - creating 104–105
    - flarcreate command 104
    - installation methods 105
    - installing with suninstall 107
    - installing with WebStart 106
  - Flash installation
    - clone systems 102
    - description of 101, 102
    - master system, designing 102
  - /floppy mount point 270
  - floppy, *See* diskettes
  - format command 307
  - formats, converting xfn 420
  - formatting diskettes
    - from command line 277
    - reformatting 289
    - UFS 289
    - with CDE File Manager 281
  - forms file 401
  - forms, tracking 398
  - Forth monitor 23
  - FS type field 191
  - fsck command
    - cacheofs 228
    - description of 195
    - inode tables 208
    - interactive 210
    - state flag 209
    - syntax 311
    - when needed 209
  - fsck pass\* field 192
  - fsdb command 195, 203
  - fssnap command 180
    - description of 218
    - options 219
    - syntax 219
  - fstat information 46
  - fstyp command 195, 199, 258
  - ftp command 347
  - full security level 28
  - functions alias 133
  - functions, Bourne shell 123
  - fuser command 275, 278
- ## G
- getty port monitor 312
  - GID
    - description of 164
    - finding settings 88
    - numbers, large 147, 166
  - global priorities, displaying process 61
  - gmacs option 130
  - grace periods before shutdowns, changing 44
  - grep command 74, 144
  - Group database
    - description of 164
    - fields, setting up 166
  - group file 164
  - Group ID field 166
  - group IDs, *See* GID
  - Group Name field 166
  - group ownership of files, changing 79
  - group password field 166
  - Group table 350
  - group, primary 164
  - groupadd command 141, 144
  - groupdel command 141, 144
  - groupmod command 141, 144
  - groups

- creating 167
- default 167
- defining 164
- deleting 167
- modifying 167
- ownership, changing 441
- required information 167
- setting up 164

groups command 164

## H

halt command 43

hardware type, determining 316

hash table 127

HD (high-density) diskettes 288

head command 76

helical scan drives 245

help command 27

help, manual pages 94

High Sierra File System

- description of 182
- media types 183

history

- alias 133
- C shell
  - editing 128
  - setting 126
- command, C shell 126
- environment variable 118
- Korn shell
  - editing 136
  - setting 134
- logs, LP print service 405

~/history file 138

home directories

- creating 149, 151, 152
- information needed 150
- making available 152
- mounting 149, 150
- naming 149
- NFS-mounting 153
- steps for creating 150
- steps for sharing 151

/home directory 189

HOME environment variable 116

hostid command 316

hosts

- file 338
- ID numbers, displaying 315

- TCP/IP, configuring 338
  - trusted 343

Hosts table 350

hosts.equiv file 343

hot-pluggable devices 231

hot-plugging 239

HSFS file system

- description of 182
- media types 183

## I

IA disks

- bus controller naming conventions 297
- direct controllers 299

IA platform 30

- autoboot process, interrupting 29
- BIOS boot phase 31
- boot
  - diskette 30
  - process 31
  - subsystems 29, 30
- boot parameters menu 29
- cmdk driver 298
- configuration assistant 30
- init phase 32
- kernel initialization 32
- PC BIOS 29
- primary boot subsystems 29, 30
- recovery boot 39
- secondary boot subsystem 30
- Solaris device configuration assistant
  - 30

id command 88

ID numbers, displaying host 315

ifconfig command 356, 357

ignoreeof option 130

incremental backups 213

inetd daemon 345, 396

information

- finding user 85
- initialization 12

init command 15, 21, 41, 42

init phase

- IA platform 32
- SPARC platform 23

init states 11–43

- choosing 11
- default 11
- run levels, changing 21

- table of 11
  - initialization
    - information 12
    - kernel 32
  - initialization files
    - ~/.bash-logout 137
    - ~/.bash-profile 137
    - ~/.bashrc 137
    - Bourne-Again shell 137
    - C shell 124
    - ~/.cshdirs 138
    - default 154
    - defining 154
    - ~/.history 138
    - Korn shell 129
    - .ksh-env 129
    - ~/.login 138
    - .profile 129
    - ~/.profile 137
    - site 156
    - site example 156
    - site references 156
    - TC shell 138
    - ~/.tcshrc 138
    - user 154
    - Z shell 139
  - inittab file
    - default 15
    - description of 12
    - fields 12
  - in-line editor, Korn shell 134
  - inodes 208
  - input variables, CDE 79
  - input-device command 24
  - installation, Flash archive
    - choosing method 105
    - with suninstall 107
    - with WebStart 106
  - instance name 240
  - integer alias 133
  - interactive
    - booting 34
    - checking file systems 210
    - option 130
    - restoring file systems 216
    - scheduling class 59
  - interface
    - parameters, displaying network 356
    - script, netstandard 392
  - interfaces file 401
  - interfaces, network
    - displaying 357
    - specifying 338
  - internal files, LP print services 403
  - Internet protocol
    - IPv4 353
    - IPv6 353
  - Iomega drives, *See* Zip drives and Jaz drives
  - ipnodes file 338
  - IPv4 Internet protocol 353
  - IPv6 Internet protocol 353
  - ISO 9660 standard format 271
- J**
- Jaz drives
    - accessing 260
    - fdisk partition 261
  - Joy, Bill 124
- K**
- kadb booting 38
  - kernel
    - description of 179
    - initialization 23
    - initialization, IA platform 32
    - modules
      - customizing 231
      - description of 231
    - routing tables, displaying 356
  - /kernel/drv/st.conf file 246
  - keyboard-click? command 24
  - keymap command 24
  - keyword option 130
  - kill command 53
  - killing processes 53
  - Korn shell 128–136
    - aliases, creating 131
    - allexport option 130
    - autoload alias 132
    - bgnice option 130
    - commands
      - displaying 135
      - editing 134
      - options 129
    - commands alias 133
    - default prompt 115
    - editing history 136
    - emacs option 130

- enabling options 131
  - errexid option 130
  - functions alias 133
  - gmacs option 130
  - history
    - alias 133
    - setting 134
  - ignoreeof option 130
  - initialization files 129
  - in-line editor 134
  - integer alias 133
  - interactive option 130
  - keyword option 130
  - local alias 133
  - markdirs option 130
  - monitor option 130
  - noclobber option 130
  - noexec option 130
  - noglob option 130
  - nohup alias 133
  - nolog option 130
  - nounset option 131
  - options 129
  - PATH environment variable 119
  - present aliases 132
  - privileged option 131
  - r alias 133
  - restricted option 131
  - reusing commands 136
  - search paths, setting 436
  - set -o command 129
  - sourcing dot files 437
  - stop alias 134
  - suspend alias 134
  - table of options 130
  - trackall option 131
  - verbose option 131
  - vi options 131
  - viraw option 131
  - xtrace option 131
- ksh command 115
- .ksh-env file 129
- L**
- L1-A 41
- labeling UDF file systems 259
- labelit command 181, 195, 259
- LANG environment variable
  - description of 117, 118, 160
  - values 118, 160
- large files, remounting without 205
- large GID numbers 147, 166
- large UIDs 147
- largefiles option 204
- LC environment variable
  - description of 117, 160
  - values 118, 160
- LC\_COLLATE environment variable 160
- LC\_CTYPE environment variable 160
- LC\_MESSAGES environment variable 160
- LC\_NUMERIC environment variable 160
- LD\_LIBRARY\_PATH environment
  - variable 118
- LDAP and printers 388
- limitations, UFS formats 271, 276
- list\_devices command 233, 235
- listen port monitor 312, 313
- listing
  - files from diskettes 291
  - files from tape 248
  - table of contents 251
- Live Upgrade
  - boot environment
    - activating 112
    - creating 110
    - upgrading 112
  - commands, list of 109
  - description of 101, 108
  - lu command 111
  - luactivate command 112
  - ludevices command 111
- load averages for remote systems, checking 339
- local
  - CD-ROMs, mounting 271
  - file systems, determining 98
  - mail aliases, creating 334
  - passwords, creating 163
  - references, avoiding in site initialization files 157
- local alias 133
- local.cshrc file, default 155
- local.login file 154
- local.profile file 155
- locale-specific conversions 117
- LOFS (Loopback File System) 185
- logging in
  - remote systems 341, 342

- root 6
- logging out of a remote system 346
- logging, UFS 202
- logical device name 240
- logical device name, tape drives 242
- login
  - message of the day 6
  - prompt, rlogin command 345
  - system-specific messages 7
- ~/login file 138
- LOGNAME environment variable 117
- logons, determining user 85
- logs
  - file, printing 401
  - LP print service 404
  - LP requests codes 406
  - print queue 404
  - printing 398
  - printing history 405
- lost+found directory 209
- lp command
  - options 400
  - printer name styles 410
- lp cron job 398
- LP print service 394
  - commands 393, 400, 403
  - configuration files 401
  - files 394
  - filtering 397
  - forms, tracking 398
  - internal files 403
  - log files 404
  - print jobs, tracking status 398
  - printer definitions 402
  - printer interface program 397
  - printwheels, tracking 398
  - problem alerts, receiving 399
  - request logs, codes 406
  - spooling directories 407
  - structure 399
- LP requests log, codes 406
- lpadmin command 404, 422
- LPDEST environment variable 118
- lpfilter command 404, 426
- lpforms command 404
- lpmove command 404
- lpr command 410
- lpsched daemon
  - changes to 387

- description of 394, 395
- log file 398, 405
- restarting 396
- lpset command 392
- lpshut command 396, 404
- lpstat command 423, 430, 432, 433
- lpssystem command 404, 426
- lpusers command 404
- ls command 68
- lu command 111
- luactivate command 112
- ludevices command 111

## M

- mach command 316
- magnetic tapes, *See* tapes
- mail aliases
  - creating local 334
  - file 160
- MAIL environment variable 118
- maintaining caches 227
- make command 143, 144
- makedbm command 178
- making home directories available 152
- man command 94
- MANPATH environment variable 118
- MANSECTS environment variable 119
- manual pages 94–96
  - displaying 94
  - file system commands 197
  - finding section pages 95, 96
  - setting up 96
- maps, AutoFS 207
- markdirs option 130
- master boot record 31
- master system, designing Flash installation
  - 102
- maximum SCSI controllers 244
- mboot master boot record 31
- message of the day
  - creating 7
  - description of 6, 7
- messages
  - boot file 35
  - boot, viewing 35
  - message of the day, creating 7
  - sending
    - e-mail 11
    - to individual users 8



- universally 9
  - write command 8
- system-specific at login 7
- metacharacters in file names 249
- mkfile command 332
- mkfs command 195, 258
- MNTFS file system 181, 187, 188
- mnttab file
  - changes in Solaris 8 181
  - displaying contents 187
  - file system 187, 188
- model file 401
- modems
  - administering, SAF 313
  - bidirectional, configuring 314
  - using 314
- modules, kernel 231
- monitor
  - Forth 23
  - option 130
  - port 312
  - program, SPARC platform 22
- monitoring processes 45
- more command 75
- mount at boot field 192
- mount command
  - and cache file systems 224
  - description of 195
  - example of use 198, 259, 310
  - general options 201
  - and inconsistencies 200
  - largefiles option 204, 205
  - single file system 205
  - UFS logging 203
- mount options field 192
- mount point field 191
- mount points
  - /cdrom 269
  - CD-ROMs, volume management 269
  - creating cache 225
  - DVD-ROM devices 257
  - /floppy 270
  - volume management 270
- mount table
  - changes in Solaris 8 181
  - file system 187
- mountall command
  - description of 195, 200

- /etc/vfstab file 191
  - example of use 153, 204
- mounted file systems
  - and inconsistencies 200
  - determining type 99
  - displaying list of 203
- mounting
  - all file systems 204
  - cache file system 225
  - CD-ROMs 265
  - directories, automounting 207
  - file systems 200–205
  - home directories
    - AutoFS 150
    - choosing a method 149
    - NFS-mounting 153
  - UDF file systems 259
- moving files 92
- mt command 246
- multiple copies, printing 429
- multiuser state
  - booting 34
  - description of 20
- multiuser systems
  - rebooting 45
  - shutting down 43, 45
- mv command 90, 92

**N**

- NAMEFS 188
- nameservice switch file
  - configuring 338
  - defining search order 349
  - network authentication 342
  - printers 389
- nameservices
  - nsswitch.conf file 349
  - printing 409
- naming
  - files with metacharacters 249
  - home directories 149
- naming conventions
  - disk 296
  - IA disks with bus controller 297
  - tape drives 241, 242
- ncheck command 195
- ncsd command 178
- Netgroup table 351
- netmasks file 339

- Netmasks table 351
  - netpr output module 392
  - netstat command
    - active TCP and UDP ports 355
    - kernel routing tables 356
    - network interfaces 356
  - network authentication, rlogin command 344
  - network interfaces
    - displaying 357
    - displaying status 356
    - parameters, displaying 356
    - specifying 338
  - network printers
    - adding with Print Manager 418
    - support 392
  - network status, showing 355
  - network-based file systems 183
  - networks
    - configuring 337
    - messages, sending 9
    - print request, scheduling 396
  - Networks table 351
  - new command mode 23
  - new hardware boot 36
  - newfs command 277, 309
  - NFS
    - client failover 192
    - file system 183
    - mount type, finding 98
  - nice command 46, 65
  - NIS map, printers.conf.byname 392
  - NIS+
    - administrative commands 352
    - Aliases table 351
    - Auto\_Home table 351
    - Auto\_Master table 351
    - Bootparams table 350
    - Cred table 350
    - databases, administering 349
    - Ethers table 351
    - group table 350
    - Hosts table 350
    - Netgroup table 351
    - Netmasks table 351
    - Networks table 351
    - Password table 350
    - Protocols table 351
    - RPC table 351
    - security 353
    - Services table 351
    - tables 350
    - Timezone table 351
  - niscat command 143, 352
  - nislclient command 143
  - nisgrep command 352
  - nismatch command 144, 352
  - nistbladm command 143, 144, 352
  - noclobber option 130
  - noexec option 130
  - noglob option 130
  - nohup alias 133
  - nolog option 130
  - none security level 28
  - no-rewind option, tape drives 243
  - notifications (printing) 428
  - nounset option 131
  - nsswitch.conf file
    - See also* nameservice switch file
    - description of 349
    - printers 389, 409
  - numbered command, repeating 127
  - nvrnrc command 25
- O**
- oem-banner command 25
  - oem-banner? command 25
  - ok OpenBoot PROM prompt 32
  - onboard BIOS 29
  - online help 94
  - OpenBoot PROM
    - auto-boot? command 24
    - bootblk, primary boot program 22
    - boot-command command 24
    - boot-device command 24
    - boot-file command 24
    - configuration parameters 23
    - diag-device command 24
    - diag-file command 24
    - diag-level command 24
    - diag-switch? command 24
    - displaying commands 26
    - fcode-debug? command 24
    - firmware security levels 28
    - help command 27
    - input-device command 24
    - keyboard-click? command 24
    - keymap command 24

- nvrnrc command 25
- oem-banner command 25
- oem-banner? command 25
- ok prompt 32
- output-device command 25
- password command 28
- printenv command 26, 28
- sbus-probe-list command 25
- scsi-initiator-id command 25
- security-mode command 25
- security-password command 25
- self-test diagnostics 22
- set-defaults command 28
- setenv command 28
- SPARC platform 22
- state 20
- ttya-ignore-cd command 26
- ttya-mode command 25
- ttya-rtt-dtr-off command 26
- ttyb-ignore-cd command 26
- ttyb-mode command 25
- ttyb-rtt-dtr-off command 26
- upgrades 22
- use-nvrnrc? command 26
- version2? command 26
- watchdog-reboot? command 26
- OPENWINHOME environment variable 119
- operator, pipe 122
- /opt directory 189
- options
  - enabling (Korn shell) 131
  - Korn shell 129
  - lp command 400
  - lpstat command 433
  - mount command 201
  - rup command 340
  - table of Korn shell 130
- OS release level, determining 316
- output-device command 25
- ownership
  - file, changing 77, 438
  - group, changing 441
- P**
- packages, print 390, 391
- packets
  - contents, displaying 358
  - displaying all 358
- PAM and rlogin command 342
- pam\_roles command 178
- parameters
  - displaying interface network 356
  - OpenBoot PROM configuration 23
  - tunable, displaying 318
- pargs command 47
- partition, *See* slice
- partitions, alternative fdisk 261
- passphrases
  - changing private key 380
  - private key 381
- passwd command 143, 163
- passwd file, editing 145
- password command, OpenBoot PROM 28
- Password table 350
- passwords
  - /etc/shadow file 162
  - creating 162
  - creating local 163
  - root 4
- PATH environment variable 117
- path environment variable, C shell 119
- path length limit, tar command 247
- path\_to\_inst database 231
- paths, problems with 435
- pax command 241, 253
- pboot program 31
- PC BIOS
  - IA platform 29
  - self-test diagnostics 31
- PCFS file system
  - description of 182
  - diskettes
    - formatting 294
    - mounting 288, 294
    - unmounting 295
  - media types 183
- pcrcd command 47, 55
- permissions
  - file, changing 77, 439
  - troubleshooting 438
  - umask 159
- pfcs command 177, 178
- pfexec command 177, 178
- pfiles command 47, 55
- pfksh command 177, 178
- pflags command 47, 55
- pfsh command 177, 178
- pgrep command 46, 66

- physical device name 240
- ping command 340
- pipe operator 122
- pkgrm command 171
- pkill command 46, 66
- platform differences, slices 300
- pldd command 47, 55
- Pluggable Authentication Module *See* PAM
- pmadm command 313
- pmap command 47, 55
- policy.conf command 178
- poolbind command 60
- poolcfg command 60
- pools, resource management 60
- port monitor
  - description of 312
  - getty 312
  - listen 312
  - SAF 312
  - ttymon 312
- portable archive interchange command 253
- ports
  - command 231
  - displaying status of 355
- {\_POSIX\_CHOWN\_RESTRICTED} option
  - 77, 439
- POSIX-compliant systems 253
- POSIX-style printer names 410
- PostScript
  - directory 397
  - print clients, configuring 426
- power-down state (5) 20
- preap command 54
- Primary Administrator, RBAC 175
- primary boot program 22
- primary boot subsystem, IA platform 29, 30
- primary group 164
- Print Client 392
- Print Client software 393
- print clients
  - configuration resources 409
  - description of 408
  - PostScript, configuring 426
  - print requests, submitting 410
  - processes 411
- Print Manager, Solaris
  - and nameservices 394
  - description of 389, 412
  - new attached printer, adding 416
  - new network printer, adding 418
  - printer access, adding 415
- print protocol adapter 391
- print queue logs, LP Print service 404
- print requests
  - scheduling network 396
  - submitting 410
- print servers, setting up 411, 421
- printenv command 26, 28
- printer interface program, LP print service 397
- printers
  - adding access with Print Manager 415
  - availability 430
  - characteristics, displaying 432
  - database 389
  - default, printing to 428
  - definitions 402
  - file 402
  - managing with LDAP 388
  - network printers, support 392
  - nsswitch.conf file 409
  - printing to by name 428
  - setting up 161
  - status
    - determining 429
    - displaying 430, 432
  - USB support 388
- printers.conf.byname map 392
- printing
  - administrative tools 393
  - alerts 399
  - atomic-style names 410
  - BSD protocol 392
  - codes, LP requests log 406
  - context-based style 411
  - default printers 428
  - filtering 397
  - forms, tracking 398
  - job complete notifications, requesting 428
  - lp cron job 398
  - LP print service, description of 394
  - lpsched daemon 394, 398
  - multiple copies 429
  - nameservice 409
  - packages 391
  - POSIX style names 410
  - print client 408

- Print Client software 392
- Print Manager, adding new attached
  - printer 416
- print packages 390
- print protocol adapter 391
- printwheels, tracking 398
- requests
  - cancelling 433
  - scheduling 395
- services, configuring 411
- tool features 393
- xfn format 420
- printing commands
  - lp command 410
  - lpr command 410
  - printmgr command 413
  - user commands 400, 427
- printing files
  - alert.sh shell 402
  - alert.vars file 402
  - alerts file 401
  - classes file 401
  - comment file 402
  - configuration files 401, 402
  - fd file 401
  - forms file 401
  - history logs 405
  - interfaces file 401
  - log files 398, 401, 404
  - lpsched log 405
  - model file 401
  - netpr output module 392
  - netstandard script 392
  - PostScript directory 397
  - printers file 402
  - printers.conf.byname map 392
  - prints.conf file 392
  - pwheels file 402
  - users.deny list 402
- printmgr command 413
- prints.conf file 392
- printwheels, tracking 398
- prionctl command 46, 58
- priorities
  - processes, changing 65
  - setting for processes 62
- priority control command 58
- private keys
  - naming conventions 360
- passphrases
  - automating 381
  - changing 380
- privileged option 131
- /proc directory 185, 190
- /proc file system
  - enhancements 186
  - watchpoints 186
- process commands 55
- process file system (procfs) 46
- process priority, changing 66
- process status 45
- processes
  - controlling information 56
  - finding 66
  - global priorities, displaying 61
  - information
    - controlling 56
    - displaying 56, 57, 58
  - killing 53
  - monitoring 45
  - print client 411
  - priorities, changing 65
  - ps command
    - description of 48
    - reports 48, 52
  - scheduling classes
    - changing 63
    - displaying information 60
  - setting priorities 62
  - signalling 46, 53, 66
  - tools 47
  - troubleshooting 52
- processor type 316
- PROCFS (Process File System) 46, 185, 190
- prof\_attr database 177
- .profile file 129
- ~/profile file 137
- profile file, Bourne-Again shell 137
- profiles
  - attributes 177
  - command 178
  - execution attributes 177
  - shells 177
- project database 60
- PROM
  - See also* OpenBoot PROM
  - > prompt 32
  - banner command 23

- configuration parameters 24–26
  - OpenBoot, SPARC platform 22
  - release, displaying 23
  - SPARC 23
  - prompt
    - > OpenBoot PROM 32
    - default
      - Bourne shell 115
      - Bourne-Again shell 115
      - C shell 114
      - Korn shell 115
      - TC shell 115
      - Z shell 115
    - environment variable 119
    - ok OpenBoot PROM 32
    - rlogin command 345
    - superuser 4
  - protocol, Internet
    - IPv4 353
    - IPv6 353
  - Protocols table 351
  - prtconf command 232, 317
  - prvtoc command 304
  - prun command 47, 55
  - ps command
    - description of 45, 46, 48
    - reports 48, 52
  - PS1 environment variable 116
  - pseudo file systems, *See* virtual file systems
  - psig command 47, 55
  - pstack command 47, 55
  - pstop command 47, 55
  - ptime command 47, 55
  - ptree command 47, 55
  - public key
    - authentication, SSH 377
    - naming conventions 360
    - using 380
  - pwait command 47, 55
  - pwd command 68
  - pwdx command 47, 55
  - pwheels file 402
- Q**
- QIC format, SCSI tape drives 245
- R**
- r alias 133
  - rack-mounted 1/2-inch tape drives 244
  - raw device names
    - diskette 288
    - disks 296
  - RBAC
    - auth\_attr database 177
    - authorizations
      - defining 177
      - description of 173
    - commands 178
    - databases 177
    - exec\_attr database 177
    - primary administrator, description of 175
    - prof\_attr database 177
    - profile
      - attributes 177
      - execution attributes 177
      - shells 177
    - roles 173
    - user\_attr database 177
  - rc0 script 16
  - rc1 script 16
  - rc2 script 16
  - rc3 script 18
  - rc5 script 19
  - rc6 script 19
  - RCM scripting
    - commands 230
    - description of 230
  - rcp command 346
  - rcS script 19
  - read permissions, granting 439
  - read/execute permissions 441
  - read/write permissions 441
  - read/write/execute permissions 441
  - read-only permissions 441
  - real-time (RT) scheduling class 59
  - reboot
    - command 43
    - multiuser systems 45
    - state 21
    - state (6) 21
  - reconfiguration boot 36, 232
  - reconfiguration, dynamic 239
  - /reconfigure file 257
  - record, master boot 31
  - recovery boot 38, 39
  - redirecting command output 122
  - referencing site initialization files 156

- reformatting
  - diskettes 289
  - disks 307
- registration
  - disabling 170
  - errors 169
  - restarting 170
  - Solaris user 168
- rehash command 127
- reject command 403
- release
  - OpenBoot PROM, displaying 23
  - OS level, displaying 316
- remote copy command 346
- remote login authentication 342
- remote resource-sharing state (3) 20
- remote systems
  - activity, checking 340
  - checking 339
  - files, transferring 346
  - load averages, checking 339
  - logging in 342
  - logging out 346
  - uptime, checking 339
- remounting without large files 205
- Removable Media Manager 282–285
  - description of 255
  - starting 255
  - supported devices 256
- renice command 46, 66
- repairing
  - disk blocks 307
  - disks 305–311
- repeat last word command, C shell 127
- replacing disks 307
- reports, ps command 48, 52
- request logs, LP print service 406
- requesting 428
- reserved UIDs 146
- resource management pools 60
- restarting Solaris User Registration 170
- restoring file systems
  - full backup 215
  - interactively 216
  - preparing for 214
  - single file 218
- restricted option 131
- retrieving
  - files from diskettes 292
  - files from tapes 252, 254
- reusing Korn shell commands 136
- rewind command 246
- rewinding tapes 246
- .rhosts file 343
- rights
  - granting to user accounts 174
  - table of 174
- rlogin command 341
  - authentication 342
  - /etc/hosts.equiv file 343
  - login prompt 345
  - network authentication 344
  - remote system authentication 343
  - .rhosts file 343
- rlogin command and PAM 342
- rmmount command 269
- rmmount directory 268
- rmmount.conf file 268
- role accounts, definition of 176
- roleadd command 178
- role-based access control, *See* RBAC
- roledel command 178
- rolemod command 178
- roles 173
  - adding 178
  - commands 178
  - deleting 178
  - modifying 178
  - user\_attr database 177
- root
  - default shell 5
  - directory 188
  - environment variables 5
  - logging in as 6
  - password 4
  - unauthorized access 5
- root login, secure 386
- routing tables, displaying kernel 356
- RPC table 351
- rpcinfo command 340
- RSA public key (v1) 361
- RSA/DSA public key (v2) 361
- run control
  - default scripts 15
  - script run order 16
  - scripts 15, 23, 32
- run levels
  - 1 20

- 2 20
- 3 20
- 4 20
- 5 20
- 6 21
- changing 21
- choosing 19
- description of 11
- finding for a system 19
- S 20
- single user 20
- runat command 180
- rup command 339, 340
- rusers -l command 85, 87
- rwall command 6, 9, 10

## S

- S5FS file system 182, 183
- sac command 313
- sacadm command 313
- SAF 312
  - alphanumeric terminals,
    - administering 313
  - commands 313
  - listen port monitor 312, 313
  - modems, administering 313
  - pmadm command 313
  - port monitor 312
  - and printers 313
  - sac command 313
  - sacadm command 313
  - ttyadm command 313
  - ttymon port monitor 312, 313
- savecore command 38
- /sbin/init command 12
- /sbin/init process 23
- /sbin/rc0 script 16
- /sbin/rc1 script 16
- /sbin/rc2 script 16
- /sbin/rc3 script 18
- /sbin/rc5 script 19
- /sbin/rc6 script 19
- /sbin/rcS script 19
- sbus-probe-list command 25
- schedule, backup 211
- scheduling class
  - fair-share (FS)
    - description of 59
    - parameters 64
  - fixed-priority (FX)
    - description of 59
    - setting parameters 64
  - interactive (IA) 59
  - processes
    - changing 63
    - displaying information 60
  - real-time (RT) 59
  - system (SYS) 59
  - timesharing (TS) 59
- scheduling parameters
  - displaying 58
  - setting 58
- scp command 384
- scripting, RCM commands 230
- scripts
  - /etc/bootrc 32
  - /sbin/rc0 16
  - /sbin/rc1 16
  - /sbin/rc2 16
  - /sbin/rc3 18
  - /sbin/rc5 19
  - /sbin/rc6 19
  - /sbin/rcS 19
  - run control 15, 32
- SCSI
  - 1/4-inch cartridge drives 245
  - 4mm Wang/DAT tape drive 245
  - 8mm Exabyte tape drive 245
  - AIT tape drive 245
  - controller
    - maximum number 244
    - syntax 296
  - devices, hot-plugging 239
  - DLT tape drive 245
  - tape drive, QIC format 245
- scsi-initiator-id command 25
- search paths
  - CDE variables 80
  - current, displaying 436
  - problems with 435
  - setting
    - Bourne and Korn shells 436
    - C shell 437
  - sourcing 437
- secondary boot program
  - boot.bin 31
  - ufsboot 22, 31
- secondary boot subsystem, IA platform 30



- section numbers, finding manual pages 95, 96
- secure file transfer 386
- secure root login 386
- Secure Shell, *See* SSH
- security levels
  - command 28
  - full 28
  - none 28
  - OpenBoot PROM firmware 28
  - setting with eeprom command 28
- security risk
  - hosts.equiv file 343
  - .rhosts file 343
- security, NIS+ 353
- security-mode command 25
- security-password command 25
- self-test diagnostics
  - BIOS 29
  - PC BIOS 31
  - SPARC OpenBoot PROM 22
- semicolon command 121
- sending messages
  - e-mail 11
  - universally 9
  - write command 8
- sendmail program 161
- servers
  - files, sharing 207
  - print servers, configuring 411, 421, 422
- Service Access Facility, *See* SAF
- Services table 351
- set history command 126
- set -o command 129
- set-defaults command 28
- setenv command 28
- setting up
  - group accounts 164
  - manual pages 96
  - user initialization files 157
- sftp command 385
- sh command 115
- shadow file 162
- sharing
  - files, servers 207
  - home directories 151
- SHELL environment variable 119
- shells 113–139
  - alert.sh 402
  - bash 137
  - Bourne 113, 123
  - Bourne-Again 137
  - C 124
  - changing from command line 114
  - commands 114
  - comparison table 113
  - exiting 115
  - Korn 129
  - RBAC profile 177
  - root default 5
  - setting default 114
  - TC 138
  - windows, clearing 121
  - Z 138
- shutdown command 12, 41, 42, 44
- shutting down
  - grace periods, changing 44
  - multiuser systems 45
  - on-the-fly 45
  - single-user systems 45
  - without confirmation 44
- signals, process 46, 53
- single-user state
  - booting 34
  - description of 20
- single-user systems, shutting down 45
- site initialization files
  - avoiding local references 157
  - description of 156
  - example 156
  - reference to 156
- slices
  - constraints 300
  - customary assignments 298
  - disks 297
  - disks IA-based 301
  - disks, choosing 302
  - disks, configuring 300
  - IA disks 301
  - naming conventions
    - IA 301
    - SPARC 300
  - platform differences 300
  - requirements 302
- SMC
  - Computers and Networks tool 353
  - Console, elements of 83
  - description of 80

- Disks tools 303
- starting 82
- tools, list of 81
- smc command 82
- snapshot, UFS
  - backing-store file 218
  - description of 218
- snapshots, UFS
  - backing up 223
  - creating 221
  - deleting 222
  - restoring data from 223
- snoop command 358–359
- software, Print Client 392
- Solaris default file system 188
- Solaris device configuration assistant, IA platform 30
- Solaris Live Upgrade, *See* Live Upgrade
- Solaris Management Console, *See* SMC
- Solaris Print Manager
  - and nameservices 394
  - description of 389, 412
- Solaris Solve Web site 169
- Solaris User Registration
  - description of 168
  - disabling 170
  - restarting 170
- solregis command 168, 170
- sort command 143, 144
- sourcing
  - C shell search paths 437
  - dot files 437
- SPARC disks
  - bus controller naming conventions 297
  - direct controllers 299
- SPARC platform
  - boot process 22
  - monitor program 22
  - OpenBoot PROM 22
  - recovery boot 38
- SPARC PROM 23
- SPECFS (special file system) 188
- special files, copying to tape 250
- spooling directories, LP print service 407
- SSH 359–386
  - authentication methods 360
  - authorized\_keys file 380
  - benefits of 362
  - clients, configuring 362
  - commands 359, 384
  - common uses 386
  - configuration 362
    - /etc/init.d/sshd script 362
  - pre-Solaris 9 releases 386
  - private key, changing passphrase 380
  - private/public key naming conventions 360
  - public key authentication 377
  - reference book 386
  - servers, configuring 368
  - X11 forwarding 376
- ssh command 378, 380, 384
- ssh\_config file 362
- ssh\_config file, valid keywords 363
- ssh-add command 382
- ssh-agent command 382
- sshd daemon 380
- sshd\_config file
  - default file 368
  - keywords 371
- ssh-keygen command 378
- state flag 209
- states
  - administrative 20
  - init table of 11
  - multiuser 20
  - OpenBoot PROM 20
  - power-down 20
  - reboot 21
  - remote resource sharing 20
  - single-user 20
  - system 12
- status
  - displaying network interface 356
  - displaying port 355
  - showing network 355
- stop alias 134
- Stop-A 41
- storing environment variables 119
- streaming tapes 246
- stty erase command 121
- su - command 5
- su (switch user) command 4
- subsets of files, retrieving from tapes 252
- subsystems, boot, IA platform 29
- sulog file 5
- suninstall command, Flash archive installation 107

- SunSoft print client 408
- superuser
  - becoming 5
  - capabilities, dividing 173
  - exiting 5
  - prompt 4
  - status 4–6
  - unauthorized access 5
- suspend alias 134
- SVR4 1
- swap command 332
- swap space, configuring 332–334
- SWAPFS 188
- sysdef command 232, 318
- sysdef -h command 315
- system administration
  - duties 2
  - state (1) 20
  - tasks 2–4
- system scheduling class 59
- System V (S5) file system 183
- systems
  - boot time, determining 330
  - booting 32
  - configuration, displaying 317
  - configurations 302
  - configuring for network 337
  - date and time
    - determining 331
    - setting 331
  - environments
    - displaying 79
    - setting 79
  - files, transferring 346
  - hardware type, determining 316
  - local mail aliases, creating 334
  - OS release levels, determining 316
  - POSIX-compliant 253
  - remote systems, checking 339
  - rlogin command 341
  - run level, finding 19
  - shutdown 41
  - shutting down
    - on-the-fly 45
    - without confirmation 44
  - states 12
  - swap space, configuring 332–334
  - system-specific information, displaying 315
  - time zones, changing 331
  - uptime, determining 330
  - system-specific messages 7
- T**
- table of contents of tapes, listing 251
- tables
  - displaying kernel routing 356
  - fdisk 31
  - hash 127
  - NIS+ 350
  - shell comparison 113
- tail command 76
- tape characteristics, specifying with
  - ufsdump 212
- tape drives
  - 1/2-inch front-loaded reel drives 245
  - 4mm Wang/DAT 245
  - 8mm Exabyte 245
  - default densities, specifying 242
  - densities, specifying 243
  - helical scan drives 245
  - logical device name 242
  - names, specifying 243
  - naming conventions 241, 242, 243
  - rack-mounted 1/2-inch reel drives 244
  - SCSI
    - 1/4-inch tape drives 245
    - QIC 245
  - status, displaying 246
- tapes
  - command 231
  - controller device abbreviations 244
  - device names 242
  - device-naming conventions 241
  - directories
    - copying to 246, 251
    - retrieving from 249
  - drive number 242
  - files
    - appending to 248
    - copying 253
    - copying to 246, 247
    - listing 248
    - retrieving from 249, 252, 254
    - retrieving subsets 252
  - no-rewind option 243
  - rewinding 246
  - special files, copying 250

- streaming 246
  - table of contents, listing 251
  - tar command
    - diskettes 285
    - example of use 247
    - listing files on diskette 291
    - path length limit 247
    - when to use 241, 246
  - tasks 60
    - system administration 2–4
    - user account 145
  - TC shell
    - ~/cshdirs file 138
    - description of 138
    - /etc/csh.cshrc file 138
    - /etc/csh.login file 138
    - ~/history file 138
    - initialization files 138
    - ~/login file 138
    - prompt 115
    - ~/tcshrc file 138
  - TCP ports, displaying status 355
  - TCP/IP, configuring 338
  - tcsh command 115, 138
  - ~/tcshrc file 138
  - telinit command 21, 42
  - TERM environment variable 119
  - terminfo database 402
  - TERMINFO environment variable 119
  - text strings in files, searching 74
  - time stamp, /etc/motd file 7
  - time zones, changing 331
  - time, setting system 331
  - timesharing (TS) scheduling class 59
  - TIMEZONE file 332
  - Timezone table 351
  - tip command 314
  - /tmp directory 184, 189
  - TMPFS (Temporary File System) 181, 184, 189
  - tools
    - administration 67
    - Removable Media Manager 282–285
    - SMC 81
    - user account administration 142
  - touch command 90, 257
  - trackall option 131
  - transferring files between systems 346
  - troubleshooting
    - file ownership 438
    - permissions 438
    - processes 52
    - volume management 286
  - trusted hosts 343
  - ttyadm command 313
  - ttya-ignore-cd command 26
  - ttya-mode command 25
  - ttya-rts-dtr-off command 26
  - ttyb-ignore-cd command 26
  - ttyb-mode command 25
  - ttyb-rts-dtr-off command 26
  - ttymon port monitor 312, 313
  - tunable parameters, displaying 318
  - types of file systems 182
  - TZ environment variable 119
- ## U
- UDF file systems
    - compatibility 257
    - creating 258
    - description of 181, 182
    - labeling 259
    - media types 183
    - mounting 259
    - parameters, displaying 258
    - requirements 257
    - type, determining 258
    - unmounting 259
  - UDFS file systems 256
  - UDP ports, displaying status 355
  - UFS file systems
    - description of 182
    - diskettes, formatting 289
    - format limitations with volume management 271, 276
    - media types 183
    - /opt file system 189
    - root file system 188
    - /var file system 189
  - UFS logging 202
  - UFS snapshots
    - backing up 223
    - backing-store file 218
    - creating 221
    - deleting 222
    - description of 218
    - fssnap command 218
    - restoring data from 223
  - ufsboot command 31

- ufsboot secondary boot program 22, 31
  - ufsdump command
    - description of 212
    - example of use 311
    - tape characteristics 212
  - ufsrestore command
    - description of 212
    - example of use 215, 218, 310
    - interactive 216
  - UIDs
    - description of 146
    - finding settings 88
    - large 147
    - reserved 146
  - umask command
    - permission values 159
    - syntax 159
  - umount command
    - description of 195, 200
    - example of 311
    - file systems, individual 206
    - file systems, remote 206
    - UDF file system 259
  - umountall command 195, 200
  - uname command 316
  - unauthorized root access 5
  - Universal Disk Format file systems, *See*
    - UDF file systems
  - UNIX shells 113–139
  - unmounting
    - all remote file systems 206
    - CD-ROMs 275
    - file systems 200, 206–??
    - individual file systems 206
    - UDF file systems 259
  - unmounting file systems ??–206
  - upgrades, OpenBoot PROM 22
  - uprops file 170
  - uptime command 330
  - USB ports
    - Jaz drives 260
    - Zip drives 260
  - USB printer support 388
  - use-nvramrc? command 26
  - user accounts
    - adding 145
    - administration commands 143
    - administration tools 142
    - checklist 144
    - configuring mail 160
    - deleting 168
    - disabling 163
    - initialization files 154
    - passwords, creating 162
    - printers, setting up 161
    - rights, granting 174
    - setting up 153, 155, 158, 159
    - tasks 145
    - UIDs 146
  - user IDs, *See* UIDs
  - user initialization files
    - editing 158
    - setting up 157
  - User List field 166
  - User Registration 168
  - user\_attr database 177
  - useradd command 141, 143, 178
  - useradd -D command 143
  - userdel command 141, 143, 178
  - usermod command 141, 143, 178
  - users
    - communication with 6
    - determining logons 85
    - finding information 85
    - messages, sending 8
    - registration 169
    - superusers 4
  - users.deny list 402
  - /usr directory 189
  - /usr/lib/lp/model/netstandard interface
    - script 392
  - /usr/lib/lp/postscript directory 397
  - /usr/lib/rmmount directory 268
  - /usr/proc/bin directory 55
  - /usr/sbin/dmesg command 35
  - /usr/sbin/vold daemon 266
  - /usr/share/lib/zoneinfo directory 331
- ## V
- /var directory 189
  - /var/adm/messages file 35
  - /var/adm/sulog file 5
  - /var/adm/vold.log file 269
  - /var/lp/logs/lpsched daemon 398
  - variables
    - CDE
      - description of 79
      - input variables 79

- search path 80
    - modifying configuration 27
    - viewing configuration 27
  - variables, environment, *See* environment variables
  - verbose option 131
  - version2? command 26
  - VFS 179
  - vfstab file 190–194
    - cache file systems 224, 226
    - contents 190
    - device to fsck field 191
    - device to mount field 191
    - entries, creating 193
    - fields 191
    - FS type field 191
    - fsck pass\* field 192
    - mount at boot field 192
    - mount options field 192
    - mount point field 191
  - vi command
    - description of 92
    - frequently used options 93
    - options 131
  - viewing
    - boot messages 35
    - files
      - beginning 76
      - end of 76
      - more command 75
    - manual pages 94
  - viraw option 131
  - virtual file systems
    - architecture 179
    - description of 184
    - table 190
  - visual editor command 92
  - VISUAL environment variable 134
  - volcheck command 269, 276, 277
  - volcopy command 195
  - vold.conf file 266
  - vold.log file 266, 269
  - volume management
    - CD-ROM mount points 269
    - CD-ROMs 265
    - debugging messages 269
    - disabling 287
    - diskette drives 267
    - diskettes 276
    - DVD devices 267
    - /etc/rmmount.conf file 268
    - files 266
    - /floppy mount point 270
    - Jaz drives 260
    - mount points 270
    - rmmount command 269
    - rmmount directory 268
    - troubleshooting 286
    - UFS format limitations 271, 276
    - /usr/lib/vold directory 268
    - volcheck command 269
    - vold daemon 266
    - vold.conf file 266
    - vold.log file 266, 269
    - workman 287
  - volume table of contents, printing 304
- W**
- w command 85
  - wall command
    - console window 9
    - description of 9
    - example of use 10
  - Wang/DAT 4mm tape drive 245
  - watchdog-reboot? command 26
  - WebStart Flash archive installation 106
  - whatis command 96
  - whence command 437
  - which command 437
  - who -b command 330
  - who command 85, 86
  - whodo command 85, 87
  - windows
    - clearing 121
    - File Manager CD-ROM 272
  - workman and volume management 287
  - write command
    - console window 8
    - description of 8
    - example of use 8
    - sending message from a file 9
  - write/execute permissions 440
  - write-only permissions 440
- X**
- X11 forwarding 376
  - xfn format 420
  - XMEMFS file system 181

XMICONBMSEARCHPATH environment

variable 80

XMICONSEARCHPATH environment

variable 80

xtrace option 131

## Y

ypcat command 143

ypmatch command 144

## Z

Z shell

description of 138

/etc/zlogin file 139

/etc/zprofile file 139

/etc/zshenv file 139

/etc/zshrc file 139

initialization files 139

prompt 115

ZDOTDIR 139

.zlogin file 139

.zshrc file 139

ZDOTDIR environment variable 139

Zip drives

fdisk partition 261

USB, using 260

.zlogin file 139

zombie processes, reaping 54

zoneinfo directory 331

zsh command 115, 138

.zshrc file 139