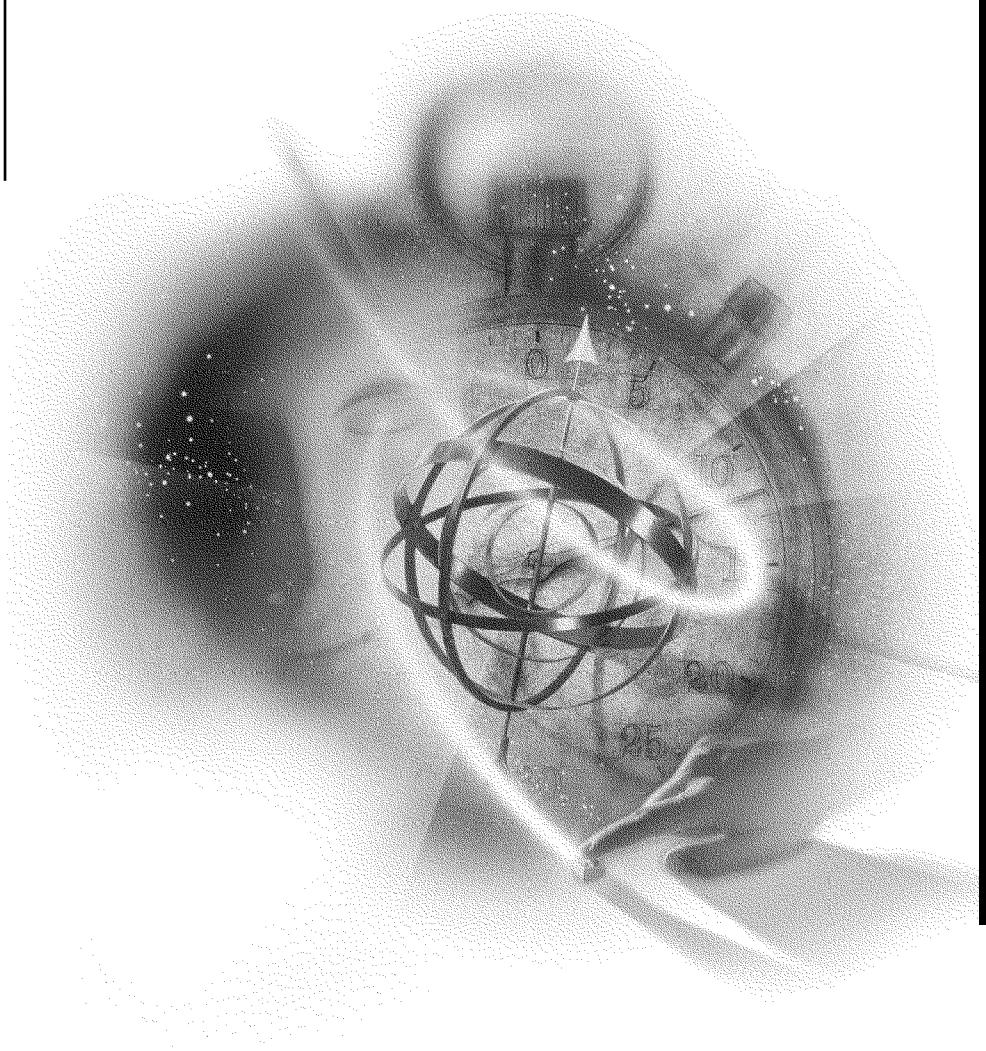
Utilities Reference



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NETWORKING SOFTWARE

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July 1993

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Contents

How to Use This Manual 23

Organization of the Manual . . . 24
- Utilities . . . 24
- Index . . . 24

Types of NetWare Utilities . . . 25

Using Command Line Utilities . . . 26
- Command Format . . . 26

Using Menu Utilities . . . 28
- Accessing a Menu Utility . . . 28
- Exiting a Menu Utility . . . 28
- Additional Information . . . 29
- Keys . . . 29
- Components . . . 29

Using Console Commands . . . 31
- Switching Console Sessions . . . 31
- Editing Console Commands . . . 32
- Command Format . . . 32

Using SERVER . . . 33
- Command format . . . 33

Using NetWare Loadable Modules . . . 34
- Command Format . . . 34
- Additional Information . . . 35

1 Utilities 37

ACONSOLE . . . 38
- Why Use ACONSOLE? . . . 38
- Command Format . . . 38

ADD NAME SPACE . . . 39
- Why Use ADD NAME SPACE? . . . 39
- Command Format . . . 39

ALLOW . . . 40
- Why Use ALLOW? . . . 40
- Command Format . . . 40
- Additional Information . . . 40
- Use ALLOW to Revoke or to Allow Rights . . . 42

ATOTAL . . . 43
Why Use ATOTAL? . . . 43
Command Format . . . 43
Additional Information . . . 43
View a Summary of the Network Accounting Services . . . 43
Redirect ATOTAL Data to a File and Print a Copy . . . 44
ATTACH . . . 45
Why Use ATTACH? . . . 45
Command Format . . . 45
Additional Information . . . 45
Access Additional File Servers . . . 46
BIND . . . 47
Why Use BIND? . . . 47
Command Format . . . 47
BINDFIX . . . 48
Why Use BINDFIX? . . . 48
Command Format . . . 48
Additional Information . . . 48
Repair the Bindery . . . 49
BINDREST . . . 51
Why Use BINDREST? . . . 51
Command Format . . . 51
Additional Information . . . 51
Restore a Previous Version of the Bindery Files after Running BINDFIX . . . 51
BROADCAST . . . 52
Why Use BROADCAST? . . . 52
Command Format . . . 52
CAPTURE . . . 53
Why Use CAPTURE? . . . 53
Command Format . . . 53
CASTOFF . . . 54
Why Use CASTOFF? . . . 54
Command Format . . . 54
Block Messages from All Workstations . . . 54
Block Messages from All Network Stations . . . 54
CASTON . . . 55
Why Use CASTON? . . . 55
Command Format . . . 55
Allow Your Workstation to Receive Messages . . . 55
CHKDIR . . . 56
Why Use CHKDIR? . . . 56
Command Format . . . 56
Additional Information . . . 56
View Information about Your Directories and Volumes . . . 56

CHKVOL . . . 58
Why Use CHKVOL? . . . 58
Command Format . . . 58
Additional Information . . . 58
View Information about Your Default Volume . . . 59
View Information about Any Volume on Your File Server . . . 59
View Information about Volumes on Other File Servers . . . 60
View Information about Several Volumes . . . 60
Use Wildcard Characters . . . 60
CLEAR STATION . . . 62
Why Use CLEAR STATION? . . . 62
Command Format . . . 62
CLIB . . . 63
Why Use CLIB? . . . 63
Command Format . . . 63
CLS . . . 64
Why Use CLS? . . . 64
Command Format . . . 64
Clear the File Server Console Screen . . . 64
COLORPAL . . . 65
Why Use COLORPAL? . . . 65
Additional Information . . . 65
Get Ready to Run COLORPAL . . . 66
Run COLORPAL . . . 67
Change the Default Color Palettes . . . 68
Change the Default Color Palettes for Non-IBM Computers . . . 70
Change the Short Machine Type in the NET.CFG File . . . 71
Create New Color Palettes . . . 74
Delete Color Palettes . . . 76
Exit COLORPAL . . . 77
CONFIG . . . 78
Why Use CONFIG? . . . 78
Command Format . . . 78
DISABLE LOGIN . . . 79
Why Use DISABLE LOGIN? . . . 79
Command Format . . . 79
DISABLE TTS . . . 80
Why Use DISABLE TTS? . . . 80
Command Format . . . 80
DISKSET . . . 81
Why Use DISKSET? . . . 81
Command Syntax . . . 81

DISMOUNT . . . 82
Why Use DISMOUNT? . . . 82
Command Format . . . 82
DISPLAY NETWORKS . . . 83
Why Use DISPLAY NETWORKS? . . . 83
Command Format . . . 83
Display a List of Networks . . . 83
DISPLAY SERVERS . . . 84
Why Use DISPLAY SERVERS? . . . 84
Command Format . . . 84
Display a List of File Servers . . . 84
DOSGEN . . . 85
Why Use DOSGEN? . . . 85
Command Format . . . 85
Additional Information . . . 85
DOWN . . . 86
Why Use DOWN? . . . 86
Command Format . . . 86
DSPACE . . . 87
Why Use DSPACE? . . . 87
List and Change Current File Server Attachments . . . 87
Limit a User's Disk Space on a Volume . . . 88
Limit Disk Space in a Directory . . . 88
EDIT . . . 90
Why Use EDIT? . . . 90
Command Format . . . 90
ENABLE LOGIN . . . 91
Why Use ENABLE LOGIN? . . . 91
Command Format . . . 91
Additional Information . . . 91
Allow Users to Log In . . . 91
ENABLE TTS . . . 92
Why Use ENABLE TTS? . . . 92
Command Format . . . 92
ENDCAP . . . 93
Why Use ENDCAP? . . . 93
Command Format . . . 93
EXIT . . . 94
Why Use EXIT? . . . 94
Command Format . . . 94
Additional Information . . . 94
Return to DOS After Downing the File Server . . . 94

FCONSOLE . . . 95
Why Use FCONSOLE? . . . 95
Additional Information . . . 96
Broadcast a Console Message . . . 96
Change Current File Server . . . 97
Connection Information . . . 99
Shut Down a File Server . . . 101
View or Change File Server Status . . . 101
View Version Information . . . 102
FILER . . . 103
Why Use FILER? . . . 103
Current Directory Information . . . 103
View and Modify the Directory's Owner, Creation Date, and Time . . . 104
View Directory's Effective Rights . . . 105
View, Add, or Delete Directory Attributes . . . 105
View, Revoke, or Grant Rights in the Inherited Rights Mask . . . 106
View, Add, or Delete User or Group Trustees . . . 106
View, Revoke, or Grant User or Group Trustee Rights . . . 107
Directory Contents . . . 108
Mark a Directory Structure to be Copied . . . 110
Change the Ownership of a Directory Structure . . . 110
View or Modify the Current Directory and Its Subdirectories . . . 110
Delete Subdirectories and Files . . . 112
Use Subdirectory Options . . . 113
Use File Options . . . 117
Mark Subdirectories and Files . . . 127
Use Multiple Subdirectory Operations . . . 129
Use Multiple File Operations . . . 134
Select Current Directory . . . 138
Set Filer Options . . . 140
Confirm File Deletions . . . 140
Confirm File Copies . . . 142
Confirm File Overwrites . . . 142
Notify When Extended Attributes or Long Names Are Lost . . . 143
Preserve File Attributes . . . 143
Add, Delete, or Modify an Exclude Directory Pattern . . . 144
Add, Delete, or Modify an Include Directory Pattern . . . 145
Add, Delete, or Modify an Exclude File Pattern . . . 146
Add, Delete, or Modify an Include File Pattern . . . 146
Add or Delete File Search Attributes . . . 147
Add or Delete Directory Search Attributes . . . 148
View Volume Information . . . 149

FLAG . . . 150
Why Use FLAG? . . . 150
Command Format . . . 150
Attributes . . . 151
Additional Information . . . 153
Add and Delete File Attributes . . . 153
View and Change File Attributes in Your Default Directory . . . 154
View and Change File Attributes in Any Directory . . . 155
FLAGDIR . . . 157
Why Use FLAGDIR? . . . 157
Command Format . . . 157
Attributes . . . 157
Additional Information . . . 158
View Attributes of Your Default Directory . . . 159
Change Attributes of Your Default Directory . . . 160
Change Attributes of Any Directory . . . 161
View Volume Attributes . . . 162
Change Volume Attributes . . . 162
GRANT . . . 163
Why Use GRANT? . . . 163
Command Format . . . 163
Rights . . . 164
Additional Information . . . 165
Grant Rights in Directories . . . 166
Grant Rights in Files . . . 166
Task Examples . . . 167
INSTALL . . . 168
Why Use INSTALL? . . . 168
Command Format . . . 168
IPXS . . . 169
Why Use IPXS? . . . 169
Command Format . . . 169
Command Parameters . . . 169
Additional Information . . . 169
LISTDIR . . . 170
Why Use LISTDIR? . . . 170
Command Format . . . 170
Command Options . . . 170
Additional Information . . . 171
View Subdirectories in Your Default Directory . . . 171
View Subdirectories in Any Directory . . . 171
View the Inherited Rights Mask of Subdirectories . . . 172
View Your Effective Rights in Subdirectories . . . 172
View the Creation Date of Subdirectories . . . 172

View the Complete Directory Structure . . . 173
Use the /All Option . . . 173
LOAD . . . 174
Why Use LOAD? . . . 174
Command Format . . . 174
LOGIN . . . 175
Why Use LOGIN? . . . 175
Command Format . . . 175
Command Options . . . 175
Log In to Your Default File Server . . . 176
Log In to Any File Server . . . 176
Include a LOGIN Command in Your AUTOEXEC.BAT File . . . 177
Log Out with LOGIN . . . 177
LOGOUT . . . 179
Why Use LOGOUT? . . . 179
Command Format . . . 179
Log out of File Servers . . . 179
MAKEUSER . . . 180
Why Use MAKEUSER? . . . 180
Create and Delete Users . . . 180
Edit a USR File . . . 191
Process a USR File . . . 191
MAKEUSER Menu Utility . . . 192
MAKEUSER Command Line Utility . . . 193
MAP . . . 194
Why Use MAP? . . . 194
Command Formats . . . 194
Command Options . . . 195
Additional Information . . . 195
View Current Drive Mappings . . . 196
Create or Change a Drive Mappings . . . 196
Create or Change Search Drive Mappings . . . 199
Map a Drive to a Fake Root Directory . . . 200
MATHLIB . . . 203
Why Use MATHLIB? . . . 203
Command Format . . . 203
Command Parameters . . . 203
Additional Information . . . 203
MEMORY . . . 204
Why Use MEMORY? . . . 204
Command Format . . . 204
Additional Information . . . 204

MODULES . . . 205
Why Use MODULES? . . . 205
Command Format . . . 205
MONITOR . . . 206
Why Use MONITOR? . . . 206
Command Format . . . 206
MOUNT . . . 207
Why Use MOUNT? . . . 207
Command Format . . . 207
NAME . . . 208
Why Use NAME? . . . 208
Command Format . . . 208
NCOPY . . . 209
Why Use NCOPY? . . . 209
Command Format . . . 209
Command Options . . . 209
Additional Information . . . 210
Copy a File between Network Directories . . . 211
Copy Multiple Files . . . 212
NDIR . . . 213
Why Use NDIR? . . . 213
Command Format . . . 214
Command Options . . . 214
Tasks . . . 214
Sort Options . . . 215
Format Options . . . 215
Attribute Options . . . 216
Restriction Options . . . 217
View All Files and Subdirectories . . . 218
View One or More Files in Your Default Directory . . . 219
View One or More Files in Any Directory . . . 219
Use Wildcard Characters to View Related Files . . . 220
Use Options to View Default Directory Files . . . 220
View Macintosh Files . . . 222
NETBIOS . . . 223
Why Use NETBIOS? . . . 223
Command Format . . . 223
Command Options . . . 223
NMAGENT . . . 225
Why Use NMAGENT? . . . 225
Command Format . . . 225
Command Parameters . . . 225

NMENU . . . 226
Why Use NMENU? . . . 226
Command Format . . . 226
Additional Information . . . 226
Creating a Menu Program . . . 227
Converting an Existing MENU Program . . . 229
Modifying a Menu Program . . . 231
Using NMENU . . . 232
NPRINT . . . 243
Why Use NPRINT? . . . 243
Command Format . . . 243
NVER . . . 244
Why Use NVER? . . . 244
Command Format . . . 244
View NetWare Version . . . 244
NWXTRACT . . . 246
Task . . . 246
Command Syntax . . . 246
Command Parameters . . . 246
Examples . . . 246
OFF . . . 248
Why Use OFF? . . . 248
Command Format . . . 248
PAUDIT . . . 249
Why Use PAUDIT? . . . 249
Command Format . . . 249
Additional Information . . . 249
View System Accounting Records . . . 249
Redirect PAUDIT Data to a File and Print a Copy . . . 250
PCONSOLE . . . 251
Why Use PCONSOLE? . . . 251
PRINTCON . . . 252
Why Use PRINTCON? . . . 252
PRINTDEF . . . 253
Why Use PRINTDEF? . . . 253
PROTOCOL . . . 254
Why Use PROTOCOL? . . . 254
Command Format . . . 254
PSC . . . 255
Why Use PSC? . . . 255
Command Format . . . 255
PSERVER (Workstation Utility) . . . 256
Why Use PSERVER? . . . 256
Command Format . . . 256

PSERVER (Console Utility) . . . 257
Why Use PSERVER? . . . 257
Command Format . . . 257
PURGE . . . 258
Why Use PURGE? . . . 258
Command Format . . . 258
Additional Information . . . 258
Purge Files . . . 258
RCONSOLE . . . 260
Why Use RCONSOLE? . . . 260
Command Format . . . 260
Function Keys . . . 260
REGISTER MEMORY . . . 261
Why Use REGISTER MEMORY? . . . 261
Command Format . . . 261
Command Parameters . . . 261
REMOTE . . . 262
Why Use REMOTE? . . . 262
Command Format . . . 262
Command Parameters . . . 262
REMOVE . . . 263
Why Use REMOVE? . . . 263
Command Format . . . 263
Additional Information . . . 263
Remove a User from the Trustee List of a File or a Directory . . . 264
Remove a Group from the Trustee List of a File or a Directory . . . 265
REMOVE DOS . . . 267
Why Use REMOVE DOS? . . . 267
Command Format . . . 267
RENDIR . . . 268
Why Use RENDIR? . . . 268
Command Format . . . 268
Additional Information . . . 268
Rename Your Directories . . . 268
RESET ROUTER . . . 270
Why Use RESET ROUTER? . . . 270
Command Format . . . 270
REVOKE . . . 271
Why Use REVOKE? . . . 271
Command Format . . . 271
Rights . . . 272
Additional Information . . . 273
Revoke User Rights from a File or a Directory . . . 274
Revoke Group Rights from a File or a Directory . . . 275

RIGHTS . . . 276
Why Use RIGHTS? . . . 276
Command Format . . . 276
Additional Information . . . 276
View Effective Rights in Directories . . . 276
View Effective Rights in Files . . . 278
ROUTE . . . 280
Why Use ROUTE? . . . 280
Command Format . . . 280
Command Parameters . . . 280
RPRINTER . . . 281
Why Use RPRINTER? . . . 281
Command Format . . . 281
RS232 . . . 282
Why Use RS232? . . . 282
Command Format . . . 282
Command Parameters . . . 282
RSPX . . . 283
Why Use RSPX? . . . 283
Command Format . . . 283
Command Parameters . . . 283
Additional Information . . . 283
SALVAGE . . . 284
Why Use SALVAGE? . . . 284
Additional Information . . . 285
Salvage Files from Deleted Directories . . . 285
Purge Files from Deleted Directories . . . 286
Choose Current Directory . . . 287
Sort Salvageable Files . . . 288
Salvage Files from Current Directory . . . 288
Purge Files from Current Directory . . . 289
SEARCH . . . 291
Why Use SEARCH? . . . 291
Command Format . . . 291
Command Options . . . 291
SECURE CONSOLE . . . 292
Why Use SECURE CONSOLE? . . . 292
Command Format . . . 292
SECURITY . . . 293
Why Use SECURITY? . . . 293
Command Format . . . 293
Additional Information . . . 293
Check for Security Violations . . . 295

SEND (Command Line Utility) . . . 297
Why Use SEND? . . . 297
Command Format . . . 297
Additional Information . . . 298
Send a Message to One or More Users . . . 298
Send a Message to a Group . . . 298
Send a Message to the File Server . . . 299
Send a Message to All Workstations . . . 299
Send a Message to Several Workstations . . . 299
SEND (Console Command) . . . 300
Why Use SEND? . . . 300
Command Format . . . 300
SERVER . . . 301
Why Use SERVER? . . . 301
Command Format . . . 301
SESSION . . . 302
Why Use SESSION? . . . 302
Change Current Server . . . 302
Drive Mappings . . . 303
Group List . . . 303
Search Mappings . . . 303
Choose Default Drive . . . 303
User List . . . 303
Attach to Another File Server . . . 304
Log Out of a File Server . . . 304
Change to a Different Username on the Current File Server . . . 305
Add a Drive Mapping . . . 306
Delete a Drive Mapping . . . 307
Modify a Drive Mapping . . . 308
View Groups . . . 309
Send a Message to a Group . . . 310
Display Search Drive Mapping Information . . . 310
Add a Search Drive Mapping . . . 311
Modify a Search Drive Mapping . . . 312
Delete a Search Drive Mapping . . . 314
Change the Default Drive . . . 314
View User Information . . . 315
Send a Message to a User . . . 315
SET . . . 317
Why Use SET? . . . 317
Command Format . . . 317
SET TIME . . . 318
Why Use SET TIME? . . . 318
Command Format . . . 318

SETPASS . . . 319
Why Use SETPASS? . . . 319
Command Format . . . 319
Additional Information . . . 319
Create or Change a Password . . . 319
Synchronize a Password . . . 321
SETTTS . . . 323
Why Use SETTTS? . . . 323
Command Format . . . 323
Additional Information . . . 323
View the Current Transaction Tracking Setting . . . 324
Set the Logical and Physical Locks . . . 324
SLIST . . . 325
Why Use SLIST? . . . 325
Command Format . . . 325
View Information About All File Servers . . . 325
View Information About One File Server . . . 326
SMODE . . . 327
Why Use SMODE? . . . 327
Command Format . . . 327
Modes . . . 327
Additional Information . . . 328
Assign a Search Mode . . . 329
View Current Search Mode Settings in Your Default Directory . . . 330
View Current Search Mode Settings in Any Directory . . . 331
Change Search Mode Settings in Your Default Directory . . . 331
Change Search Mode Settings in Any Directory . . . 332
SPEED . . . 333
Why Use SPEED? . . . 333
Command Format . . . 333
SPOOL . . . 334
Why Use SPOOL? . . . 334
Command Format . . . 334
SPXCONFG . . . 335
Why Use SPXCONFG? . . . 335
Command Format . . . 335
Command Parameters . . . 335
SPXS . . . 336
Why Use SPXS? . . . 336
Command Format . . . 336
Command Parameters . . . 336
Additional Information . . . 336

STREAMS . . . 337
Why Use STREAMS? . . . 337
Command Format . . . 337
Command Parameters . . . 337
SYSCON . . . 338
Why Use SYSCON? . . . 338
Accounting . . . 338
Change Current Server . . . 339
File Server Information . . . 339
Group Information . . . 339
Supervisor Options . . . 340
User Information . . . 340
Accounting . . . 341
Install the Accounting Feature . . . 342
Remove the Accounting Feature . . . 342
Set Up and Delete Accounting Servers . . . 342
Set and Modify Charge Rates for Network Use . . . 343
Change Current Server . . . 350
Attach to or Log Out of Additional File Servers . . . 350
Choose an Attached File Server as the Current File Server . . . 351
Change to a Different Username on the Current File Server . . . 352
File Server Information . . . 352
Group Information . . . 354
List the Groups on the File Server . . . 354
Create, Rename, or Delete a Group . . . 354
Assign or Modify a Group's Full Name . . . 355
View, Add, or Delete Managed Users or Groups . . . 355
View, Add, or Delete Managers . . . 356
Assign or Delete Users in a Group . . . 356
View a Group's ID Number . . . 357
Assign or Modify a Group as Trustee of a Directory . . . 357
Assign or Modify Group File Trustee Rights . . . 359
Supervisor Options . . . 360
Set Up and Change Default Account Balances and Restrictions . . . 360
Assign Time Restrictions to All Users . . . 362
Create or Modify the System's AUTOEXEC File . . . 362
Assign or Delete a Group or User as a Console Operator . . . 364
Activate Intruder Detection Feature . . . 365
Create or Modify the System Login Script . . . 366
View and Erase the Error Log . . . 367
Assign and Modify System Workgroup Managers . . . 367
User Information . . . 368
Create, Rename, or Delete Users . . . 369
Set a User's Account Balance . . . 370

Set a User's Account Restrictions . . . 371
Assign or Change a User's Password . . . 375
Assign or Change a User's Full Name . . . 376
Copy One User's Login Script to Another User . . . 377
View and Modify Managed Users and Groups . . . 378
View and Modify List of Managers . . . 378
View a User's Login Information, Including User ID . . . 379
Assign or Delete a User's Security Equivalence . . . 379
Assign Station Restrictions . . . 380
Assign Time Restrictions to Individual Users . . . 381
Assign or Modify a User as Trustee of a Directory . . . 382
Assign or Modify User Trustee Rights in a File . . . 383
Limit Disk Space for Individual Users . . . 385
SYSTIME . . . 386
Why Use SYSTIME? . . . 386
Command Format . . . 386
View the Date and Time Set on a File Server . . . 386
TIME . . . 387
Why Use TIME? . . . 387
Command Format . . . 387
TLI . . . 388
Why Use TLI? . . . 388
Command Format . . . 388
Command Parameters . . . 388
Additional Information . . . 388
TLIST . . . 389
Why Use TLIST? . . . 389
Command Format . . . 389
Additional Information . . . 389
View the Trustee List of Your Default Directory . . . 390
View the Trustee List of Any Directory . . . 391
View the Trustee List of a File in Your Default Directory . . . 392
View the Trustee List of a File in Any Directory . . . 392
Viewing the Trustee Lists of Files and Directories . . . 392
TRACK OFF . . . 394
Why Use TRACK OFF? . . . 394
Command Format . . . 394
TRACK ON . . . 395
Why Use TRACK ON? . . . 395
Command Format . . . 395
UNBIND . . . 396
Why Use UNBIND . . . 396
Command Format . . . 396
Command Options . . . 396

UNLOAD . . . 397
Why Use UNLOAD? . . . 397
Command Format . . . 397
UPS . . . 398
Why Use UPS? . . . 398
Command Format . . . 398
UPS STATUS . . . 399
Why Use UPS STATUS? . . . 399
Command Format . . . 399
UPS TIME . . . 400
Why Use UPS TIME? . . . 400
Command Format . . . 400
USERDEF . . . 401
Why Use USERDEF? . . . 401
Additional Information . . . 402
Create Multiple Users . . . 403
Create a Custom Template for USERDEF . . . 404
Restrict Disk Space for Existing Users . . . 410
USERLIST . . . 411
Why Use USERLIST? . . . 411
Command Format . . . 411
Command Options . . . 411
Additional Information . . . 412
View a List of Users on a File Server . . . 412
View Users' Network and Node Addresses . . . 413
View Information about a Single User . . . 413
VERSION (Command Line Utility) . . . 415
Why Use VERSION? . . . 415
Command Format . . . 415
View a Utility in Your Default Directory . . . 415
View a Utility in Any Directory . . . 415
View a Group of Utilities . . . 416
VERSION (Console Command) . . . 417
Why Use VERSION? . . . 417
Command Format . . . 417
VOLINFO . . . 418
Why Use VOLINFO? . . . 418
Additional Information . . . 419
View Volume Information . . . 420
View Information about Another Server . . . 421
Attach to Another File Server . . . 421
View Additional Volume Information . . . 422

VOLUMES 423
Why Use VOLUMES? 423
Command Format 423
VREPAIR 424
Why Use VREPAIR? 424
Command Format 424
WHOAMI 425
Why Use WHOAMI? 425
Command Format 425
Command Options 425
View Who You Are on Your Network or Internetwork 426
View Who You Are on a Particular File Server 427
View Your Group Memberships 427
WSUPDATE 432
Why Use WSUPDATE? 432
Command Format 432
Additional Information 434
Update All Shell Files on the Network 435

How to Use This Manual

This manual explains how to use the NetWare v3.*x* utilities. Network supervisors use the utilities to maintain the network after installation. Network users use the utilities to perform network tasks.

File server utilities are referenced in this manual; however, for a complete explanation of each utility, see *System Administration*. Utilities for OS/2 and Macintosh are referenced in their respective manuals.

This section covers the following topics:

Topic	Page
Organization of the Manual	"Organization of the Manual" on page 24
Types of NetWare Utilities	"Types of NetWare Utilities" on page 25
Using Command Line Utilities	"Using Command Line Utilities" on page 26
Using Menu Utilities	"Using Menu Utilities" on page 28
Using Console Commands	"Using Console Commands" on page 31
Using SERVER	"Using SERVER" on page 33
Using NetWare Loadable Modules	"Using NetWare Loadable Modules" on page 34

Organization of the Manual

This manual is designed to help network users of all levels, but it is geared primarily toward network supervisors. The manual has two sections: the Utilities Reference and the Index.

Utilities

The Utilities Reference section explains how to use each NetWare utility. The utilities are arranged in alphabetical order. The explanation of each utility can include the following items:

- The command format and options
- A list of tasks you can complete with the utility and a page reference for the tasks
- A section that explains additional information about the utility
- Other commands that can be used with the utility
- Examples of using the utility to complete a particular task

If you are an experienced NetWare user, you may want to refer only to the command format. If you are not familiar with the utility, refer to the examples for the task you want to complete.

Index

The Index is a comprehensive listing to give you quick access to the key topics pertaining to all NetWare v3.*x* utilities.

Types of NetWare Utilities

The five types of NetWare utilities are

- Command line utilities
- Menu utilities
- Console commands
- An executable file, SERVER
- Loadable modules

NetWare command line utilities. Command line utilities are executed at the DOS command line.

Use command line utilities to accomplish tasks on the network, such as:

- Viewing lists of files, directories, file servers, users, and rights
- Copying and printing files
- Mapping network drives
- Granting and revoking trustee rights
- Logging in to and out of file servers

Command line utilities perform tasks directly, without leading you through menus and screens. If you are familiar with the command line utilities, they are faster to use than the menu utilities.

Menu utilities. Use menu utilities to perform network tasks by choosing options from menus.

You can perform most tasks by using either menu utilities or command line utilities. Some tasks, however, can be completed only with the menu utilities.

Some menu utility tasks can be performed only by supervisors or users who have supervisory equivalence or operator status.

Console commands. Enter console commands at the file server console to monitor and control various file server activities.

Use these commands to:

- Change memory allocations
- Monitor how the file server is being used
- Control the way workstations can use the file server's resources

SERVER.EXE. The executable file SERVER.EXE boots the NetWare operating system on the file server. Execute SERVER from drive A: or from a DOS partition on drive C:. After SERVER executes, you can load disk or LAN drivers to complete the operating system configuration.

Once the system is configured, you can enter console commands or loadable modules to maintain and monitor network activity.

NetWare loadable modules. Use loadable modules to link disk drivers, LAN drivers, name spaces, and other file server management and enhancement utilities with the operating system.

Some loadable modules look very much like console commands; others look very similar to menu utilities.

Using Command Line Utilities

Command Format

The command format displays the appropriate syntax for command line utilities. The command format appears at the beginning of each utility.

The following is an example of the command format for the REMOVE utility:

```
REMOVE [USER | GROUP] name [[FROM] path] [option...]
  <Enter>
```

Conventions

The conventions for the example command format above are as follows:

REMOVE—Words that appear in all capital letters must be spelled exactly as shown, in either uppercase or lowercase letters.

path—Words that appear in italics are variables. They should be replaced with the information pertinent to your task.

In the previous example, *path* is replaced with the path leading to and including the file you want to indicate, and *option* is replaced with any REMOVE options you want to specify.

Options for each command are listed with the command. Options can often be abbreviated.

[ ]—Square brackets indicate that the enclosed item is optional: you can enter a command with or without the enclosed item. In this case, *option* is optional.

...—Ellipses indicate that more than one option can be used with the command. In the previous example, more than one REMOVE option can be entered in the command.

<Enter>—The angle brackets indicate that you should press the key whose name appears between them.

Always press <Enter> after typing the command format for command line utilities.

[[ ]]—Nested square brackets indicate that all enclosed items are optional. However, if you use the item(s) within the innermost brackets, you must also use the item(s) within the outer brackets.

|—A vertical bar means “either, or.” You can use either the item to the left of the vertical bar or the item to the right, but not both.

Help

Depending on the utility, you can view help screens by using either /H, /? or /Help after the command.

Wildcard Characters

Wildcard characters (* and ?) are characters that DOS and NetWare recognize as universal replacements for any other character or set of characters.

Wildcards can be used to search for groups of volumes, directories, or files, or they can be used to search for a particular file when you are unsure of its complete name.

For example, an asterisk (*) in a filename indicates that any character can occupy that position and all remaining positions in the filename. To search for all filenames with the extension .EXE in your default directory, type "NDIR *.EXE" and press <Enter> to display the list.

In contrast, a question mark (?) in a filename indicates that any character can occupy that position, and that position only. So, if you type "NDIR *.?", you see a list of all files in your default directory with a single-character extension or with no extension at all.

For more information about wildcard characters, see your DOS manual.

Using Menu Utilities

Accessing a Menu Utility

To access a menu utility, type the utility's name at the DOS prompt and press <Enter>. The utility's main menu will be displayed, along with a screen header.

Exiting a Menu Utility

You can exit a menu utility in the following two ways:

- Press <Esc> until an exit confirmation box appears. Then highlight "Yes" and press <Enter>.
- Press the Exit key (usually <Alt><F10>). Do not press the Exit key to exit a menu utility if you have made changes within the utility; if you do, the changes are not saved.

Additional Information

Once you have accessed a menu utility and the main menu is displayed, you are ready to work. Menu utilities use certain keys to perform special functions and have certain standard components. The documentation uses some terms in specialized ways. The keys, components, and terms are described on the following pages.

Keys

The following keys are used to perform specific functions in the menu utilities:

<F1>	The <F1> or Help key allows you to get help from anywhere within the menu utility. ◆ If you press the Help key once, a help screen appears that applies to the task on which you are currently working. ◆ If you press the Help key twice, your computer's function key assignments are listed. There are three screens containing function key assignments. Press <PageDown> to see subsequent screens.
<F5>	The Mark key can be used with lists that allow you to mark multiple items for addition or deletion.
<Esc>	The Escape key has three functions: ◆ If you are on a menu screen, press <Esc> to return to a previous menu. ◆ If you are at the main menu, press <Esc> to cause an exit confirmation box to appear. Highlight "Yes" and press <Enter> to exit the menu utility and return to the menu prompt. ◆ If you are performing a process, press <Esc> to continue.

Components

When you first access a menu utility, the main menu is displayed. Menus contain options you can choose from. You can select options in two ways:

- Use the arrow keys to highlight the option you want. Then press <Enter>.
- Type the first letter of an option to highlight that option. If more than one option in the menu starts with the same letter, type enough additional letters to distinguish one option from the others. (For example, if both "Search" and "Select" are options, type "Sel" to highlight "Select.") Once the option you want is highlighted, press <Enter>.

When you select an option from the main menu, additional menus and displays appear on the screen. These displays include lists, entry boxes, insets, forms, and confirmation boxes. The following list explains each type of screen display:

Lists	Lists are similar to menus, and items in the lists can be selected in the same way as menu options. However, you can also add items to and delete items from some lists. Lists may have more than one column, and they may extend below the screen display. Press the Down-arrow key to see additional items. Press <Ctrl><PageDown> to go to the bottom of the list. Press <Ctrl><PageUp> to go to the top of the list.
Entry boxes	Entry boxes are boxes in which you can type information, such as a username or directory. The <Delete>, <Backspace>, and arrow keys work in these boxes. Wildcard characters also work in some boxes; however, unlike DOS wildcards, NetWare wildcards will match anything, including a period. For example, if you type "*" in any box in a menu utility, all the files will be listed, including those with extensions.
Insets	Insets display information that cannot be edited (except by the network supervisor). The information cannot be added to or deleted from this window.
Forms	Forms are windows that contain fields. You can move around in a form using the arrow keys or <Enter>. (When you press <Enter>, the cursor moves to the next field in the form.) You can change the information in the field by highlighting the field and pressing <Enter>. What you do next depends on the type of field. Some fields allow you to type in information; others display menu items to select.
Confirmation boxes	Confirmation boxes are displayed whenever you exit a menu utility, or whenever you create or delete items (such as directories or files). You can either confirm or cancel the action by selecting "Yes" or "No" and pressing the Enter key.

Terms

The following terms in the menu utility documentation help you select the options:

Choose	Choose the option you want by highlighting it and pressing <Enter>.
Answer “Yes” or “No”	Choose yes or no.

Using Console Commands

Most console commands are an internal part of the operating system (SERVER.EXE). Others can link with the operating system when a loadable module is loaded.

Console commands can be entered only at the file server console prompt.

Each entry for a console command begins with an explanation of why you would want to use the command, followed by the command format.

Switching Console Sessions

You can use the following keys to switch between the console screens or sessions.

<Alt><Esc>	Use these keys to move from a session to the console prompt. Press the keys repeatedly to move from one session to the next.
<Ctrl><Esc>	Use these keys to call up a list of active sessions. Type the number corresponding to the session you need and press <Enter>.

While most console commands return you to the console prompt as soon as they are executed, others, particularly those that call up menu loadable modules, activate screens or sessions. Before you can switch between screens, more than one must be “active.”

For example, the MONITOR loadable module has menus and activates a screen. If you have loaded MONITOR, you can use the following keys to switch between sessions:

<Alt><Esc>	Use these keys to switch back to the console prompt.
<Ctrl><Esc>	Use these keys to call up a list of screens. Type the number of the screen you need and press <Enter>.

Editing Console Commands

The operating system remembers the last 10 to 20 commands issued at the console prompt.

The following keys can be used to recall and edit entered commands. The console is always set to insert characters rather than to type over them.

Up-arrow	Returns the previous command to the console prompt. Repeated pressing scrolls back through all the commands that the operating system has stored.
Down-arrow	Scrolls back to the console prompt after you have used the Up-arrow key to scroll through previously entered commands.
Left-arrow	Moves the cursor to the left.
Right-arrow	Moves the cursor to the right.
Delete	Deletes unneeded characters.

Command Format

The command format displays the appropriate syntax for executing the console command.

```
BIND protocol [TO] LAN_driver [driver_parameter...]
  <Enter>
```

Conventions

The conventions for this example command format are as follows:

BIND	Words that appear in all capital letters must be spelled exactly as shown, in either uppercase or lowercase letters.
LAN_driver	Words that appear in italics are variables. Replace them with information pertinent to your task. In this case, replace *LAN_driver* with the name of the driver appropriate for the network board installed in the file server.
[ ]	Square brackets indicate that the enclosed item is optional: you can enter a command with or without the enclosed item. In the previous example, TO and *driver_parameter* are optional.
...	Ellipses indicate that more than one parameter can be used with the command. In the previous example, more than one driver parameter can be entered.
<Enter>	The angle brackets indicate that you should press the key whose name appears between them. Always press <Enter> after typing the command format for console commands.

Using SERVER

SERVER is the NetWare operating system. Boot the file server with DOS and then execute SERVER.

Command format

The command format displays the appropriate syntax for executing SERVER.

SERVER [*parameter*] <Enter>

Conventions

The conventions for this example command format are as follows:

SERVER	Words that appear in all capital letters must be spelled exactly as shown, in either uppercase or lowercase letters.
parameter	Words that appear in italics are variables. They should be replaced with the information pertinent to your task.

[ ]	Square brackets indicate that the enclosed item is optional: you can enter a command with or without the enclosed item.
<Enter>	The angle brackets indicate that you should press the key whose name appears between them. To execute SERVER, press <Enter>.

Using NetWare Loadable Modules

NetWare loadable modules link disk drivers, LAN drivers, name space, management applications, and file server enhancements with the operating system. The LOAD command can be entered only at the file server console prompt.

Each entry for a loadable module begins with an explanation of why you would want to use the module, followed by the command format.

Command Format

The command format displays the appropriate syntax for executing the loadable module.

LOAD [*path*] *loadable_module* [*parameter...*] <Enter>

Conventions

The conventions for this command format are as follows:

LOAD	Words that appear in all capital letters must be spelled exactly as shown, in either uppercase or lowercase letters.
loadable_module	Words that appear in italics are variables. Replace them with information pertinent to your task. In this case, replace *loadable_module* with the name of the loadable module you want to load.
[ ]	Square brackets indicate that the enclosed item is optional: you can enter a command with or without the enclosed item. In this case, *path* and *parameter* are optional.
...	Ellipses indicate that more than one parameter can be used with the command.
<Enter>	The angle brackets indicate that you should press the key whose name appears between them. Always press <Enter> after typing the command format for loadable modules.

Additional Information

Once the loadable module is executed, some modules look like a menu utility. Loadable modules with menus use certain keys to perform special functions and have some standard components.

The documentation uses some terms in specialized ways. The keys, components, and terms are as follows:

Keys

The following keys can be used with these types of loadable modules:

<F1>	The <F1> or Help key allows you to get help from anywhere within the loadable module. If you press the Help key once, a help screen appears that applies to the task you are currently working on. If you press the Help key twice, a help screen appears that gives an overview of the loadable module.
<F5>	The Mark key can be used with lists that allow you to delete items.
<Esc>	The Escape key has three functions: If you are on a menu screen, press <Escape> to return to a previous menu. If you are at the main menu, press <Escape> to see an exit confirmation box. This allows you to exit the loadable module, unload the module, and return to the console prompt. If you are performing a process, press <Escape> to continue.

Components

When you first access a loadable module that has menus, the main menu is displayed. You can select an option one of two ways:

- Use the arrow keys to highlight the option you want. Then press <Enter>.
- Type the first letter of an option to highlight that option. If more than one option in the menu starts with the same letter, type enough additional letters to distinguish one option from the others. (For example, if both “Search” and “Select” are options, type “Sel” to highlight “Select.”) Once the option you want is highlighted, press <Enter>.

When you select an option from the main menu, additional menus and displays appear on the screen. These displays include lists, entry boxes, insets, forms, and confirmation boxes. The following list explains each type of screen display:

Lists	Lists are similar to menus, and items in the lists can be selected in the same way as menu options. However, you can also add items to and delete items from some lists. Lists may have more than one column, and they may extend below the screen display. Press the Down-arrow key to see additional items. Press <Ctrl><PageDown> to go to the bottom of the list. Press <Ctrl><PageUp> to go to the top of the list.
Entry boxes	Entry boxes are boxes in which you can type information. The <Delete>, <Backspace>, and arrow keys work in these boxes.
Insets	Insets display information that cannot be edited. The information cannot be added to or deleted from this window.
Forms	Forms are windows that contain fields. You can move around in a form using the arrow keys or the <Enter> key. (When you press <Enter>, the cursor moves to the next field in the form.) Change the information in the field by highlighting the field and pressing <Enter>. What you do next depends on the type of field. Some fields allow you to type in information; others display menu items to select.
Confirmation boxes	Confirmation boxes are displayed whenever you exit a loadable module, or whenever you create or delete items (like partitions and volumes). You can either confirm or cancel the action by selecting “Yes” or “No” and pressing the <Enter> key.

Terms

The following terms in the documentation about loadable modules help you to select the desired options. The terms are listed below with their definitions.

Choose	Choose the option you want by highlighting it and pressing <Enter>.
Answer “Yes” or “No”	Choose yes or no.

1 Utilities

This section contains an alphabetical listing of all NetWare utilities.

For a complete explanation of file server utilities, see *System Administration*.

For a complete explanation of print utilities, see *Print Server*.

Utilities for OS/2 and Macintosh are referenced in their respective manuals.

ACONSOLE

Why Use ACONSOLE?

ACONSOLE is a workstation utility you can use to control a modem. You can use ACONSOLE to manage the transfer of screen and keystroke information to and from a remote file server.

ACONSOLE does not provide a guaranteed packet delivery transport. When trying to send packets to or receive packets from a file server with extensive activity, ACONSOLE may "time out" when sending data to the file server or waiting for a response from the server. If so, one of the following messages appears in the "Modem Result Codes" message screen:

```
Unable to Send Request to Server
```

or

```
No Response from Server
```

If either message appears, press <Esc> and continue or retry the operation.

Command Format

ACONSOLE

For a complete explanation of "ACONSOLE," see *System Administration*.

ADD NAME SPACE

Why Use ADD NAME SPACE?

Use ADD NAME SPACE to allow non-DOS files (such as Macintosh files) to be stored on a NetWare volume. Execute this command only once for each non-DOS naming convention that you want to store on a volume.

To set new file naming conventions for non-DOS files, you must load the name space module before executing ADD NAME SPACE.

Once a volume is set to store non-DOS files, the setting cannot be reversed unless the volume is deleted.

Command Format

ADD NAME SPACE *name* [TO [VOLUME]] *volume_name*

Replace *name* with the name of the variable for the name space module you loaded. See the documentation that comes with the name space module (or use ADD NAME SPACE without any variable to display the *name* of the name spaces loaded). For the MAC loadable module, replace *name* with Macintosh.

Replace *volume_name* with the name of the volume you want to store non-DOS files on.

For a complete explanation of "ADD NAME SPACE," see *System Administration*.

ALLOW

Why Use ALLOW?

Use ALLOW to view, set, or modify the Inherited Rights Mask of a directory or a file.

Command Format

ALLOW [*path* [TO INHERIT] *rightslist*]

Replace *path* with the directory path or file whose Inherited Rights Mask you want to view, set, or modify.

Replace *rightslist* with one or more of the following:

ALL	*C*reate
*N*othing	*E*rase
*S*upervisory	*M*odify
*R*ead	*F*ile Scan
*W*rite	*A*ccess Control

NOTE: Type the abbreviation to designate each right. Insert a space between each abbreviation.

An explanation of each right begins on the next page.

If you do not specify the rights you want to set or modify in a directory or file, the Inherited Rights Masks for all files and subdirectories will be affected by ALLOW.

ALLOW supports wildcard characters.

Additional Information

Any network user can use ALLOW to view the Inherited Rights Mask of a directory or a file. To set or modify the Inherited Rights Mask, a user must have the Access Control right.

Setting or modifying the Inherited Rights Mask allows you (or a user who has the Access Control right) to block or add inherited rights that would otherwise remain unchanged through all levels of the directory structure. You can revoke a right by excluding that right when you use ALLOW.

Rights

ALL

Include ALL to allow users all eight trustee rights.

Supervisory

Include Supervisory to allow users all rights to the directory, its files, and its subdirectories. The Supervisory right overrides any restrictions placed on subdirectories or files with an Inherited Rights Mask.

Read

Include Read to allow users to open and read files.

Write

Include Write to allow users to open and write to files.

Create

Include Create to allow users to create and write to files.

Erase

Include Erase to allow users to delete a directory, its files, and its subdirectories.

Modify

Include Modify to allow users to change directory and file attributes. Modify also allows users to rename the directory, its files, and its subdirectories.

File Scan

Include File Scan to allow users to see files in a directory.

Access Control

Include Access Control to allow a user to modify file or directory trustee assignments and Inherited Rights Masks. However, a user can grant other users only the rights he or she has been given.

Nothing

Include Nothing to revoke all rights from the Inherited Rights Mask except the Supervisory right.

Use ALLOW to Revoke or to Allow Rights

Revoke Users' Rights

Suppose you set the Inherited Rights Mask of USERS/SYS:FILES with Read, Write, and Create rights. However, you want to prevent users from writing to or creating files in your personal subdirectory, MINE.

As SUPERVISOR (or equivalent), use ALLOW to revoke the Write and Create rights in the Inherited Rights Mask of subdirectory MINE. To do this, allow only the Read right in the Inherited Rights Mask. Change to subdirectory MINE and type

ALLOW USERS/SYS:FILES/MINE TO INHERIT R <Enter>

Directory FILES retains Read, Create, and Write rights, but the modified Inherited Rights Mask for subdirectory MINE now prevents other users from writing to or creating files in your personal subdirectory.

Allow Rights Using Wildcards

If you want to allow Read, Write, Erase, and Modify rights to all files with the extension .FUN, use ALLOW to set (or modify) those rights. Type

ALLOW *.FUN R W E M <Enter>

All files with the extension .FUN inherit the Read, Write, Erase, and Modify rights.

ATOTAL

Why Use ATOTAL?

Use ATOTAL to total the use of accounting services on your network. Accounting services must be installed on your file server.

Command Format

ATOTAL

Additional Information

ATOTAL compiles information from the system accounting records and lists the following:

- Total connect time in minutes
- Total service requests
- Total blocks read
- Total blocks written
- Total disk storage in blocks per day

View a Summary of the Network Accounting Services

Procedure

1. Change to the SYS:SYSTEM directory or map a search drive to the directory.
2. Type

   ATOTAL <Enter>

   You see the following message on the screen.

   ```
   Processing accounting records...
   ```

   The accounting records are processed, and the daily and weekly totals for each service are listed on the screen.

Redirect ATOTAL Data to a File and Print a Copy

ATOTAL generates a large amount of data. You can redirect the output of ATOTAL to a file to make it more accessible. This file can then be viewed or printed.

Redirect ATOTAL Data

To redirect ATOTAL data to a file, use the DOS redirection feature. Type

ATOTAL > *filename* <Enter>

Print the ATOTAL Data File

To print a copy of the file, type

NPRINT *filename* <Enter>

ATTACH

Why Use ATTACH?

Use ATTACH to access another file server while remaining logged in to your current file server.

Command Format

ATTACH [*fileserver*[/*name*]]

Replace *fileserver* with the name of the file server you want to attach to.

Replace *name* with the username you want to use on that file server.

If you do not specify the file server name and username in the command, you are prompted to enter each one individually.

Additional Information

You must be logged in to a file server before you can use ATTACH to log in to additional file servers. Use WHOAMI to verify that you are logged in to a file server.

Although ATTACH connects you to a file server, it does not create a drive mapping to that file server. To map a network drive to a directory on the newly attached file server, use MAP or SESSION.

NOTE: The usage screen for ATTACH includes the options [/Private] and [/Global]. These options apply to OS/2 software, but not to NetWare v3.*x* functionality. If you are using OS/2, check the OS/2 documentation for information on how to use these options.

Access Additional File Servers

You can use ATTACH from any network drive or local drive. Suppose you are user LORA on file server MKTG and you want to attach to file server ACCT.

Procedure

1. Type

   `ATTACH ACCT/LORA` <Enter>

2. If a password is required for the username you typed, the following prompt appears on your screen.

   ```
   Password:
   ```

   Once you enter your password, a message similar to the following appears on your screen, indicating the file server you are attached to.

   ```
   You are user LORA attached to server ACCT.
   ```

When you log in to a file server with a username that does not require a password (user GUEST frequently does not have a password), you are not prompted to enter a password.

BIND

Why Use BIND?

Use BIND to link LAN drivers to a communication protocol and to a specific network board in the file server. Unless a communication protocol has been linked to the board, packets cannot be processed by the board.

Before you can bind the driver, the network board must be installed in the file server and the LAN driver must be loaded.

Command Format

```
BIND protocol [TO] LAN_driver |
  board_name[driver_parameter...] [protocol_parameter...]
```

For a complete explanation of "BIND," see *System Administration*.

BINDFIX

Why Use BINDFIX?

Use BINDFIX to correct problems with the NetWare bindery. You must have supervisor rights or equivalence to run BINDFIX.

Command Format

```
BINDFIX
```

Additional Information

Use BINDFIX if you suspect that data in the bindery files has been corrupted. BINDFIX corrects the following problems:

- A username cannot be deleted or modified.
- A user's password cannot be changed.
- A user's rights cannot be modified.
- The error "unknown server" occurs during print spooling even though you are spooling to the default server.
- Error messages referring to the bindery are displayed at the file server console.

BINDFIX shuts down the bindery files so users cannot access them. (Run BINDFIX when no users are using the network.) Then BINDFIX rebuilds and reopens the bindery files.

While rebuilding the files, BINDFIX lists the tasks it is performing. You are prompted to specify whether to delete the mail directories and trustee rights of users whose accounts have been deleted.

BINDFIX creates new NET$OBJ.SYS, NET$PROP.SYS, and NET$VAL.SYS files. The previous versions of these files are renamed NET$OBJ.OLD, NET$PROP.OLD, and NET$VAL.OLD.

If the reconstructed bindery does not solve the problem with your file server or if the power fails while BINDFIX is running, you can restore the previous version of the bindery by running BINDREST (if you haven't deleted the .OLD files).

After you have verified that the reconstructed bindery files are correct, you should delete the three .OLD files from the SYS:SYSTEM directory.

Repair the Bindery

You must run BINDFIX from the SYS:SYSTEM directory. Make sure all users have logged out of the network before you run BINDFIX.

Procedure

1. Change to the SYS:SYSTEM directory.
2. Type

   BINDFIX <Enter>

   You see the following message while BINDFIX closes the bindery files, makes backup copies of them, and renames the backup copies with the .OLD extension.

   ```
   Rebuilding Bindery. Please Wait.
   ```

   As BINDFIX scans the current bindery files for inconsistencies and attempts to correct any problems it finds, you see a screen similar to the following:

   ```
   Checking object's property lists.

   Checking properties to see if they are in an object
     property list.

   Checking objects for back-link property.Checking set
     consistency and compacting sets.

   Checking properties for proper order.

   Checking user objects for standard properties.

   Checking group objects for standard properties.

   Checking links between users and groups for consistency.
   ```

3 The following prompt appears.

```
Delete mail directories of users that no longer exist? (y/
  n):
```

If you answer “No,” skip to Step 4.

If you answer “Yes,” the mail subdirectories of users that no longer exist on the network are deleted, and you see messages similar to the following.

```
Checking for mail directories of users that no longer
  exist.

Checking for users that do not have mail directories.

Adding mail dir user #
```

4 The following prompt appears.

```
Delete trustee rights for users that no longer exist? (y/
  n):
```

If you answer “No,” skip to Step 5.

If you answer “Yes,” BINDFIX scans all mounted volumes and removes users that no longer exist on the network from all trustee lists. You see information similar to the following:

```
Checking Volume SYS. Please wait.

Checking Volume TEST. Please wait.
```

5 If the bindery check is successful, the following appears:

```
Bindery check successfully completed.

Please delete the files NET$OBJ.OLD, NET$PROP.OLD, and
  NET$VAL.OLD after you have verified the reconstructed
  bindery.
```

Check the reconstructed bindery and then delete the .OLD files as prompted. These files are in the SYS:SYSTEM directory.

If the bindery check is unsuccessful, the following appears:

```
Bindery check NOT successfully completed.
```

In this case, you may want to run BINDREST. If you have not already deleted the .OLD files, BINDREST restores the .OLD bindery files and returns the bindery to its original state.

BINDREST

Why Use BINDREST?

Use BINDREST to restore a previous version of the bindery files after you have run BINDFIX. You must have supervisor rights or equivalence to run BINDREST.

Command Format

BINDREST

Additional Information

BINDFIX creates NET$OBJ.OLD, NET$PROP.OLD, and NET$VAL.OLD files as backups. If BINDFIX fails, you can run BINDREST to restore these files to their original version and name.

BINDREST, in effect, cancels the changes made by BINDFIX: NET$OBJ.OLD, NET$PROP.OLD, and NET$VAL.OLD are renamed to NET$OBJ.SYS, NET$PROP.SYS, and NET$VAL.SYS.

Restore a Previous Version of the Bindery Files after Running BINDFIX

Before you run BINDREST, make sure all users have logged out of the network. You must run BINDREST from the SYS:SYSTEM directory. Type

BINDREST <Enter>

BINDREST restores the previous version of the bindery files.

BROADCAST

Why Use BROADCAST?

Use BROADCAST to send a message to all users logged in or attached to the file server, or to a list of users or connection numbers.

Command Format

```
BROADCAST "message" [[TO] username|connection number]
  [[and|,] username|connection number...]
```

If no username or connection number is specified, the message is sent to all attached users.

For a complete explanation of "BROADCAST," see *System Administration*.

CAPTURE

Why Use CAPTURE?

- To print screen dumps
- To save data to a network file
- To print to a network printer from an application not designed to run on a network

Command Format

CAPTURE [*option*...]

The current version of CAPTURE works correctly up to 255 copies. If you want 260 copies, CAPTURE subtracts and give you only 4 copies.

For a complete explanation of "CAPTURE," see *Print Server*.

CASTOFF

Why Use CASTOFF?

Use CASTOFF to block messages sent from all network stations. Using CASTOFF prevents messages from interrupting a process you are running on your station.

NOTE: Use CASTON to allow your workstation to receive messages.

Command Format

```
CASTOFF [All]
```

Include All to block messages from all network stations, including the file server console.

Block Messages from All Workstations

To block messages from other workstations, type

CASTOFF <Enter>

To enable your workstation to receive messages, use CASTON.

Block Messages from All Network Stations

To block messages from workstations *and* the file server console, type

CASTOFF ALL <Enter>

or

CASTOFF A <Enter>

CASTON

Why Use CASTON?

Use CASTON to allow your workstation to receive messages from other network stations after you have used CASTOFF.

Command Format

CASTON

Allow Your Workstation to Receive Messages

To allow your workstation to receive messages from other network users, type

CASTON <Enter>

The following message appears on your screen:

```
Broadcast messages from the console and other stations will
  now be accepted.
```

IMPORTANT: When a network station receives a message, the station cannot execute any further instructions until the message is cleared. Clear the message by pressing <Ctrl><Enter>.

CHKDIR

Why Use CHKDIR?

Use CHKDIR to view information about a directory and a volume.

Command Format

CHKDIR [*path*]

Replace *path* with any directory path leading to and including the directory you want to check.

Additional Information

CHKDIR displays the following information:

- The directory space limitation for the file server, volume, and directory you are checking
- The maximum storage capacity of the volume in kilobytes and the maximum storage capacity of the specified directory, if a restriction has been placed on the directory
- The number of kilobytes currently in use on the volume and in the specified directory
- The number of kilobytes available on the volume and in the specified directory

View Information about Your Directories and Volumes

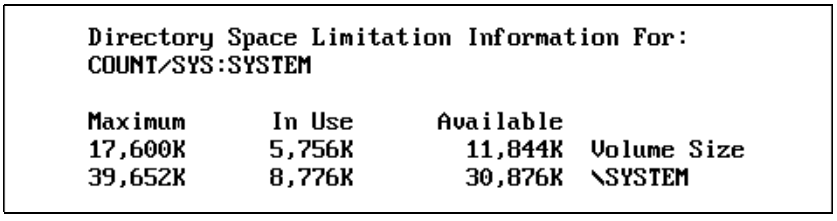
Check Your Default Directory

Type

CHKDIR <Enter>

Information similar to the following appears:

Figure 1 Default directory information



Check Directories on Your Default Volume

Suppose drive P: is mapped to COUNT/SYS:SYSTEM. To view information about the SYSTEM directory, type

CHKDIR COUNT/SYS:SYSTEM <Enter>

or

CHKDIR SYSTEM <Enter>

or

CHKDIR P: <Enter>

Check a Directory Not in Your Default Volume

If your default volume is SYS, and you want to view information about directory SALES on volume MKTG, type

CHKDIR COUNT/MKTG:SALES <Enter>

If you have a drive letter mapped to COUNT/MKTG:SALES, you can use CHKDIR with the drive letter. Suppose the drive letter is J:. Type

CHKDIR J: <Enter>

You see the directory and volume information for directory SALES on volume MKTG.

CHKVOL

Why Use CHKVOL?

Use CHKVOL to view information about a volume.

Command Format

CHKVOL [*path*]

Replace *path* with any path leading to and including the file server and volume you want to check.

Use /C after the command to allow continuous scrolling. If /C is not used, CHKVOL pauses after every screen of information.

Additional Information

CHKVOL displays the following information (space values are given in kilobytes):

- The name of the file server on which the volume is located
- The volume name
- The total volume space
- The space used by files (including file data, information in the File Allocation Table, and information in the directory table)
- The space in use by deleted files
- The space available from deleted files
- The space remaining on the volume
- The space available to the user

CHKVOL also supports wildcard characters.

NOTE: The kilobytes in "Space available to USER" show the amount of additional volume space you can use, *provided* you have rights to work in directories on the volume.

Use CHKDIR to see if your disk space is limited on the volume. Use RIGHTS to see if you have rights to create or write to files in a particular directory on the volume.

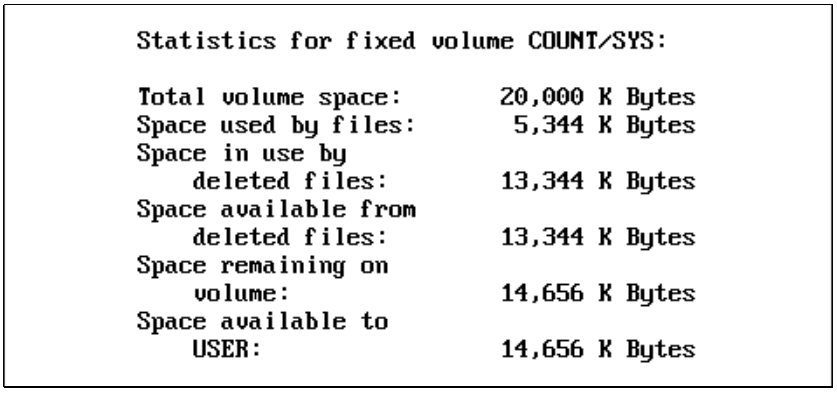
View Information about Your Default Volume

View your volume information by typing

CHKVOL <Enter>

Information similar to the following appears:

Figure 2 Default volume information



View Information about Any Volume on Your File Server

You want to see information about volume ACCT. Drive P: is mapped as follows:

Drive P: = COUNT/ACCT:PROGRAMS

To view information about volume ACCT, type

CHKVOL ACCT: <Enter>

or

CHKVOL P: <Enter>

View Information about Volumes on Other File Servers

Before you can use CHKVOL to check a volume on a file server other than your default server, you must be attached to that server. (See “ATTACH” on page 45.)

Suppose your default file server is COUNT, and you want to view information about volume SYS: on server SALES. Complete the following steps.

Procedure

1. Use ATTACH to attach to server SALES.
2. Type

   CHKVOL SALES/SYS: <Enter>

View Information about Several Volumes

You can use one CHKVOL command to view information about more than one volume. To view volume information about volumes on two file servers, you must be attached to both servers.

As you type the command, leave a space before each path that you identify.

For example, type the following command to view information about volume SYS: on server SALES (identified by SALES/SYS:) and volume SYS: on server MFG (identified by MFG/SYS:):

CHKVOL SALES/SYS: MFG/SYS: <Enter>

Use Wildcard Characters

You can use wildcard characters (* and ?) in CHKVOL commands. For example, to view information for all volumes on all file servers you are attached to, type:

CHKVOL */* <Enter>

The first asterisk represents all file servers you are attached to. The second asterisk represents all volumes.

To view information for all volumes on your default file server, type:

CHKVOL * <Enter>

One question mark (?) in a CHKVOL command stands for all your drive letters.

CHKVOL ? <Enter>

Use this command to view information for all volumes your network drives are mapped to.

CLEAR STATION

Why Use CLEAR STATION?

Use CLEAR STATION to remove all file server resources allocated to a specific workstation.

WARNING: Use CLEAR STATION with caution. This command closes all of the workstation's open files and erases all internal tables the file server uses to keep track of the workstation (including any drive mappings not saved in the login script). The communication link between the file server and the cleared workstation is broken. If the workstation is in the middle of a transaction or a file update when it is cleared, files may be saved with incorrect data.

Command Format

CLEAR STATION *n*

Replace *n* with the number of the workstation you want to clear from the file server. To determine the connection number, use "Connection Information" in MONITOR from the file server, or use USERLIST from the workstation.

For a complete explanation of "CLEAR STATION," see *System Administration*.

CLIB

Why Use CLIB?

Use CLIB if you have a loadable module that requires C library routines and functions (like BTRIEVE).

CLIB must be loaded before the loadable module that uses it, and STREAMS must be loaded before CLIB. (See “STREAMS” on page 337.)

Command Format

```
LOAD [path] CLIB
```

For a complete explanation of “CLIB,” see *System Administration*.

CLS

Why Use CLS?

Use CLS to clear the console screen.

Command Format

CLS

Clear the File Server Console Screen

To clear the console screen, type

CLS <Enter>

You can also use the OFF command to clear the console screen.

COLORPAL

Why Use COLORPAL?

Use COLORPAL with NetWare menu utilities (including menus you create with MENU) to “paint” a color scheme on your menu screen. Each color scheme is called a palette.

Any user can do the following with COLORPAL:

- Change the colors of the palettes that already exist
- Add new color palettes
- Delete unwanted color palettes

NOTE: If you have a COMPAQ or AT&T 6300 computer (or any computer that runs a monochrome monitor from a composite color adapter), you may have trouble reading your menu screens until you change the default color palettes or modify your current color palettes. For more information about this menu screen problem and how to fix it, see “Change the Default Color Palettes for Non-IBM Computers” on page 70.

Additional Information

NetWare’s default color palettes are set to blue, yellow, and white. Although you can change the default color palettes, we suggest that you don’t. You cannot change the default setting for one utility only; any change you make affects every menu utility on the system.

However, you can create your own color palettes easily, as explained in “Create New Color Palettes” on page 74.

The color palettes defined in COLORPAL affect both color and monochrome monitors, as explained in the following two sections.

How COLORPAL Affects Color Monitors

On a color monitor, your menus appear in blue and white when you run any NetWare menu utility.

COLORPAL’s main color table is located in the file IBM$RUN.OVL in the SYS:PUBLIC directory. Changes you make are stored in this file.

Since this file resides in a public directory, changes you make to it affect all color monitors on the network (unless the short machine type in the NET.CFG file for one or more computers is something other than IBM). For this reason, only the system supervisor should make changes to the IBM$RUN.OVL file.

However, you can make changes to the default color palettes or create new color palettes that affect your computer only.

How COLORPAL Affects Monochrome Monitors

COLORPAL does not affect monochrome monitors in most cases. However, some non-IBM computers with monochrome monitors that run on composite color adapters, such as the AT&T 6300 and some COMPAQs, may be affected by COLORPAL's default settings. Menu screens may not be readable unless you change the default color palettes.

The CMPQ$RUN.OVL file, located in SYS:PUBLIC, contains default color palettes (set to black and white) that you should use if your monitor is unreadable. You can use these defaults by changing the short machine type in the NET.CFG file to "CMPQ." (The NET.CFG file contains information that the shell uses to set shell options.)

If you need to change the short machine type, see "Change the Short Machine Type in the NET.CFG File" on page 71. If you do not want to change the short machine type, you can change the default color palettes to black and white with COLORPAL.

Get Ready to Run COLORPAL

You can create your own color palettes for NetWare menu utilities by changing the default color palettes or by creating additional color palettes. (Additional palettes affect the menus you create with MENU, but not the defaults.)

IMPORTANT: Do not run COLORPAL from SYS:PUBLIC, or you will overwrite the system default color palettes.

To create your own color palettes without changing the default palettes for the entire network, you must isolate the changes you make in COLORPAL for your own monitor.

Run COLORPAL from a directory other than SYS:PUBLIC. Instructions for running COLORPAL from a network directory are in the following section.

Run COLORPAL

Create your own color defaults by using COLORPAL in any directory other than SYS:PUBLIC.

Procedure

1. Access COLORPAL from a network directory.

   You need Read, Write, Create, and Erase rights in the directory.

   When you access COLORPAL from another directory, the IBM$RUN.OVL file is automatically copied into the new directory.

   For example, if your home directory is F:\SYS:HOME\JODI, change to drive F: and run COLORPAL. The new IBM$RUN.OVL file is saved on drive F:.

2. Change the color palettes (as explained in "Create New Color Palettes" on page 74).

   Changes you make in COLORPAL are saved in the new IBM$RUN.OVL file.

3. Map your first search drive to the directory containing the new IBM$RUN.OVL file.

   The file is a hidden file and will not appear in directory searches.

   For example, map your first search drive to your home directory by typing

   MAP INS SEARCH1:= *FILE_SERVER_NAME*/SYS: HOME/JODI <Enter>

4. Run the menu utilities from any drive.

   Whenever you run a menu utility, the system looks for the IBM$RUN.OVL file in your first search drive. However, if your first search drive is mapped to SYS:PUBLIC, the system defaults are used instead of the defaults you set.

Change the Default Color Palettes

To change the default color palettes, first ensure that the IBM$RUN.OVL or CMPQ$RUN.OVL file in the SYS:PUBLIC directory is flagged Normal. (You must have Read, Write, and Erase rights to modify this file.)

Use caution in changing the default color palettes. Make sure you have followed the instructions in "Get Ready to Run COLORPAL" on page 66.

Procedure

1. Enter COLORPAL.

   The "Defined Palettes" menu is displayed, listing palettes 0 through 4 and any other palettes you have defined. NetWare menus use these palettes as follows:

   - Palette 0 for lists, menus, and normal text
   - Palette 1 for main headers and screen background
   - Palette 2 for help screens
   - Palette 3 for error messages
   - Palette 4 for exit and alert portals

   NOTE: We suggest that you keep the default palette setting, even for color monitors. It is sometimes hard to keep track of the color schemes you have chosen. As a result, your screen may be hard to read.

2. Choose the default palette you want to change. (You must have Read, Write, and Erase rights to modify this file.) The "Edit Attribute" and "Current Palette" windows appear.

   The "Edit Attribute" window displays the attributes you can change:

   ```
   Background Normal
   Background Reverse
   Foreground Intense
   Foreground Normal
   Foreground Reverse
   ```

   The color attributes, as they appear in NetWare menus, are as follows:

   - "Background Normal" is used for the field on which the menu titles and text are displayed.
   - "Foreground Normal" is used for normal text and border displays.

- “Foreground Intense” is used to highlight the text and borders for menu options currently active.
- “Foreground Reverse” is used for text covered by the highlight bar.
- “Background Reverse” is the highlight bar.

The “Current Palette” window shows how the various color attributes are set:

```
Normal
Intense
Reverse
```

3 To change an attribute, choose it from the “Edit Attribute” window.

For example, to change the background of your current palette from blue to black, choose the “Background Reverse” attribute in the “Edit Attribute” window. The “Select Color” list appears.

Whenever you choose an attribute in the “Edit Attribute” window, you see the “Select Color” list. This list varies according to whether you are editing the foreground or the background.

If you are editing a foreground color from the “Edit Attributes” window, the list includes the following choices:

Black	Light Cyan
Blue	Light Green
Brown	Light Magenta
Cyan	Light Red
Dark Gray	Magenta
Green	Red
Intense White	White
Light Blue	Yellow

However, if you are editing a background color, the list includes fewer color choices:

Black	Green
Blue	Magenta
Brown	Red
Cyan	White

When the “Select Color” window appears, the color currently being used by the specified attribute is highlighted.

4. To change the color, choose the new color. The “Current Palette” window reflects any color changes you make.

   In the example under Step 3, choose “Black” to change the background to black.

   You can repeat this procedure (starting with Step 2 on page 67 or Step 2 on page 68) to change as many color attributes in the default palettes as you want.

5. To exit the program, press <Esc> until you see the following prompt:

```
Save changes
  Yes
  No
```

Change the Default Color Palettes for Non-IBM Computers

NetWare’s default color palettes, which are set to blue and white, affect all NetWare menu utilities run on monitors connected to color adapters. The default color palettes work with color monitors. When a monochrome monitor is connected to a composite color adapter, the default foreground and background colors appear with the same intensity, and the monitor display is unreadable. This problem generally occurs on COMPAQ and AT&T 6300 computers.

NetWare v2.1 and above includes a file called CMPQ$RUN.OVL, which contains black and white default color palettes. Use these defaults for computers that have problems using the blue and white defaults.

If you have a computer that runs a monochrome monitor from a composite color adapter *and* menu screen displays appear on your screen with little or no contrast, you can solve the problem by completing any one of the following steps:

- Change the short machine type specified in the boot diskette's NET.CFG file to CMPQ. (See "Change the Short Machine Type in the NET.CFG File" on page 71.)
- Change the prefix of the CMPQ$RUN.OVL file to match the short machine type (such as AT&T). (See "Change the Prefix of the CMPQ$RUN.OVL File" on page 72.)
- Change the default color palettes to black and white using COLORPAL. (See "Change the Default Color Palettes" on page 68.)

Change the Short Machine Type in the NET.CFG File

If you change a workstation's short machine type (in a NET.CFG file on the boot diskette) from "IBM" to "CMPQ," the computer then accesses the CMPQ$RUN.OVL file (with the black and white color palette defaults) when you run NetWare menu utilities.

If you do not have a NET.CFG file on your boot diskette, you can create one by following the instructions in *Workstation for DOS and Windows*.

To change the short machine type, complete the following steps.

Procedure

1. Insert the workstation boot diskette into drive A:.
2. Bring up the NET.CFG file with a text editor.
3. Erase the existing short machine type (if it is not CMPQ) and type "CMPQ" in its place.

   If no short machine type is specified, insert the following line anywhere in the NET.CFG file.

   ```
   SHORT MACHINE TYPE = CMPQ
   ```

If you are upgrading and you plan to continue using the NetWare Electronic Mail utility, you must copy and rename the following files:

IBM$EMS.OVL
IBM$EMS.HLP
IBM$DRV.OVL

To duplicate and rename the mail files, complete the following steps.

Procedure

1. Make sure your default drive is mapped to the SYS:PUBLIC directory.
2. Type

   NCOPY IBM$EMS.OVL CMPQ$EMS.OVL <Enter>

   NCOPY IBM$EMS.HLP CMPQ$EMS.HLP <Enter>

   NCOPY IBM$DRV.OVL CMPQ$DRV.OVL <Enter>

   The files will be duplicated with the new names.

The IBM$*.* mail files and CMPQ$*.* mail files are now in SYS:PUBLIC. Depending on the short machine type in the NET.CFG file, each workstation accesses the corresponding default color palettes and mail files.

Change the Prefix of the CMPQ$RUN.OVL File

You can change the prefix of the CMPQ$RUN.OVL file to whatever your short machine type is; for example, you can change the file to AT&T$RUN.OVL (the new prefix you give the file must match the short machine type in your NET.CFG file).

To rename the CMPQ$RUN.OVL file, type

REN CMPQ$RUN.OVL AT&T$RUN.OVL <Enter>

This example assumes that all workstations on the network use the short machine type "AT&T." The defaults saved in the AT&T$RUN.OVL file are now used by all computers whose short machine type is specified as "AT&T."

If you have more than one type of computer with a monochrome monitor attached to a composite color adapter, you can duplicate and rename the CMPQ$RUN.OVL file so that you have overlay files for each type of computer on your network.

For example, if you have IBM, COMPAQ, and AT&T computers on your network, you can map your default drive to SYS:PUBLIC and type the following:

NCOPY CMPQ$RUN.OVL AT&T$RUN.OVL <Enter>

(You must have Read, Create, and Erase rights in SYS:PUBLIC to map a default drive to that directory.)

You now have "IBM," "CMPQ," and "AT&T" overlay files that are accessed according to the short machine type found in the NET.CFG file on each workstation's boot diskette.

If you are upgrading and you plan to continue using the NetWare Electronic Mail utility, you must also copy and rename the following files:

IBM$EMS.OVL

IBM$EMS.HLP

IBM$DRV.OVL

(You must have Write and Create rights in SYS:PUBLIC to copy and rename these files.)

To duplicate and rename the mail files, complete these steps.

Procedure

1. Make sure your default drive is mapped to the SYS:PUBLIC directory.
2. Type

   NCOPY IBM$EMS.OVL AT&T$EMS.OVL <Enter>

   NCOPY IBM$EMS.HLP AT&T$EMS.HLP <Enter>

   NCOPY IBM$DRV.OVL AT&T$DRV.OVL <Enter>

   This example assumes that the short machine type is set to AT&T. The files are duplicated with the new names. If you have specified other short machine types for computers on your network, duplicate and rename the mail files for each short machine type you have specified.

Now you have IBM$*.* mail files and AT&T*.* mail files (or whatever you renamed the mail files to) in SYS:PUBLIC. Depending on the short machine type in the NET.CFG file, each computer accesses the corresponding default color palettes and mail files.

Create New Color Palettes

The palettes you created with COLORPAL are different from default palettes. They can be used only with menus you create, not with the NetWare menu utilities. To change the palettes used with the NetWare menu utilities, see "Change the Default Color Palettes" on page 68.

To use your own color palettes with the menus you create with the MENU program, see "NMENU" on page 226 in this manual.

Procedure

1. Enter COLORPAL.

   The "Defined Palettes" menu is displayed, listing palettes 0 through 4. NetWare-supplied menus use these palettes.

2. Press <Insert>.

   Color palette 5 is added to the list of defined palettes.

   You can add several palettes this way. For example, if you press <Insert> three times, the list of palettes increases by three:

   ```
   Defined Palettes

   Color Palette 0
   Color Palette 1
   Color Palette 2
   Color Palette 3
   Color Palette 4
   Color Palette 5
   Color Palette 6
   Color Palette 7
   ```

3. To edit the color scheme of any palette you have created, choose the palette from this list. The "Edit Attribute" and "Current Palette" windows appear.

   The "Edit Attribute" window displays the attributes you can change:

   ```
   Background Normal
   Background Reverse
   Foreground Intense
   Foreground Normal
   Foreground Reverse
   ```

The color attributes, as they appear in NetWare menus, are as follows:

- "Background Normal" is used for the field on which the menu titles and text are displayed.
- "Foreground Normal" is used for normal text and border displays.
- "Foreground Intense" is used to highlight the text and borders for menu options currently active.
- "Foreground Reverse" is used for text covered by the highlight bar.
- "Background Reverse" is used for the highlight bar.

  The "Current Palette" window shows how the various color attributes are set:

  ```
  Normal
  Intense
  Reverse
  ```

4 To change an attribute, choose the attribute from the "Edit Attribute" window.

For example, to change the background of your current palette from blue to black, choose "Background Normal." The "Select Color" list appears.

Whenever you choose an attribute in the "Edit Attribute" window, you see the "Select Color" list. This list varies according to whether you are editing the foreground or the background.

If you are editing a foreground color from the "Edit Attributes" window, the color list includes the following colors:

Black	Light Cyan
Blue	Light Green
Brown	Light Magenta
Cyan	Light Red
Dark Gray	Magenta
Green	Red
Intense White	White
Light Blue	Yellow

However, if you are editing a background color, the list includes fewer color choices:

Black	Green
Blue	Magenta
Brown	Red
Cyan	White

The color being used for the specified attribute is highlighted in the "Select Color" list.

5. To change the color, choose a new one. The "Current Palette" window reflects any color changes you make.

   In the example under Step 4, choose "Black" to change the background to black.

   You can repeat this procedure (starting with Step 2 on page 74 or Step 2 on page 74) to change as many color attributes on your new palettes as you want.

Delete Color Palettes

To delete color palettes, complete the following steps.

Procedure

1. Enter COLORPAL.

   The "Defined Palettes" menu is displayed, listing palettes 0 through 4 and any palettes that you have defined.

2. Highlight the color palette you want to delete.

   Color palettes 0 through 4 are used by NetWare and cannot be deleted. You can delete other palettes. If you do, the "Delete Palette" confirmation box appears.

3. Choose "Yes" to delete the color palette.

Exit COLORPAL

To exit COLORPAL, complete the following steps.

Procedure

1. Press <Esc> until you return to the “Defined Palettes” menu. Press <Esc> again.

   The following prompt appears:

   ```
   Save Changes
     No
     Yes
   ```

2. Choose “Yes” to save the changes or “No” to discard them.

   The following prompt appears:

   ```
   Exit Colorpal
     No
     Yes
   ```

3. Choose “Yes” to exit.

CONFIG

Why Use CONFIG?

Use CONFIG to display the following information:

- File server name
- Hardware settings on all network boards
- LAN drivers loaded
- Network address of the cabling scheme for each network board
- Internal network number of the file server
- Communication protocol bound to the network board
- Network number of the cabling scheme for each network board
- Frame type assigned to the board
- Board name assigned

See “Network numbering” in *Concepts* for an explanation of internal network numbers and of network numbers for cabling.

Command Format

```
CONFIG
```

For a complete explanation of “CONFIG,” see *System Administration*.

DISABLE LOGIN

Why Use DISABLE LOGIN?

Use DISABLE LOGIN to prevent users from logging in to the file server.

Command Format

```
DISABLE LOGIN
```

For a complete explanation of "DISABLE LOGIN," see *System Administration*.

DISABLE TTS

Why Use DISABLE TTS?

Use DISABLE TTS to manually disable the NetWare Transaction Tracking System™ (TTS™).

During normal operation, there is little reason to manually disable TTS; the file server automatically disables TTS if it is necessary.

DISABLE TTS is primarily a tool for application developers who need to test transactional applications with TTS disabled.

NOTE: TTS is an integral part of the file server operating system that protects the bindery from becoming corrupt and does not use a significant amount of file server memory (about 40 bytes for most transactions and at maximum 400 KB). Thus, disabling TTS is not an efficient way to free up file server memory for other loadable modules.

After you manually disable TTS, you must enable TTS with ENABLE TTS or reboot the file server.

Command Format

```
DISABLE TTS
```

For a complete explanation of "DISABLE TTS," see *System Administration*.

DISKSET

Why Use DISKSET?

Use DISKSET to:

- Install an ADIC/Novell® DCB subsystem
- Place identification information about external hard disks on the EEPROM chip of the host bus adapter board
- Place configuration information about the hard disks attached to the host bus adapter on the board's EEPROM chip
- Format an external hard disk through the host bus adapter
- Back up the NetWare Ready configuration information from a NetWare Ready disk to a diskette
- Restore the NetWare Ready configuration information from a backup diskette to the NetWare Ready disk

WARNING: If you are using a DCB disk driver for a disk subsystem, run DISKSET.EXE before installing your NetWare server.

Command Syntax

DISKSET *path*

Replace *path* with the full path to the directory containing DISKSET.

For a complete explanation of "DISKSET," see *System Administration*.

DISMOUNT

Why Use DISMOUNT?

Use DISMOUNT to make a volume unavailable to your users. This allows you to do maintenance on the volume while the server is up.

If you have a volume that is not used very often, you can dismount it until you need to use it again. Mounted volumes take up memory allocated for file caching and slow down the system.

Command Format

DISMOUNT *volume_name*

For a complete explanation of "DISMOUNT," see *System Administration*.

DISPLAY NETWORKS

Why Use DISPLAY NETWORKS?

Use DISPLAY NETWORKS to list all networks that the file server router is aware of. All network numbers (internal and cabling system) are listed.

Consult this command to make a current list of all assigned network numbers.

Command Format

```
DISPLAY NETWORKS
```

Display a List of Networks

To display a list of networks, type

DISPLAY NETWORKS <Enter>

The list shows the IPX network number, the number of hops (networks that must be crossed) to reach the network, and the estimated time in ticks (1/18 of a second) for a packet to reach the network. The number of known networks is displayed at the end of the list.

To see a list of servers on the network, use DISPLAY SERVERS.

For a complete explanation of "DISPLAY NETWORKS," see *System Administration*.

DISPLAY SERVERS

Why Use DISPLAY SERVERS?

Use DISPLAY SERVERS to list all servers that the file server router is aware of.

This command shows all servers, regardless of type (print servers, VMS, and so forth).

Command Format

```
DISPLAY SERVERS
```

Display a List of File Servers

To display a list of file servers, type

DISPLAY SERVERS <Enter>

The list shows the server's name and the number of hops (networks that must be crossed) to reach the server. The number of known servers is displayed at the end of the list.

To see a list of networks, use DISPLAY NETWORKS.

For a complete explanation of "DISPLAY SERVERS," see *System Administration*.

DOSGEN

Why Use DOSGEN?

Use DOSGEN to allow DOS workstations to boot from remote boot image files on the file server's hard disk rather than from a boot diskette in a local drive.

Command Format

```
DOSGEN
```

Additional Information

For additional information on DOSGEN, see *Workstation for DOS and Windows*.

DOWN

Why Use DOWN?

Use DOWN to clear cache buffers before turning off the power to the file server.

DOWN ensures data integrity by

- Writing all cache buffers to disk
- Closing all files
- Updating the appropriate directory and file allocation tables

Command Format

```
DOWN
```

For a complete explanation of "DOWN," see *System Administration*.

DSPACE

Why Use DSPACE?

Use DSPACE to do the following:

- List and change current file server attachments
- Limit a user's disk space on a volume
- Limit disk space in a directory

The tasks in DSPACE are organized according to the "Available Options" menu:

Figure 3 DSPACE Available Options menu

List and Change Current File Server Attachments

While you are in DSPACE, you can list or change your current file server attachments.

Choose "Change File Server" from the "Available Options" menu to see the list of file servers.

Insert the name of the file server you want to attach to. If you want to delete a file server attachment, highlight the name of the file server and press <Delete>.

Limit a User's Disk Space on a Volume

To limit a user's disk space on a volume, complete the following.

Procedure

1. Enter DSPACE and choose "User Restrictions" from the "Available Options" menu.

   You see a list of usernames.

2. Choose the user whose disk space you want to limit.

   A list of available volumes appears.

3. Choose the volume on which you want to limit a user's disk space.

   The "User Disk Space Limitation Information" menu appears.

4. Choose the option you want.

   The default for the "Limit Space" option is "No."

   To change the default setting, type "Yes" or "Y" and press <Enter>. After you change the option to "Yes," you can change the number of kilobytes in the "Available" option.

5. Press <Esc> three times to return to the "Available Options" menu.

Limit Disk Space in a Directory

To limit disk space in a directory, complete the following steps.

Procedure

1. Enter DSPACE and choose "Directory Restrictions" from the "Available Options" menu.

   You see the "Directory for Space Restriction Information" menu showing the current file server and volume name.

   - Enter the directory path. If you know the full directory path, type it. If you do not know the full directory path, press <Insert> to choose the path from the "Network Directories" menu.
   - Limit disk space in a directory on a different volume. Highlight the volume name that appears in the "Directory for Space Restriction Information" menu and press <Delete>. Insert the volume name on which the desired directory is located.

- Limit disk space in a directory located on a different file server. First, go back to the “Available Options” menu and choose “Change File Server.”
- Choose the desired file server, go back to the “Available Options” menu, and then choose “Directory Restrictions.”
- Limit the directory space. Once you have chosen the directory path, you see the “Directory Disk Space Limitation Information” menu. To limit directory space, type “Yes” or “Y” and press <Enter>. Then change the number of kilobytes.

2 Press <Esc> three times and choose “Yes” to exit DSPACE.

EDIT

Why Use EDIT?

Use EDIT to create or modify a text file.

EDIT is useful in creating .NCF batch files to automatically execute file server commands. You can use EDIT with text files on either DOS or NetWare partitions.

EDIT.NLM can be used to edit files of 8 KB or less.

Command Format

LOAD [*path*] EDIT

For a complete explanation on "EDIT," see *System Administration*.

ENABLE LOGIN

Why Use ENABLE LOGIN?

Use ENABLE LOGIN to reenable the login function.

Command Format

ENABLE LOGIN

Additional Information

Use ENABLE LOGIN only if you have disabled login rights with the DISABLE LOGIN command and have not turned off the file server

If you have turned off the file server, you do not need to enable login rights. Login rights are enabled automatically when the file server is turned on.

Allow Users to Log In

To allow users to log in again after you have disabled login rights, type

ENABLE LOGIN <Enter>

All login rights are restored.

ENABLE TTS

Why Use ENABLE TTS?

Use ENABLE TTS to manually enable the NetWare Transaction Tracking System (TTS) in the file server.

During normal operation, TTS is always enabled. However, you can manually disable TTS with DISABLE TTS. Also, the file server automatically disables TTS if one of the following happens:

- Volume SYS: (the TTS backout volume) is full
- The file server has insufficient memory to operate TTS

After TTS has been disabled (automatically or manually), use this TTS command to enable TTS in the file server.

Command Format

```
ENABLE TTS
```

For a complete explanation of "ENABLE TTS," see *System Administration*.

ENDCAP

Why Use ENDCAP?

Use ENDCAP to end the capture of one or more of your workstation's LPT (local parallel printing) ports.

You can also use ENDCAP to send data to a network printer or file. (Always use CAPTURE before using ENDCAP; see "CAPTURE" on page 53.)

Command Format

ENDCAP [*option* ...]

For a complete explanation of "ENDCAP," see *Print Server*.

EXIT

Why Use EXIT?

Use EXIT to return to DOS after you have brought down the file server. This allows you to access DOS files or rerun SERVER.EXE with new parameters.

Use EXIT to restart the file server if the REMOVE DOS command has been issued.

Command Format

```
EXIT
```

Additional Information

After you bring down the file server, it is still connected to the network and receiving packets. You can still execute console commands which deal with packets, such as TRACKON and TRACKOFF.

If DOS is removed from memory, EXIT will not work.

Return to DOS After Downing the File Server

To return to DOS after you have issued the DOWN command, type

EXIT <Enter>

For further information, see “DOWN” on page 86 and “REMOVE DOS” on page 267.

FCONSOLE

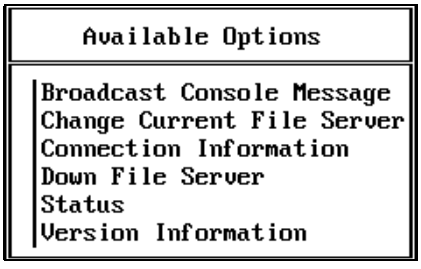
Why Use FCONSOLE?

Use FCONSOLE to accomplish the following tasks:

- Supervisors or console operators can broadcast messages, view detailed current user connection information, and see and alter the status of the file server.
- System supervisors can shut down the file server.
- Network users can change file servers, view current user connection information, and view the version of NetWare currently running on the server.

The FCONSOLE menu includes the following tasks:

Figure 4 FCONSOLE Available Options menu



Use the following table to find information about FCONSOLE tasks.

Task	Page
Broadcast Console Message	
Broadcast a console message	“Broadcast a Console Message” on page 96
Change Current File Server	
Change your current file server	“Change Current File Server” on page 97
Log in to another file server	“Log in to Another File Server” on page 97
Log out of a file server	“Log out of a File Server” on page 98

Task	Page
Specify a different username	“Specify a Different Username” on page 98
Connection Information	
View current user connections	“View Current User Connections” on page 99
Down File Server	
Shut down a file server	“Shut Down a File Server” on page 101
Status	
View or change file server status	“View or Change File Server Status” on page 101
Version Information	
View version information	“View Version Information” on page 102

Additional Information

You can execute FCONSOLE from any network station. If you are an operator or supervisor, FCONSOLE allows you to control the file server from any workstation.

To exit FCONSOLE at any time, press <Alt><F10> or <Esc> until you are prompted to exit. When the confirmation box appears, choose “Yes.”

Broadcast a Console Message

The “Broadcast Console Message” option can be used by console operators and users with supervisor privileges to send a message to all network stations logged in to the current file server. The message can be up to 55 characters.

To broadcast a message, complete the following steps.

Procedure

1. Enter FCONSOLE and choose “Broadcast Console Message” from the “Available Options” menu.

   A “Message:” entry box is displayed on the screen.

2 Type the message you want to broadcast and press <Enter>.

If you want to cancel your message, press <Esc>.

Change Current File Server

NOTE: FCONSOLE will not work with file servers running NetWare v2.0a and earlier.

Change Your Current File Server

The "Change Current File Server" option allows you to choose another file server as the current (default) file server. Any user can choose this option.

Procedure

1 Enter FCONSOLE and choose "Change Current File Server" from the "Available Options" menu.

A window listing your current file server and user connections appears:

Figure 5 Current server and user connections

File Server	User Name
MARKETING	CINDY
SALES	SUPERVISOR
SALES	CORY

2 Choose the file server you want to change to.

The screen heading changes, displaying the name of the new file server.

Log in to Another File Server

Procedure

1 Enter FCONSOLE and choose "Change Current Server" from the "Available Topics" menu.

A screen appears listing your current file server and user connections.

2 Press <Insert>.

A list of available file servers appears on the screen.

3. Choose the file server you want to log in to.

   A "User Name:" entry box appears on the screen.

4. Type your username in the entry box and press <Enter>.

   If the username you have chosen requires a password, the "Password:" entry box appears on the screen.

5. Type the password in the entry box and press <Enter>.

   The name of the new file server appears in the "File Server" list.

6. To change to the new file server, press <Enter>. A heading similar to the following appears:

```
NetWare File Server Console V1.00 Monday August 10, 1993
  1:39pm

User GUEST On File Server ADMIN Connection 26
```

   The heading on the screen reflects the new connection information.

Log out of a File Server

FCONSOLE will not let you log out of your default file server.

Procedure

1. Enter FCONSOLE and choose "Change Current Server" from the "Available Topics" menu.

   A screen appears listing your current file server and user connections.

2. Highlight the server or connection you want to eliminate and press the <Delete> key.

3. Choose "Yes." The specified file server disappears from the "File Server/ User Name" list.

Specify a Different Username

You cannot change the username for your default file server. You receive an error message if you attempt to do so.

Procedure

1. Enter FCONSOLE and choose "Change Current Server" from the "Available Topics" menu.

   A screen appears listing your current file server and user connections.

2 Press the Modify key (<F3>).

The “New User Name:” entry box appears on the screen.

3 Type the username you want to change to and press <Enter>.

If the username you have chosen requires a password, the “Password:” entry box appears on the screen.

4 Type your password in the entry box and press <Enter>.

If you have user rights on the file server, the new username appears in the “User Name” list. If you do not have rights, you receive the error message “Access Denied.” Press <Esc> to return to the “File Server/User Name” list.

Connection Information

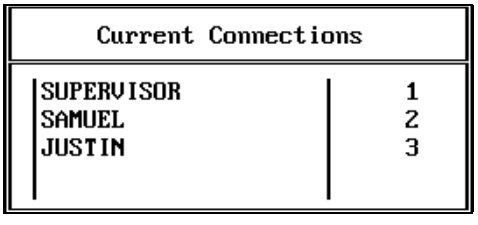
The “Connection Information” option lists all logical connections to the current file server. If you are a file server console operator or have supervisor privileges, you can examine detailed information about the status of each connection.

If you have user status, you can view the names and connection numbers of other users, but no other information.

View Current User Connections

Enter FCONSOLE and choose “Connection Information” from the “Available Options” menu. A list similar to the following appears:

Figure 6 Current Connections window



This window displays the names and logical connection numbers of all users who are logged in to the current file server. It is updated every two seconds.

Broadcast a Console Message

Procedure

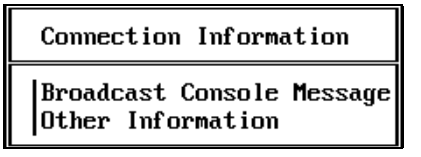
1. Enter FCONSOLE and choose “Connection Information” from the “Available Options” menu.

   The “Current Connections” window is displayed.

2. Choose the username to whom you want to send a message. To send a message to several connections at the same time, use the Mark key (<F5>) to choose the connections; then press <Enter>.

   The following menu appears:

Figure 7 Connection Information menu



3. Choose “Broadcast Console Message.” A “Message:” entry box is displayed on the screen.

4. Type the message you want to broadcast and press <Enter> to send your message. If you decide not to send your message, press the Cancel key (<F7>). Type your new message and then <Enter>. To exit, press <Esc>.

View Other Information

The “Other Information” option shows additional information about a user’s connection: the object name, object type, object’s full name, login time, and network address.

Procedure

1. Enter FCONSOLE and choose “Connection Information” from the “Available Options” menu.

   The “Current Connections” window is displayed.

2. Choose the username whose connection you want to view more information about.

3 Choose “Other Information” from the “Connection Information” window.

Shut Down a File Server

The “Down File Server” option allows you to shut down the file server. You must have supervisor privileges on the currently selected file server to use this option.

To bring down the file server, complete the following steps.

Procedure

1 Enter FCONSOLE and choose “Down File Server” from the “Available Options” menu.

2 Choose “Yes.”

NOTE: If any files are open, the file server will not be brought down. Choose “Yes” at the “Server Has Open Files, Force Down Server” screen to bring down a server with open files.

View or Change File Server Status

The “Status” option displays the current file server date and time. It also shows whether user login is allowed, and whether TTS is enabled.

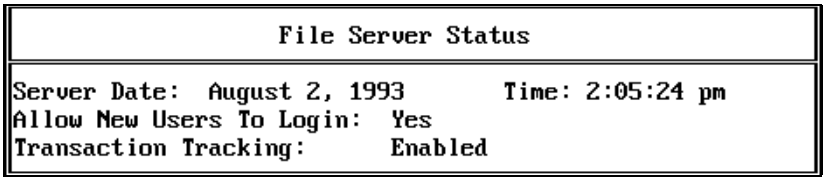
You must be a console operator or have supervisor privileges on the current file server to view or change its status.

Procedure

1 Enter FCONSOLE and choose “Status” from the “Available Options” menu.

The “File Server Status” window appears on your screen:

Figure 8 File Server Status window



2. To change any of these settings, choose the information to be changed and type in the changes.

   You can type “D” to disable TTS, or “E” to enable it.

   Type “N” to disable login, or “Y” to enable it.

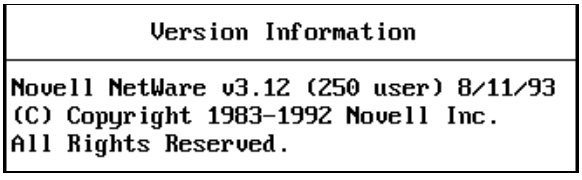
3. Press <Escape> to save your changes.

View Version Information

The “Version Information” option shows the version of NetWare that is running on the file server. Any user can use this option.

To view version information, choose “Version Information” from the “Available Options” menu. A window similar to the following appears:

Figure 9 Version Information window



FILER

Why Use FILER?

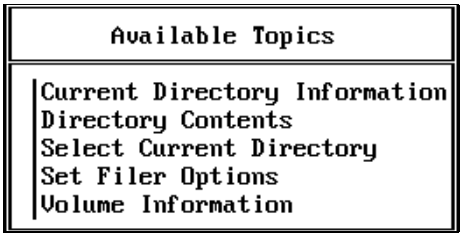
Use FILER to

- Control volume, directory, and file information
- To change directory and file security

Users who run FILER and do not have supervisor equivalence for certain tasks receive a screen message indicating that they do not have access to certain FILER options.

The tasks in FILER are arranged according to the “Available Topics” menu.

Figure 10 FILER Available Topics menu



Current Directory Information

Use the “Current Directory Information” option to complete the following tasks:

Task	Page
View and modify the directory’s owner, creation date, and time	“View and Modify the Directory’s Owner, Creation Date, and Time” on page 104
View directory’s effective rights	“View Directory’s Effective Rights” on page 105
View, add, or delete directory attributes	“View, Add, or Delete Directory Attributes” on page 105
View, revoke, or grant rights in the Inherited Rights Mask	“View, Revoke, or Grant Rights in the Inherited Rights Mask” on page 106

Task	Page
View, add, or delete user or group trustees	“View, Add, or Delete User or Group Trustees” on page 106
View, revoke, or grant user or group trustee rights	“View, Revoke, or Grant User or Group Trustee Rights” on page 107

View and Modify the Directory’s Owner, Creation Date, and Time

Users must have supervisor equivalence to modify the directory’s owner, creation date, and time.

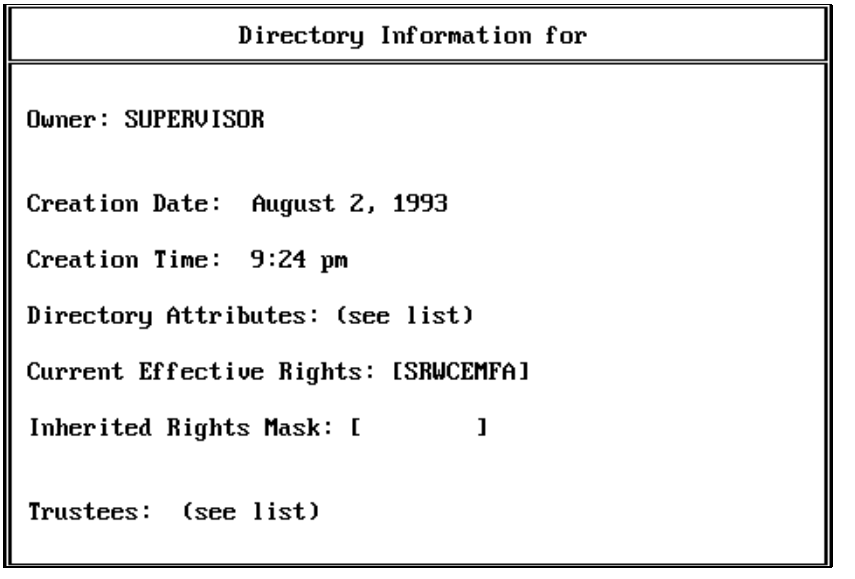
To view or modify the current directory’s owner, creation date, and time, complete the following steps.

Procedure

1. Enter FILER and choose “Current Directory Information” from the “Available Topics” menu.

   The following screen appears:

Figure 11 Directory Information window



2. To modify the directory's owner, choose "Owner" in the "Directory Information" window.

   The "Known Users" window appears.

3. Choose the user you want to change to.

4. To modify the directory's creation date or time, choose "Creation Date" or "Creation Time" in the "Directory Information" window.

5. Type the new information.

View Directory's Effective Rights

To view your directory's effective rights, enter FILER and choose the "Current Directory Information" option from the "Available Topics" menu.

The "Directory Information" window appears, displaying the current effective rights.

View, Add, or Delete Directory Attributes

Users must have Read Only, File Scan and Modify rights in the current directory or its parent directory to add or delete directory attributes.

Procedure

1. Enter FILER and choose "Current Directory Information" from the "Available Topics" menu.

2. Choose "Directory Attributes" in the "Directory Information" window.

   The "Current Attributes" window appears, displaying the directory's current attributes.

3. To add or delete an attribute, complete one of the following:

   - *To add an attribute.* Press <Insert> at the "Current Attributes" window to view the directory's "Other Attributes." Choose the attribute you want to add.

     To add more than one attribute, mark each attribute by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

- *To delete an attribute.* Highlight the attribute you want to delete and press <Delete>. To delete multiple attributes, mark each attribute you want to delete by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

Choose "Yes" at the "Delete Attribute" window.

View, Revoke, or Grant Rights in the Inherited Rights Mask

Users must have the Access Control right in the current directory or its parent directory to revoke or grant rights in the Inherited Rights Mask.

Procedure

1. Enter FILER and choose "Current Directory Information" from the "Available Topics" menu.
2. Choose "Inherited Rights Mask."

   The "Inherited Rights" window appears, displaying the directory's inherited rights.
3. To revoke or grant a right, complete one of the following:
   - *To revoke a right.* Highlight the right you want to revoke and press <Delete>. To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.
   - *To grant a right.* Press <Insert> and choose the right you want from the "Other Rights" window. To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

View, Add, or Delete User or Group Trustees

Users must have the Access Control right in the current directory or its parent directory to add or delete user or group trustees.

Procedure

1. Enter FILER. Choose "Current Directory Information" from the "Available Topics" menu.
2. Choose "Trustees" to view the current directory's trustees and trustee rights.

3. Press <Insert> to view a list of other users and groups defined on your file server.
4. To add or delete user or group trustees, complete one of the following:
   - *To add a new user or group trustee.* Choose the user or group you want to add. To add more than one user or group, mark each user or group by highlighting it and pressing the Mark key (<F5>); then press <Enter>.
   - *To delete a user or group trustee.* Highlight the user or group you want to delete and press <Delete>. To delete more than one user or group, mark each user or group by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

View, Revoke, or Grant User or Group Trustee Rights

Users must have the Access Control right in the current directory or its parent directory to revoke or grant user or group trustee rights.

Procedure

1. Enter FILER. Choose "Current Directory Information" from the "Available Topics" menu.
2. Choose "Trustees" to view the current directory's trustees and trustee rights.
3. To view the "Trustee Rights" window, press <Enter>.
4. To revoke or grant user or group trustee rights, complete one of the following:
   - *To revoke a right.* Highlight the right you want to revoke, and press <Delete>. To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.
   - *To grant a right.* Press <Insert> and choose the right you want to grant. To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

Directory Contents

Use the “Directory Contents” option to complete the following tasks:

Task	Page
Mark a directory structure to be copied	“Mark a Directory Structure to be Copied” on page 110
Change the ownership of a directory structure	“Change the Ownership of a Directory Structure” on page 110
View or modify the current directory and its subdirectories	“View or Modify the Current Directory and Its Subdirectories” on page 110
View directory contents	“View Directory Contents” on page 110
Change the current directory path	“Change the Current Directory Path” on page 110
Make parent directory your current directory	“Make Parent Directory Your Current Directory” on page 111
Make root directory your current directory	“Make Root Directory Your Current Directory” on page 111
Create a new subdirectory	“Create a New Subdirectory” on page 111
Delete subdirectories and files	“Delete Subdirectories and Files” on page 112
Delete entire subdirectory structure	“Delete Entire Subdirectory Structure” on page 112
Delete subdirectory files only	“Delete Subdirectory Files Only” on page 112
Delete current directory’s files	“Delete Current Directory’s Files” on page 112
Use subdirectory options	“Use Subdirectory Options” on page 113
Copy subdirectory’s files	“Copy Subdirectories’ Files” on page 129
Copy subdirectory’s structure	“Copy Subdirectories’ Structures” on page 130
Make subdirectory your current directory	“Make Subdirectory Your Current Directory” on page 115
Move subdirectory’s structure	“Move Subdirectory’s Structure” on page 116
View and set directory information	“View or Set Directory Information” on page 116

Task	Page
View who has rights here	“View Who Has Rights Here” on page 117
Use file options	“Use File Options” on page 117
Copy file	“Copy File” on page 117
Move file	“Move a File” on page 119
View file	“View a File” on page 119
View/set file information	“View/Set File Information: Effective Rights and File Size” on page 120
View who has rights here	“View Who Has Rights Here” on page 127
Mark subdirectories and files	“Mark Subdirectories and Files” on page 127
Using the Mark key	“Using the Mark Key” on page 128
Using the Mark Pattern key	“Using the Mark Pattern Key” on page 128
Use multiple subdirectory operations	“Use Multiple Subdirectory Operations” on page 129
Copy subdirectories’ files	“Copy Subdirectories’ Files” on page 129
Copy subdirectories’ structures	“Copy Subdirectories’ Structures” on page 130
Set creation dates and times	“Set Creation Dates and Times” on page 132
Set inherited rights	“Set Inherited Rights” on page 132
Set owners	“Set Owners” on page 133
Use multiple file operations	“Use Multiple File Operations” on page 134
Copy marked files	“Copy Marked Files” on page 134
Set attributes	“Set Attributes” on page 135
Set creation dates	“Set Creation Dates” on page 136
Set inherited rights	“Set Inherited Rights” on page 136
Set last accessed dates	“Set Last Accessed Dates” on page 137
Set last modified dates	“Set Last Modified Dates” on page 137

Task	Page
Set owners	“Set Owners” on page 137

Mark a Directory Structure to be Copied

To mark a directory structure to be copied, enter FILER and choose “Directory Contents” from the “Available Topics” menu. Mark the directory structure to be copied by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

Change the Ownership of a Directory Structure

To change the directory structure’s owner, choose “Owner” in the “Directory Information” window. The “Known Users” window appears. Choose the user you want to change to, highlight it, and press <Enter>.

View or Modify the Current Directory and Its Subdirectories

View Directory Contents

Enter FILER and choose “Directory Contents” from the “Available Topics” menu. The “Directory Contents” window appears, listing all subdirectories and files.

Change the Current Directory Path

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Press <F2> to bring up the “Current Directory Path” window.
3. Use the <Backspace> key to delete information you don’t want and then type in the path.

   Or use the <Backspace> key to erase the displayed path and then press <Insert> to bring up the “File Servers” window. Choose your directory path by choosing file server, volume, and directory options.

After you choose your directory path, press <Esc> to bring your cursor back to the “Current Directory Path” window. Then press <Enter> to change your current directory path.

Make Parent Directory Your Current Directory

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Choose the parent directory from the “Directory Contents” window.
3. Choose “Yes” in the confirmation box.

Make Root Directory Your Current Directory

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Choose the root directory from the “Directory Contents” window.
3. Choose “Yes” in the confirmation box.

Create a New Subdirectory

Users must have the Create right to create subdirectories.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Press <Insert>.
3. Type in the name of the new subdirectory.

Delete Subdirectories and Files

Users must have the Erase right to delete subdirectories and files in a directory.

Delete Entire Subdirectory Structure

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Highlight the subdirectory whose structure you want to delete and press <Delete>.
3. Choose “Delete Entire Subdirectory Structure” from the “Delete Subdirectory Options” window.
4. Answer “Yes” in the confirmation box.

Delete Subdirectory Files Only

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Highlight the subdirectory whose files you want to delete; then press <Delete>.
3. Choose “Delete Subdirectory Files Only” from the “Delete Subdirectory Options” window. Answer “Yes” in the confirmation box.

Delete Current Directory’s Files

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Highlight the file you want to delete from the “Directory Contents” window; then press <Delete>.
3. Answer “Yes” in the confirmation box.

   To delete more than one file, use the Mark key (<F5>) to highlight multiple files; then press <Delete>. Answer “Yes” in the confirmation box.

Use Subdirectory Options

Copy Subdirectory's Files

Users must have Read and File Scan rights in the directory they are copying from, and Create, Write, and Erase rights in the directory they are copying to.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.
2. Choose the subdirectory you want to copy from the "Directory Contents" window.

   The "Subdirectory Options" window appears.
3. Choose "Copy Subdirectory's Files."

   The "Copy Subdirectory To:" window appears.
4. To copy subdirectory files, complete one of the following:

   - *Copy to a subdirectory in your current directory.* Type in the name of the directory; then press <Enter>.

     You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can choose your directory path by choosing file server, volume, and directory options.

     After you choose your directory path, press <Esc> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectory's files.
   - *Copy to a directory on another volume on your file server.* Type in the name of the volume and directory; then press <Enter>.

     You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can choose your directory path by choosing file server, volume, and directory options.

     After you choosing your directory path, press <Esc> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectory's files.

- *Copy to a directory on another file server.* You must be attached to the file server you want to copy files to. Type in the name of the file server, volume, and directory; then press <Enter>.

  To attach to another file server. Press <Insert> to bring up the "File Servers/Local Drives" window. Press <Insert> again at the "File Server/Local Drives" window. A list of "Other File Servers" is displayed.

  Choose the file server you want to attach to. Continue to choose the file server, volume, and directory options by pressing <Enter>.

  After you choose your directory path, press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectory's files.

  To log out of another file server. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>. Answer "Yes" in the "Logout From Server" confirmation box.

Copy Subdirectory's Structure

Users must have Read and File Scan rights in the directory they are copying from, and Create, Write, and Erase rights in the directory they are copying to.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.
2. Choose the subdirectory structure you want to copy from the "Directory Contents" window.

   The "Subdirectory Options" window appears.
3. Choose "Copy Subdirectory's Structure."

   The "Copy Subdirectory To:" window appears.
4. To copy the subdirectory's structure, complete one of the following.

   - *Copy to a subdirectory in your current directory.* Type in the name of the directory; then press <Enter>.

     You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can choose your directory path by choosing file server, volume, and directory options.

After you choose your directory path, press <Esc> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectory's structure.

- *Copy to a directory on another volume on your file server.* Type in the name of the volume and directory; then press <Enter>.

  You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can choose your directory path by choosing file server, volume, and directory options.

  After you choose your directory path, press <Esc> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectory's structure.

- *Copy to a directory on another file server.* You must be attached to the file server you want to copy files to. Type in the name of the file server, volume, and directory; then press <Enter>.

  To attach to another file server. Press <Insert> to bring up the "File Servers/Local Drives" window. Press <Insert> again at the "File Server/Local Drives" window. A list of "Other File Servers" is displayed.

  Choose the file server you want to attach to. Continue to choose the file server, volume, and directory options by pressing <Enter>.

  After you choose your directory path, press <Esc> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectory's structure.

  To log out of another file server. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>. Answer "Yes" in the "Logout From Server" confirmation box.

Make Subdirectory Your Current Directory

To make a subdirectory your current directory, complete the following steps.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.
2. Choose the subdirectory you want to make your current directory.

   The "Subdirectory Options" window appears.

3. Choose “Make This Your Current Directory.”
4. Answer “Yes” in the confirmation box.

Move Subdirectory’s Structure

You can move the subdirectory’s structure only to another subdirectory on your current file server and volume.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Choose the subdirectory whose structure you want to move.
3. Choose “Move Subdirectory’s Structure” from the “Subdirectory Options” window.

   The “Destination Directory” window appears.
4. Type the directory path, or use <Insert> to bring up the “File Servers/ Local Drives” window, from which you can choose your directory path by choosing file server, volume, and directory options.

   After you choose your directory path, press <Esc> to bring your cursor back to the “Destination Directory” window. Then press <Enter> to move the subdirectory’s structure.

   The “New name” confirmation box appears.
5. To keep the current name, press <Enter>. To rename the subdirectory’s structure, backspace to delete the current name; then type in the new name and press <Enter>.

View or Set Directory Information

To view or set directory information, complete the following steps.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Choose the subdirectory whose information you want to view or set.

   The “Subdirectory Information” window for that directory appears.

For a complete explanation on how to use the “Directory Information” window, see “Current Directory Information” on page 103.

View Who Has Rights Here

Users must have the Supervisory right to view who has rights in the directory.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Choose the subdirectory whose trustee rights you want to view.

   The “Subdirectory Options” window appears.
3. Choose “Who has rights here.”

   The subdirectory’s trustees, trustee rights, and security equivalences are displayed.

Use File Options

Users must have the Supervisory right to view who has rights in the file.

When you copy Macintosh files, both the resource and data forks are copied.

Copy File

Users must have Read and File Scan rights in the directory they are copying from, and Create, Modify, Write, and Erase rights in the directory they are copying to.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Choose the file you want to copy from the “Directory Contents” window; then press <Enter>.

   The “File Options” window appears.
3. Choose “Copy File.”

   The “Destination Directory” window appears.

4 To copy a file, complete one of the following.

- *Copy to a subdirectory in your current directory.* Type in the name of the directory; then press <Enter>. The "Destination File Name" window appears. If you want to change the name of the file you are copying, type the new name and press <Enter>. If not, press <Enter>.

  You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can choose your directory path by choosing file server, volume, and directory options.

  After you choose your directory path, press <Esc> to bring your cursor back to the "Destination Directory" window. Then press <Enter> to copy the file.

- *Copy to a directory on another volume on your file server.* Type in the name of the volume and directory; then press <Enter>. The "Destination File Name" window appears. If you want to change the name of the file you are copying, type the new name and press <Enter>. If not, press <Enter>.

  You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can choose your directory path by choosing file server, volume, and directory options.

  After you choose your directory path, press <Esc> to bring your cursor back to the "Destination Directory" window. Then press <Enter> to copy the file.

- *Copy to a directory on another file server.* You must be attached to the file server you want to copy files to. Type the name of the file server, volume, and directory; then press <Enter>.

  The "Destination File Name" window appears. If you want to change the name of the file you are copying, type in the new name and press <Enter>. If not, press <Enter>.

  To attach to another file server. Press <Insert> to bring up the "File Servers/Local Drives" window. Press <Insert> again at the "File Server/Local Drives" window. A list of "Other File Servers" is displayed.

  Choose the file server you want to attach to. Continue to choose the file server, volume, and directory options by pressing <Enter>.

  After you choose your directory path, press <Esc> to bring your cursor back to the "Destination Directory" window. Then press <Enter> to copy the file.

To log out of another file server. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>. Answer "Yes" in the "Logout From Server" confirmation box.

Move a File

You can move a file only to another directory or subdirectory on your current file server and volume.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.
2. Choose the file you want to move from the "Directory Contents" window; then press <Enter>.

   The "File Options" window appears.
3. Choose "Move File."

   The "Destination Directory" window appears.
4. Type the directory path, or use <Insert> to bring up directory menus from which to choose your directory path. Choose your options by pressing <Enter>.

   After you choose your directory path, press <Esc> to bring your cursor back to the "Destination Directory" window. Then press <Enter> to move the file.

   The "New name" confirmation box appears.
5. To keep the current name, type <Enter>. To rename the subdirectory's structure, use the <Backspace> key to delete the current name; then type in the new name and press <Enter>.

View a File

To view a file, complete the following steps.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" window.

2. Choose the file you want to view from the “Directory Contents” window and press <Enter>.
3. Choose “View File.”

   The file’s contents are displayed on the screen.

View/Set File Information: Effective Rights and File Size

To view or set file information for effective rights and file size, complete the following steps.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Choose the file whose effective rights and file size you want to view.
3. Choose “View/Set File Information.”

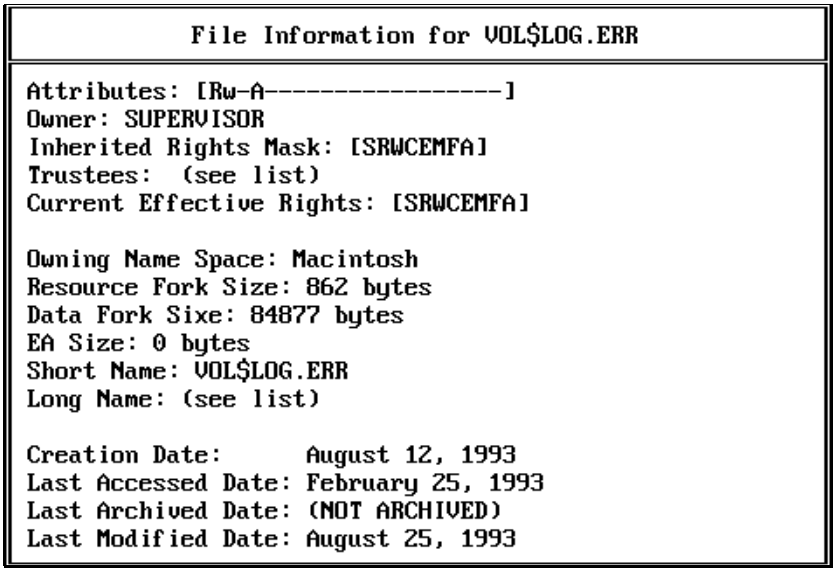
   If you chose a DOS file, the “File Information” screen appears similar to the following:

Figure 12 DOS file information window

```
File Information for VOL$LOG.ERR

Attributes: [Rw-A----------------]
Owner: SUPERVISOR

Inherited Rights Mask: [SRWCEMFA]
Trustees:  (see list)
Current Effective Rights: [SRWCEMFA]

Owning Name Space: DOS
File Size: 791 bytes
EA Size: 0 bytes

Short Name: VOL$LOG.ERR

Creation Date:      February 12, 1993
Last Accessed Date: August 2, 1993
Last Archived Date: (NOT ARCHIVED)
Last Modified Date: August 2, 1993
```

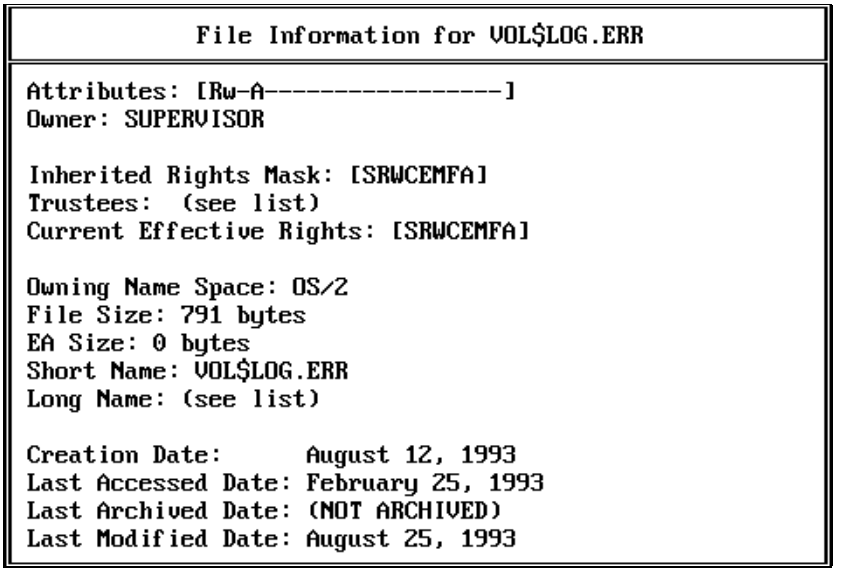
If you chose a Macintosh file, the “File Information” screen appears similar to the following:

Figure 13 Macintosh file information window



If you chose an OS/2 or NFS file, the “File Information” screen appears similar to the following. (This particular screen shows an OS/2 file).

Figure 14 OS/2 file information window



View/Set File Information: Long Names

To view or set file information for long names, complete the following steps.

Procedure

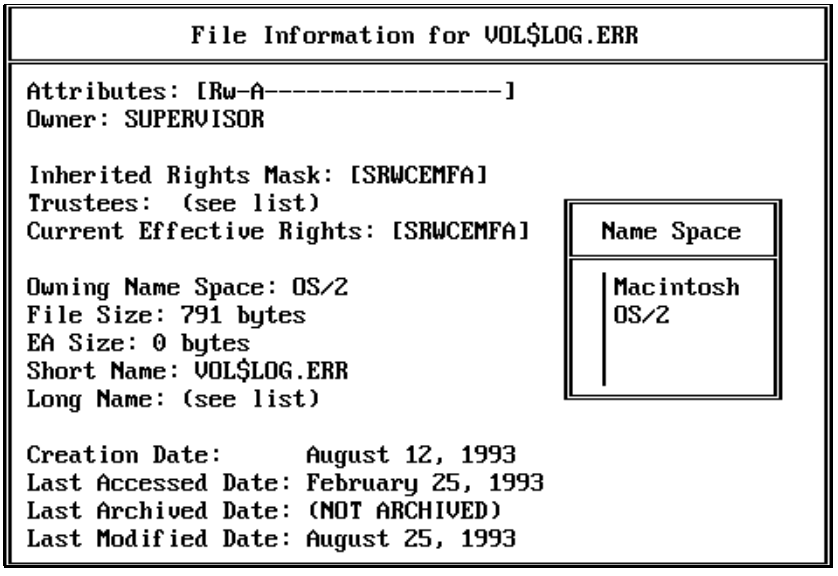
1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Choose the file whose long name you want to view.
3. Choose “View/Set File Information.”

   The file’s information is displayed.

4 Choose the “Long Name” list from the “File Information” window.

The “Name Space” window appears similar to the following:

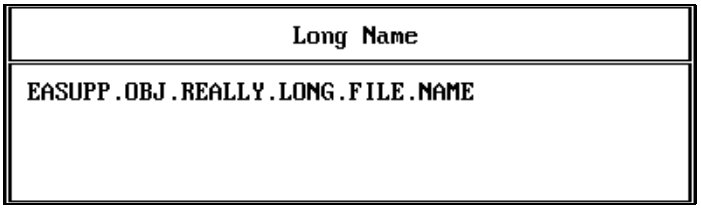
Figure 15 Name Space window



5 Choose the corresponding name space for the file.

The “Long Name” window appears similar to the following:

Figure 16 Long Name window



View/Set File Information: Attributes

Users must have the Modify right to add, delete, or modify file attributes.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Choose the file whose attributes you want to view, add, or delete.
3. Choose “View/Set File Information.”

   The file’s information is displayed.
4. To add or delete an attribute, complete one of the following:

   - *To add an attribute.* Choose the “Attributes” list in the “File Information” screen. The “Current File Attributes” window appears. Press <Insert> to view “Other File Attributes.” Choose the attribute you want to add.

     To add more than one attribute, mark each attribute by highlighting it, pressing the Mark key (<F5>); then pressing <Enter>.
   - *To delete an attribute.* Choose the “Attributes” list in the “File Information” screen. The “Current File Attributes” window appears. Highlight the attribute you want to delete; then press <Delete>. Answer “Yes” in the “Remove File Attribute” confirmation box.

     To delete more than one attribute, mark each attribute by highlighting it, pressing the Mark key (<F5>); then pressing <Delete>.

View/Set File Information: Owner and Dates

Users must have supervisor equivalence to modify a file’s owner and date.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Choose the file whose owner and dates you want to view or modify.
3. Choose “View/Set File Information.”

   The file’s information is displayed.

4 To modify the file's owner or dates, complete one of the following:

- Modify file's owner. Choose the current owner in the "File Information" screen. The "Known Users" window appears. Choose the user you want to change to.
- Modify file's dates. Choose the date you want to modify in the "File Information" screen. Type the new information.

View/Set File Information: Inherited Rights Mask

Users must have the Access Control right to revoke or grant rights in the Inherited Rights Mask.

Procedure

1 Enter FILER and choose "Directory Contents" from the "Available Topics" menu.

2 Choose the file whose Inherited Rights Mask you want to view or change.

3 Choose "View/Set File Information."

The file's information is displayed.

4 To revoke or grant an Inherited Rights Mask right, complete one of the following:

- *To revoke a right.* Choose the "Inherited Rights Mask" list in the "File Information" screen. The "Inherited Rights" window appears. Highlight the right you want to revoke; then press <Delete>. Answer "Yes" in the "Revoke Right" confirmation box.

  To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

- *To grant a right.* Choose the "Inherited Rights Mask" list from the "File Information" screen. The "Inherited Rights" window appears. Press <Insert> to view the "Other Rights" window. Choose the right you want to grant.

  To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

View/Set File Information: Trustees

Users must have the Access Control right to add or delete a file's trustees.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.
2. Choose the file whose trustees you want to view, add, or delete.
3. Choose "View/Set File Information."

   The file's information is displayed.
4. To add or delete a trustee, complete one of the following:

   - *To add a new user or group trustee.* Choose the "Trustee" list from the "File Information" window. The user and group trustee window appears, listing the assigned trustee rights. Press <Insert> to view the "Others" window. Choose the trustee you want to add.

     To add more than one user or group trustee, mark each user or group by highlighting it and pressing the Mark key (<F5>); then press <Enter>.
   - *To delete a user or group trustee.* Choose the "Trustee" list from the "File Information" screen. Highlight the trustee or group you want to delete; then press <Delete>.

     To delete more than one user or group trustee, mark each user or group by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

View/Set File Information: Trustee Rights

Users must have the Access Control right to revoke or grant the file's trustee rights.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.
2. Choose the file whose trustee rights you want to view, revoke, or grant.
3. Choose "View/Set File Information."

   The file's information is displayed.

4. To revoke or grant a trustee right, complete one of the following:

   - *To revoke a right.* Choose the "Trustee" list from the "File Information" screen. Choose the trustee whose right you want to revoke. The "Trustee Rights" window appears. Highlight the right you want to revoke; then press <Delete>.

     To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

   - *To grant a right.* Choose the "Trustee" list from the "File Information" screen. Choose the trustee you want to grant a right to. The "Trustee Rights" window appears. Press <Insert> to view the "Other Rights" window. Choose the right you want to grant.

     To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

View Who Has Rights Here

Users must have the Supervisory right to view who has rights to the directory's files.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.
2. Choose the file whose trustees you want to view.
3. Choose "Who has rights here" from the "File Options" window.
4. The file's trustees, trustee rights, and security equivalences are displayed.

Mark Subdirectories and Files

To bring up FILER's multiple subdirectory and file operations options, you must first use either the Mark key or the Mark Pattern key to mark your subdirectories and files.

When using the Mark keys, you must mark either subdirectories or files exclusively.

The following instructions apply to both subdirectories and files.

Using the Mark Key

To mark subdirectories and files by using the Mark key, complete the following steps.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Choose the subdirectories or files you want to mark by highlighting each and pressing the Mark key (<F5>).

   The marked subdirectories or files blink when highlighted.
3. After you mark your subdirectories or files, press <Enter>.

   The “Multiple Subdirectory Operations” or “Multiple File Operations” window appears.

   To unmark a subdirectory or file, highlight it and press the Mark key (<F5>). The subdirectory or file no longer blinks when highlighted.

Using the Mark Pattern Key

To mark subdirectories and files by using the Mark Pattern key, complete the following steps.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Press the Mark Pattern key (<F6>).

   The “Mark Pattern” window appears.

   The default pattern is an asterisk (*).
3. Type in a period (.) followed by the extension you want, or delete the asterisk (*) and enter any valid wildcard pattern. Then press <Enter>.

   All the subdirectories or files with that pattern are now marked and blink when highlighted.

4 After you mark patterns on your subdirectories or files, press <Enter>.

The “Multiple Subdirectory Operations” or “Multiple File Operations” window appears.

To unmark the pattern on your subdirectories or files, press the Unmark Pattern key (<F8>). The “Unmark Pattern” window appears.

Type the pattern you used to mark the subdirectories or files; then press <Enter>. The subdirectories or files are now unmarked and no longer blink when highlighted.

Use Multiple Subdirectory Operations

Multiple subdirectory operations allow you to perform specific tasks for multiple subdirectories. To use the multiple subdirectory operations, you must first mark the subdirectories, as explained in “Mark Subdirectories and Files” on page 127.

Copy Subdirectories’ Files

Users must have Read and File Scan rights in the directory they are copying *from*, and Create, Modify, Write, and Erase rights in the directory they are copying *to*.

Procedure

1 Enter FILER and choose “Directory Contents” from the “Available Topics” menu.

2 Mark the subdirectories you want to copy in the “Directory Contents” window; then press <Enter>.

3 Choose “Copy Subdirectories’ Files.”

The “Copy Subdirectory To:” window appears.

4 To copy subdirectories’ files, complete one of the following:

- *Copy to a subdirectory in your current directory.* Type the name of the directory; then press <Enter>.

  You can also use <Insert> to bring up the “File Servers/Local Drives” window, from which you can choose your directory path by choosing file server, volume, and directory options.

After you choose your directory path, press <Esc> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectories' files.

- *Copy to a directory on another volume on your file server.* Type in the name of the volume and directory; then press <Enter>.

  You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can choose your directory path by choosing file server, volume, and directory options.

  After you choose your directory path, press <Esc> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectories' files.

- *Copy to a directory on another file server.* You need to attach to the file server you want to copy files to. Type the name of the file server, volume, and directory; then press <Enter>.

  To attach to another file server. Press <Insert> to bring up the "File Servers/Local Drives" window. Press <Insert> again at the "File Server/Local Drives" window. A list of "Other File Servers" is displayed.

  Choose the file server you want to attach to. Continue to choose the file server, volume, and directory options by pressing <Enter>.

  After you choose your directory path, press <Esc> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectories' files.

  To log out of another file server. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>. Answer "Yes" in the "Logout From Server" confirmation box.

Copy Subdirectories' Structures

Users must have Read and File Scan rights in the directory they are copying *from*, and Create, Modify, Write, and Erase rights in the directory they are copying *to*.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.

2 Mark the subdirectories whose structures you want to copy in the "Directory Contents" window; then press <Enter>.

3 Choose "Copy Subdirectories' Structure." The "Copy Subdirectory To:" window appears.

4 To copy subdirectories' structures, complete one of the following.

- *Copy to a subdirectory in your current directory.* Type in the name of the directory; then press <Enter>.

  You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can choose your directory path by choosing file server, volume, and directory options.

  After you choose your directory path, press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectories' structures.

- *Copy to a directory on another volume on your file server.* Type in the name of the volume and directory; then press <Enter>.

  You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can choose your directory path by choosing file server, volume, and directory options.

  After you choose your directory path, press <Esc> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectories' structures.

- *Copy to a directory on another file server.* You must be attached to the file server you want to copy files to. Type in the name of the file server, volume, and directory; then press <Enter>.

  To attach to another file server. Press <Insert> to bring up the "File Servers/Local Drives" window. Press <Insert> again at the "File Server/Local Drives" window. A list of "Other File Servers" is displayed.

  Choose the file server you want to attach to. Continue to choose the file server, volume, and directory options by pressing <Enter>.

  After you choose your directory path, press <Esc> to bring your cursor back to the "Copy Subdirectory To:" window. Then press <Enter> to copy your subdirectories' structures.

To log out of another file server. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>. Answer "Yes" in the "Logout From Server" confirmation box.

Set Creation Dates and Times

Users must have supervisor equivalence to set the creation dates and times.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.
2. Mark the subdirectories whose dates or times you want to change from the "Directory Contents" window; then press <Enter>.
3. Choose "Set Creation Date."

   The "New Directory Creation Date" window appears.
4. Type the new date and press <Esc>.
5. To view the "New Directory Creation Time," press <Enter> at the "New Directory Creation Date" window.
6. Type the new time; then press <Enter>.

Set Inherited Rights

Users must have the Access Control right to set the inherited rights.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.
2. Mark the subdirectories whose inherited rights you want to set from the "Directory Contents" window; then press <Enter>.
3. Choose "Set Inherited Rights" from the "Multiple Subdirectory Operations" window.

4 The “Inherited Rights” window appears. To grant or revoke rights in the marked subdirectories, complete one of the following:

- *To grant a right.* Press <Insert> and choose the right you want from the “Other Rights” window. Then press <Esc>. Answer “Yes” in the confirmation box.

  To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Enter>. Press <Esc> and answer “Yes” in the confirmation box.

- *To revoke a right.* Highlight the right you want to revoke; then press <Delete>. To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

Set Owners

Users must have supervisor equivalence to set the owners.

Procedure

1 Enter FILER and choose “Directory Contents” from the “Available Topics” menu.

2 Mark the subdirectories whose owners you want to change in the “Directory Contents” window; then press <Enter>.

3 Choose “Set Owner” from the “Multiple Subdirectory Operations” window.

  The “New Directory Owner” window appears.

  To set the directory’s new owner, press <Insert>. The “Users” window appears.

4 Choose the user you want to name as the directory’s new owner.

Use Multiple File Operations

To use the multiple file operations, you must first mark the files, as explained in "Mark Subdirectories and Files" on page 127.

Copy Marked Files

Users must have Read and File Scan rights in the directory they are copying *from*, and Create, Modify, Write, and Erase rights in the directory they are copying *to*.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.
2. Mark the files you want to copy in the "Directory Contents" window; then press <Enter>.
3. Choose "Copy Marked Files" from the "Multiple File Operations" window.

   The "Copy Files To:" window appears.
4. To copy the marked files, complete one of the following:
   - *Copy to a subdirectory in your current directory.* Type in the name of the directory; then press <Enter>.

     You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can choose your directory path by choosing file server, volume, and directory options.

     After you choose your directory path, press <Escape> to bring your cursor back to the "Copy Files To:" window. Then press <Enter> to copy your marked files.
   - *Copy to a directory on another volume on your file server.* Type in the name of the volume and directory; then press <Enter>.

     You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can choose your directory path by choosing file server, volume, and directory options.

     After you choose your directory path, press <Escape> to bring your cursor back to the "Copy Files To:" window. Then press <Enter> to copy your marked files.

- *Copy to a directory on another file server.* You must be attached to the file server you want to copy files to. Type in the name of the file server, volume, and directory; then press <Enter>.

  To attach to another file server. Press <Insert> to bring up the "File Servers/Local Drives" window. Press <Insert> again at the "File Server/Local Drives" window. A list of "Other File Servers" is displayed.

  Choose the file server you want to attach to. Continue to choose the file server, volume, and directory options by pressing <Enter>.

  After you choose your directory path, press <Escape> to bring your cursor back to the "Copy Files To:" window. Then press <Enter> to copy your marked files.

  To log out of another file server. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>. Answer "Yes" in the "Logout From Server" confirmation box.

Set Attributes

Users must have the Modify and Access Control rights to set attributes.

Procedure

1. Enter FILER and choose "Directory Contents" from the "Available Topics" menu.
2. Mark the files whose attributes you want to set in the "Directory Contents" window; then press <Enter>.
3. Choose "Set Attributes" from the "Multiple File Operations" window.

   The "File Attributes" window appears.
4. To add an attribute to your marked files, press <Insert> to view the "Other File Attributes" window. Choose the attribute you want to add. Then press <Esc>. Answer "Yes" in the confirmation box.

   To add more than one attribute, mark each attribute by highlighting it and pressing the Mark key (<F5>); then press <Enter>. Press <Esc> and answer "Yes" in the confirmation box.

Set Creation Dates

Users must have supervisor equivalence to set the creation dates.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Mark the files whose creation dates you want to set in the “Directory Contents” window; then press <Enter>.
3. Choose “Set Creation Date.” The “New File Creation Date” window appears.
4. Type in the new file date; then press <Enter>.

Set Inherited Rights

Users must have the Access Control right to set the inherited rights.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Mark the files whose inherited rights you want to set in the “Directory Contents” window; then press <Enter>.
3. Choose “Set Inherited Rights” from the “Multiple File Operations” window.

   The “Inherited Rights” window appears.
4. To grant or revoke rights in the marked files, complete one of the following:

   - *To grant a right.* Press <Insert> and choose the right you want from the “Other Rights” window. Then press <Esc>. Answer “Yes” in the confirmation box.

     To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Esc>. Answer “Yes” in the confirmation box.
   - *To revoke a right.* Highlight the right you want to revoke; then press <Delete>. To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

Set Last Accessed Dates

Users must have supervisor equivalence to set the last accessed dates.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Mark the files whose last accessed dates you want to set in the “Directory Contents” window; then press <Enter>.
3. Choose “Set Last Accessed Date.”

   The “New File Last Accessed Date” window appears.
4. Type the new date and press <Enter>.

Set Last Modified Dates

Users must have supervisor equivalence to set the last modified dates.

Procedure

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Mark the files whose last modified dates you want to set in the “Directory Contents” window; then press <Enter>.
3. Choose “Set Last Modified Date.”

   The “New File Last Modified Date” window appears.
4. Type in the new date and press <Enter>.

   The “New File Last Modified Time” window appears.
5. Type the new time and press <Enter>.

Set Owners

Users must have supervisor equivalence to set the owners.

1. Enter FILER and choose “Directory Contents” from the “Available Topics” menu.
2. Mark the files whose owners you want to set in the “Directory Contents” window; then press <Enter>.

3 Choose “Set Owner” from the “Multiple File Operations” window.

The “New File Owner” window appears.

4 To change the file’s owner, press <Insert>.

The “Users” window appears.

5 Choose the user you want to name as the file’s new owner.

Select Current Directory

Use the “Select Current Directory” option to change your current directory path.

Your current directory is the directory you are working in. You may want to change your current directory in FILER for various reasons. For example, you must change your current directory to access files from a directory other than your current directory or to add a trustee to another directory.

To change the current directory path, complete the following steps.

Procedure

1 Enter FILER and choose “Select Current Directory” from the “Available Topics” menu.

The “Current Directory Path” box is displayed.

2 Backspace to delete the parts of the current directory path you want to change.

You must delete all levels that you want to change.

For example, suppose your current directory path is PRUFROCK/SYS:HOME/JODI/PROJECTS.

To change to PRUFROCK/SYS:HOME/MARCI/REVS, delete JODI/PROJECTS.

3 Type in the new information that completes the path you want.

If you already know the exact names of the file server, volume, and directory you want to use, type the new directory path and skip to Step 9.

If you do not know the directory path, complete Step 4 through Step 12 as needed.

4 After deleting the entire directory path listed in the “Current Directory Path” box, press <Insert>.

The “File Servers” list is displayed.

If the file server you want to choose is in the list, skip to Step 6.

If the file server you want to choose is *not* in the list, continue with Step 5. You must be attached to a file server before you can add it to the directory path.

5 If you are not attached to the file server you want to choose, press <Insert>. The “Other File Servers” list is displayed.

5a Choose the file server you want to attach to.

The “New User Name” entry box is displayed.

5b Type your username and press <Enter>.

If that username has a password, the “Password” entry box is displayed.

5c Type the password and press <Enter>. The file server you just attached to is added to the “File Servers” list.

6 Choose the file server you want for your new directory path.

The specified file server becomes the file server in your current directory path and is added to the “Current Directory Path” box.

7 If you have just chosen a file server, the “Volumes” list should be displayed on your screen. Otherwise, be sure that only the file server has been specified in the directory path; then press <Insert>.

8 Choose the volume you want for your current directory path.

NOTE: Choosing “..” takes you back a level in the directory structure. The “..” option appears in the “Available Volumes” and “Network Directories” lists. If “..” appears as the only entry in the “Network Directories” list, there are no directories below the current level.

9 If you have added the volume to your directory path, the “Network Directories” list is displayed on your screen. Otherwise, be sure that only the file server and volume have been specified in the directory path; then press <Insert>.

10 Choose the directory you want for your current directory path.

11 Repeat Step 9 and Step 10 as many times as necessary to complete the directory path; then press <Esc>.

12 Press <Enter>. You have now changed the current directory path.

Set Filer Options

Use the "Set Filer Options" option to complete the following tasks:

Task	Page
Confirm file deletions	"Confirm File Deletions" on page 140
Confirm file copies	"Confirm File Copies" on page 142
Confirm file overwrites	"Confirm File Overwrites" on page 142
Notify when extended attributes or long names are lost	"Notify When Extended Attributes or Long Names Are Lost" on page 143
Preserve file attributes	"Preserve File Attributes" on page 143
Add, delete, or modify an exclude directory pattern	"Add, Delete, or Modify an Exclude Directory Pattern" on page 144
Add, delete, or modify an include directory pattern	"Add, Delete, or Modify an Include Directory Pattern" on page 145
Add, delete, or modify an exclude file pattern	"Add, Delete, or Modify an Exclude File Pattern" on page 146
Add, delete, or modify an include file pattern	"Add, Delete, or Modify an Include File Pattern" on page 146
Add or delete file search attributes	"Add or Delete File Search Attributes" on page 147
Add or delete directory search attributes	"Add or Delete Directory Search Attributes" on page 148

Confirm File Deletions

To delete a group of marked files without confirming each file's deletion, set the "Confirm Deletions" option to "No."

With the option set to "No," you are asked only once to confirm that you intend to delete all the files in the group. However, if you delete a single file, you still receive the "Delete File" prompt.

If “Confirm Deletions” is set to “Yes,” you are asked to confirm the deletion of each file individually.

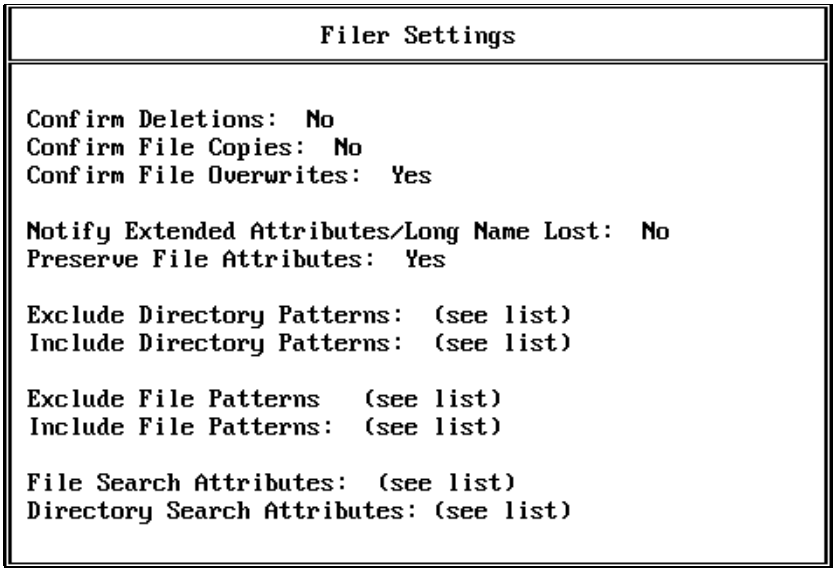
To specify whether you want to confirm the deletion of each file in a group, complete the following steps.

Procedure

1. Enter FILER and choose “Set Filer Options” from the “Available Topics” menu.

   The following screen appears:

Figure 17 FILER Settings window



2. Choose “Confirm File Deletions” from the “Filer Settings” list.
3. Type “Y” or “N” and press <Enter>.

   When you enter FILER, the “Confirm Deletions” option defaults to “No.”

Confirm File Copies

To copy a group of marked files without confirming each file that you are copying, set the "Confirm File Copies" option to "No."

With the option set to "No," you are asked only once to confirm that you intend to copy all the files in the group. However, if you copy a single file, you still receive the "Copy File" prompt.

If "Confirm File Copies" is set to "Yes," you are asked to confirm the copying of each file individually.

To specify whether you want to confirm the copying of each file in a group, complete the following steps.

Procedure

1. Enter FILER and choose "Set Filer Options" from the "Available Topics" menu.
2. Choose "Confirm File Copies" from the "Filer Settings" list.
3. Type "Y" or "N" and press <Enter>.

   When you enter FILER, the "Confirm File Copies" option defaults to "No."

Confirm File Overwrites

The "Confirm File Overwrites" option determines whether an existing file is automatically overwritten by a new file with the same name. If you copy a file to a directory where a file by the same name exists, the existing file is overwritten.

If the option is set to "Yes," you are asked if you want to overwrite the existing file before it is overwritten. If the option is set to "No," the file is overwritten automatically.

To specify whether you want to overwrite an existing file, complete the following steps.

Procedure

1. Enter FILER and choose “Set Filer Options” from the “Available Topics” menu.
2. Choose “Confirm File Overwrites” from the “Filer Settings” list.
3. Type “Yes” or “No” and press <Enter>.

   When you enter FILER, the “Confirm File Overwrites” option defaults to “Yes.”

Notify When Extended Attributes or Long Names Are Lost

When you copy files in FILER, you can choose whether to be notified if extended attributes or long names are lost after the copy. The default is no notification. Extended attributes and long names are lost if you copy files with extended attributes or long names to a server that does not support those features.

To be notified when extended attributes or long names are lost, complete the following steps.

Procedure

1. Enter FILER and choose “Set Filer Options” from the “Available Topics” menu.
2. Choose “Notify Extended Attributes/Long Names Lost” from the “Filer Settings” list.
3. Choose “Yes” to receive a message when extended attributes or long names are lost.

Preserve File Attributes

When you copy files in FILER, you can choose whether to preserve file attributes. (These are regular file attributes, *not* extended attributes). The default is to preserve file attributes.

If you do not want to preserve file attributes, complete the following steps.

Procedure

1. Enter FILER and choose "Set Filer Options" from the "Available Topics" menu.
2. Choose "Preserve File Attributes" from the "Filer Settings" list.
3. Choose "No" if you do not want to preserve file attributes.

   The default is "Yes."

Add, Delete, or Modify an Exclude Directory Pattern

When you list directories in FILER, you can exclude from the list directories that fit certain patterns. Exclude patterns override include patterns where there is overlap. When you enter FILER, the "Exclude Patterns" list defaults to empty.

Procedure

1. Enter FILER and choose "Set Filer Options" from the "Available Topics" menu.
2. Choose "Exclude Directory Patterns" from the "Filer Settings" list.
3. To add, delete, or modify an exclude directory pattern, complete one of the following:

   - *To add an exclude pattern.* Press <Insert>. The "New Pattern" entry box is displayed. Type the directory exclude pattern that you want; then press <Enter>. Directories that match the pattern you specified are now excluded from directory searches while you are using FILER.
   - *To delete an exclude pattern.* Highlight the exclude pattern you want to delete; then press <Delete>. The "Delete Pattern" confirmation box is displayed. Choose "Yes" to delete the pattern. The exclude pattern you deleted no longer applies to your directories list.
   - *To modify an exclude pattern.* Choose the exclude pattern you want to modify. The pattern you have chosen is displayed in the "Edit Pattern" entry box. Edit the pattern as you want; then press <Enter>. The pattern you have edited is displayed in the "Excluded Directory Patterns" list.

Add, Delete, or Modify an Include Directory Pattern

When you list directories in FILER, you can choose to include only those directories that fit certain patterns. Exclude patterns override include patterns where there is overlap. Changes you make to the directory patterns are deleted when you exit FILER.

The default include pattern is an asterisk (*). To list directories with a pattern other than an asterisk (*) (which includes all directories), you must delete or modify the pattern.

Procedure

1. Enter FILER and choose "Set Filer Options" from the "Available Topics" menu.
2. Choose "Include Directory Patterns" from the "Filer Settings" list.

   The "Included Directory Patterns" list is displayed. The list shows an asterisk (*), which includes all directory patterns.
3. To add, delete, or modify an include directory pattern, complete one of the following:

   - *To add a directory include pattern.* Press <Insert>. The "New Pattern" entry box appears. Type the directory include pattern that you want; then press <Enter>. The include pattern is added to the "Include Directory Patterns" list.
   - *To delete an include pattern.* Highlight the include pattern you want to delete; then press <Delete>. Choose "Yes" in the "Delete Pattern" confirmation box.
   - *To modify an include pattern.* Choose the asterisk (*) to modify the default pattern. The "Edit Pattern" entry box appears. Type the character(s) you want before or after the asterisk, as if you were using a wildcard character. For example, to include all directories that begin with "ANY," type "ANY*."

Add, Delete, or Modify an Exclude File Pattern

When you list files in FILER, you can exclude files that fit certain patterns. The “Exclude File Patterns” option allows you to specify the patterns you want to exclude.

Exclude patterns override include patterns where there is overlap. When you enter FILER, the “Excluded File Patterns” list defaults to empty.

Procedure

1. Enter FILER and choose “Set Filer Options” from the “Available Topics” menu.
2. Choose “Exclude File Patterns” from the “Filer Settings” list. The “Excluded File Patterns” list appears.
3. To add, delete, or modify an exclude file pattern, complete one of the following:
   - *To add an exclude file pattern.* The default is no pattern. Therefore, to exclude files from a list, you must add an exclude pattern. Press <Insert>. The “New Pattern” entry box is displayed.

     Type the exclude file pattern you want; then press <Enter>. Files that fit the specified pattern do not appear in the “Files” list.
   - *To delete an exclude file pattern.* Highlight the exclude pattern you want to delete; then press <Delete>. Choose “Yes” in the “Delete Pattern” confirmation box. The exclude pattern you have deleted is no longer used.
   - *To modify an exclude file pattern.* Choose the exclude pattern you want to modify. The pattern you choose is displayed in the “Edit Pattern” entry box. Edit the pattern; then press <Enter>. Files that fit the edited pattern do not appear when you list files.

Add, Delete, or Modify an Include File Pattern

When you list files, you can choose to include files that fit certain patterns. The “Include File Pattern” option allows you to specify the patterns you want to include. Exclude patterns override include patterns.

The default include pattern is an asterisk (*). If you want to list files with a pattern other than an asterisk (*) (which includes all files), you must delete or modify the pattern.

Procedure

1. Enter FILER and choose “Set Filer Options” from the “Available Topics” menu.
2. Choose “Include File Patterns” from the “Filer Settings” list.

   The “Included File Patterns” list appears.
3. To add, delete, or modify an include file pattern, complete one of the following:

   - *To add an include file pattern.* Press <Insert>. The “New Pattern” entry box appears. Type the file include pattern that you want; then press <Enter>. The files with the specified patterns are listed.
   - *To delete an include file pattern.* Highlight the include pattern you want to delete; then press <Delete>. Choose “Yes” in the “Delete Pattern” confirmation box.
   - *To modify an include file pattern.* Choose the include pattern you want to modify. The “Edit Pattern” entry box appears.

     Use the <Backspace> key to delete characters. Then type the characters you want before or after the asterisk, just as you would if you were using a wildcard character. For example, to include all files that begin with “ANY,” type “ANY*.”

Add or Delete File Search Attributes

When you list files in FILER, files that are flagged System or Hidden are not shown. However, in FILER, adding search file attributes enables you to see system and hidden files (which are normally invisible to the user).

Search file attributes you set are deleted when you exit FILER.

Procedure

1. Enter FILER and choose “Set Filer Options” from the “Available Topics” menu.
2. Choose “File Search Attributes” from the “Filer Settings” list.

   The “Search File Attributes” list appears. A blank list indicates that you don’t have any search file attributes.

3 To add or delete file search attributes, complete one of the following.

- *To add a file search attribute.* Press <Insert>. The "Other Search Attributes" list appears. Choose the search file attribute you want to add, or use the Mark key (<F5>) to highlight multiple search file attributes; then press <Enter>. The attribute appears in the "Search File Attributes" list. Then press <Esc>.
- *To delete a file search attribute.* Highlight the file search attribute you want to delete, and press <Delete>; or use the Mark key (<F5>) to highlight multiple search file attributes; then press <Delete>.

  Choose "Yes" at the "Delete Search Attribute" (or "Delete All Marked Search Attributes") confirmation box. The deleted attributes will no longer be used.

Add or Delete Directory Search Attributes

When you list directories in FILER, directories that are flagged System or Hidden are not shown. However, in FILER, adding search directory attributes enables you to see system and hidden directories (which are normally invisible to the user).

Search directory attributes you set are deleted when you exit FILER.

Procedure

1 Enter FILER and choose "Set FILER Options" from the "Available Topics" menu.

2 Choose "Directory Search Attributes" from the "Filer Settings" list.

The "Directory Search Attributes" list appears. A blank list indicates that you don't have any search directory attributes to delete.

3 To add or delete search directory attributes, complete one of the following:

- *To add a directory search attribute.* Press <Insert>. The "Other Search Attributes" list appears. Choose the search directory attribute you want to add, or use the Mark key (<F5>) to highlight multiple search directory attributes; then press <Enter>. The attribute appears in the "Search File Attributes" list. Then press <Esc>.

- *To delete a directory search attribute.* Highlight the directory search attribute you want to delete and press <Delete>, or use the Mark key (<F5>) to highlight multiple search directory attributes; then press <Delete>.

  Choose "Yes" at the "Delete Search Attribute" (or "Delete All Marked Search Attributes") confirmation box. The deleted attributes will no longer be used.

View Volume Information

You can use the "Volume Information" option to view information about the volume on which the current directory is located.

Enter FILER and choose "Volume Information" from the "Available Topics" menu. A screen with the following information appears:

Figure 18 Volume Information window

```
Volume Information

Server Name:                    SALES
Volume Name:                    SYS
Volume Type:                    fixed
Total KBytes:                   75,380
Kilobytes Available:            23,152
Maximum Directory Entries:       3,616
Directory Entries Available:     2,280
```

FLAG

Why Use FLAG?

Use FLAG to view or to change the attributes of files in a given directory. (You can also use FILER to set file attributes.)

Command Format

FLAG [*path* [TO INHERIT] [*flaglist*...]]

Replace *path* with a directory path leading to and including the name of the file you want to view or change.

Replace *flaglist* with one or more of the following:

*A*rchive Needed	*R*ead *A*udit
E*X*ecute Only	*W*rite *A*udit
*R*ead *o*nly/*R*ead *w*rite	*C*opy *I*nhibit
*S*hareable	*D*elete *I*nhibit
*H*idden	*R*ename *I*nhibit
*Sy*stem	*ALL*
*T*ransactional	*N*ormal
*P*urge	*SUB*directory

NOTE: Only the abbreviations are allowed at the command line.

FLAG supports wildcard characters.

Use /C after the command to allow continuous scrolling. If /C is not used, FLAG pauses after every screen of information.

NOTE: The constants - or + can be used to add or delete file attributes with any of the attributes except Normal, ALL, and SUBdirectory. When adding and deleting attributes in the same command, all the + attributes must be grouped together. The same is true for the - attributes.

Attributes

Archive Needed

This attribute is automatically assigned to any file that is modified after the last backup. This attribute is DOS's Archive bit.

Execute Only

This attribute can be assigned only by the supervisor and only to files with an .EXE or .COM extension. Execute Only prevents these files from being copied; once assigned, this attribute cannot be removed.

Read Only

NetWare automatically assigns the Delete Inhibit and Rename Inhibit attributes with Read Only. This attribute prevents users from writing to, erasing, or renaming the files even if they have been granted the Write and Erase rights at the directory or file level.

If users have the Modify right, they can remove the Read Only attribute (changing it to Rw, Read Write). Users can also modify other attributes of the file.

Read Write

This attribute allows users to read and write to the file. They can make changes and save those changes.

Shareable

This attribute allows the file to be used by more than one user at a time and is usually used in combination with the Read Only attribute.

Hidden

This attribute hides the file from DOS DIR scans. However, the file will appear with an NDIR scan if the user has the File Scan right. You cannot copy or delete files that are flagged Hidden.

SYstem

This attribute hides the file from DOS DIR scans. However, the file will appear with an NDIR scan if the user has the File Scan right. You cannot copy or delete files that are flagged System.

Transactional

This attribute ensures that the file is protected by the Transactional Tracking System (TTS). TTS ensures that when a file is modified, either all changes are made or no changes are made, thus preventing data corruption.

All database files should be flagged as Transactional.

Purge

When assigned to a directory, this attribute purges all files in the directory as soon as they have been deleted. Such files cannot be recovered with the SALVAGE utility.

Write Audit

You can set and view the Write Audit attribute in FLAG.

Copy Inhibit

This attribute works only for Macintosh files, not PC files.

Delete Inhibit

This attribute prevents users from erasing the directory or file even if they have been granted the Erase right at the file or directory level. If users have been granted the Modify right, they can remove the Delete Inhibit attribute and delete the file.

Rename Inhibit

This attribute restricts users from renaming the directory or file even if they have been granted the Modify right at the file or directory level. If users have the Modify right, they must first remove the Rename Inhibit attribute before renaming the directory or file. Renamed files cannot be moved.

ALL

Use ALL to flag a file with all available attributes.

Normal

Use NORMAL to clear all flags. The default is Read Write. No other attributes are set.

SUBdirectory

Use SUBdirectory to view or to change file attributes in directories and their subdirectories.

Additional Information

You must be attached to a file server before you can use FLAG to view or change file attributes on that server. (See "ATTACH" on page 45.)

To use FLAG to change file attributes in a given directory, your effective rights in that directory must include Read Only, File Scan, and Modify rights. (For more information about rights, see "Security" in *Concepts*.)

Add and Delete File Attributes

The constants - or + can be used to add or delete file attributes with any of the attributes except Normal, ALL, and SUBdirectory.

When adding and deleting attributes in the same command, all the + attributes must be grouped together. The same is true for the - attributes.

Add File Attributes to a File

Suppose you flagged a file, SYSTEM.EXE, with Read Only and Shareable attributes. Now you want to add the Transactional attribute. Type

FLAG SYSTEM.EXE +T <Enter>

The following confirmation appears on your screen.

```
SYSTEM.EXE[ Ro S - - - - T - - - - - - ]
```

Delete File Attributes from a File

Suppose you flagged file REPORT with all attributes, and you want to delete Purge and Copy Inhibit. Type

FLAG REPORT -P C <Enter>

The following confirmation appears on your screen.

```
REPORT [ Ro S A - H Sy T - Ra Wa - D R ]
```

Add and Delete Attributes From a File

Suppose you have file INVENTORY flagged with the Read Only and Shareable attributes. You want to flag the file Read Write, Transactional, and Purge. Type

FLAG INVENTORY -RO +T P <Enter>

The following confirmation appears on your screen.

```
INVENTORY [ Rw S - - - - T P - - - - - ]
```

View and Change File Attributes in Your Default Directory

View Attributes in Your Default Directory

- View the file attributes. Type

  FLAG <Enter>

  Depending on how your files are flagged, information similar to the following appears on your screen.

  ```
  SALES.EXE [ Ro S - - - - - - - - - D R ]

  SALES.BAT [ Rw S A - - - - - - - - - - ]

  SALES.HLP [ Ro S - - - - - P - - - D R ]

  SALES.DAT [ Ro S - - - - T P Ra Wa C D R ]
  ```

- *View the attributes of all files with the same extension.* Include an asterisk (*) with the extension. Type

  FLAG *.DAT <Enter>

- *View the attributes of a single file.* Specify the filename in your command. For example, to view the attributes of the file SALES.DAT, type

  FLAG SALES.DAT <Enter>

Change File Attributes in Your Default Directory

- *Change the attributes of all the files.* Include an asterisk (*) and the appropriate attributes in your command. The asterisk replaces path and represents all the files in your default directory.

  For example, to flag all the files in your default directory as Read Only and Shareable, type

  FLAG * RO S <Enter>

- *Change the attributes of several related files.* Include wildcard characters and the appropriate attributes in your FLAG command. For example, to flag all files with the extension .DAT as Read Only and Shareable, type

  FLAG *.DAT RO S <Enter>

- *Change the attributes of a single file.* Specify the file and the appropriate options. For example, to flag the SALES.DAT file as Read Only and Shareable, type

  FLAG SALES.DAT RO S <Enter>

View and Change File Attributes in Any Directory

View File Attributes in Any Directory

- *View the attributes of all the files.* Specify the directory path in your command. For example, suppose you want to view the attributes of all the files in the PROGRAMS directory. Also suppose drive P: is mapped to the PROGRAMS directory as follows:

  Drive P: = SALES/SYS: PROGRAMS

  To view file attributes, type

  FLAG P: <Enter>

- *View the attributes of several related files.* Include wildcard characters in your command. For example, to view the attributes of all files with the extension .DAT in the PROGRAMS directory, type

  FLAG P:*.DAT <Enter>

- *View the attributes of a single file.* Specify the directory path in your command. For example, to view the attributes of a file called SALES.DAT in the PROGRAMS directory, type

  FLAG P:SALES.DAT <Enter>

Change File Attributes in Any Directory

- *Change the attributes of all the files.* Specify the directory path and the appropriate attributes in your command.

  For example, suppose you want to flag all the files in the PROGRAMS directory as Read Only and Shareable. Also, suppose drive P: is mapped to the PROGRAMS directory as follows:

  Drive P: = SALES/SYS: PROGRAMS

  To flag all the files in the PROGRAMS directory as Read Only and Shareable, type

  `FLAG P: RO S` <Enter>

  P: replaces *path* in the FLAG command to specify the directory you want to affect.

- *Change the attributes of several related files*. Include wildcard characters and the appropriate attributes in your command.

  To flag all files with the extension .DAT in the PROGRAMS directory as Read Only and Shareable, type

  `FLAG P:*.DAT RO S` <Enter>

  P:*.DAT replaces path in the command to indicate the files you want to affect.

- *Change the attributes of a single file.* Specify the directory path and the appropriate attributes in your command.

  For example, if you want to flag the SALES.DAT file in the PROGRAMS directory as Shareable and Read Only, type

  `FLAG P:SALES.DAT RO S` <Enter>

  P:SALES.DAT replaces path in the command to indicate the files you want to affect.

FLAGDIR

Why Use FLAGDIR?

Use FLAGDIR to view or to change the attributes of subdirectories in a given directory (including volumes).

Command Format

FLAGDIR [*path* [*flaglist* ...]]

Replace *path* with a directory path leading to the directory you want to view or change.

Replace *flaglist* with one or more of the attributes listed below.

*N*ormal	*D*elete Inhibit
*H*idden	*R*ename Inhibit
*SY*stem	*HELP*
*P*urge	

An explanation of each attribute begins on the next page.

FLAGDIR supports wildcard characters.

Use /C after the command to allow continuous scrolling. If /C is not used, FLAGDIR pauses after every screen of information.

Attributes

Normal

Include this attribute to cancel other directory attributes that have been set. Normal is always overridden by any other attribute you might include in the command. Normal corresponds with the public folder in the Macintosh environment.

Hidden

Include this attribute to hide a directory from a DOS DIR scan. However, this attribute does not prevent a user from changing to the directory, and the directory appears in an NDIR scan if the network user has the File Scan right.

You cannot copy directories that are flagged Hidden.

SYstem

Include this attribute if the directory is used for the system to function.

A directory flagged with this attribute will not appear with a DOS DIR scan. However, the directory will appear with an NDIR scan if the network user has the File Scan right.

You cannot copy directories flagged System.

Purge

Include this attribute to purge the directory files as soon as they have been deleted. Such files cannot be recovered with the SALVAGE utility.

Delete Inhibit

Include this attribute to prevent network users from erasing a directory even when they have been granted the Erase right at the directory level.

Rename Inhibit

Include this attribute to restrict network users from renaming directories even if the user has the Modify right.

HELP

Include HELP to display the FLAGDIR command format and the available attributes.

Additional Information

You must be logged in to a file server before you can use FLAGDIR to view or change directory and volume attributes on that server.

You cannot set attributes on local drives. You must be on a network drive to set attributes.

To change a directory's or a volume's attributes, you must have the Modify right for that directory or volume. However, you cannot set Purge attributes unless the Erase right is included in the user's effective rights. (For more information about directory rights, see "Security" in *Concepts*.)

View Attributes of Your Default Directory

View Attributes of Default Directory

To view the attributes of your default directory, type

FLAGDIR <Enter>

Information similar to the following appears on your screen.

Figure 19 File attributes window

```
MARKETING/SYS:   HOME
CINDY        Normal
```

View Attributes of a Subdirectory

To view the attributes of a subdirectory in your default directory, specify the subdirectory name in your command. For example, to view the attributes of a directory called SALES in your default directory, type

FLAGDIR SALES <Enter>

View Attributes of All Subdirectories

To view the attributes of the subdirectories in your default directory, include wildcard characters in your FLAGDIR command:

FLAGDIR * <Enter>

Change Attributes of Your Default Directory

Change Attributes of Default Directory

To change the attributes of your default directory, SYS:HOME/SALLY, to Rename Inhibit, type

FLAGDIR . R <Enter>

The period (.) represents your default directory.

Change Attributes of One Subdirectory

To change the attributes of a subdirectory in your default directory, include the name of the subdirectory and the appropriate attributes in your FLAGDIR command.

For example, to change the directory attributes of SYS:HOME/TERRI, your current directory must be SYS:HOME, and you must have the Access Control and Modify rights in SYS:HOME. To flag SYS:HOME/TERRI as Purge and Hidden, type

FLAGDIR TERRI P H <Enter>

Change Attributes of All Subdirectories

To change the attributes of the subdirectories in your default directory, include wildcard characters in your FLAGDIR command. For example, if you want to flag all subdirectories as Hidden, type

FLAGDIR * H <Enter>

View Attributes of Any Directory

To view the attributes of any directory on your network, specify the directory path in your command. For example, suppose you want to view the attributes of the PROGRAMS directory, which is in the SYS volume on the MARKETING file server. Also, suppose drive P: is mapped to PROGRAMS as follows:

Drive P: = MARKETING/SYS: PROGRAMS

To view the attributes of the PROGRAMS directory, type

FLAGDIR P: <Enter>

View Attributes of a Subdirectory

To view the attributes of a single subdirectory in any directory on your network, specify the directory path in your command. To view the attributes of a subdirectory called PROMO in the PROGRAMS directory, type

FLAGDIR P:PROMO <Enter>

View Attributes of all Subdirectories

To view the attributes of the subdirectories in any directory on your network, use wildcard characters. For example, to view the attributes of all subdirectories in the PROGRAMS directory, type

FLAGDIR P:* <Enter>

Change Attributes of Any Directory

Change Attributes in a Directory

To change the attributes of a specific directory on another drive, include the directory path in your command. Drive J: is mapped to SOCCER as follows.

Drive J: = PROJECT/SYS: SOCCER

To flag the SOCCER directory as Purge, type

FLAGDIR J: P <Enter>

Change Attributes of All Subdirectories

To change the attributes of all subdirectories in any directory on your network, include wildcard characters in your FLAGDIR command.

Suppose that drive P is mapped to the PROGRAMS directory as follows.

Drive P: = MARKETING/SYS: PROGRAMS

If you want to flag all subdirectories in the PROGRAMS directory as Hidden, type

FLAGDIR P:* H <Enter>

View Volume Attributes

View Default Volume Attributes

To view the attributes of volume SYS on your default file server, type

FLAGDIR SYS: <Enter>

View Volume Attributes on Another Server

You must be logged in to the server whose volume attributes you want to view.

Suppose you log in to file server ESTATE. To view the attributes of volume SYS, type

FLAGDIR SYS: <Enter>

Change Volume Attributes

You must have the Modify right to change a volume's attributes.

Change Default Volume Attributes

Suppose your default volume is SYS. To change your default volume attributes to Normal, type

FLAGDIR SYS: N <Enter>

Change Volume Attributes on another File Server

Suppose you want to change the attributes of the BOOM volume on file server EXPLOSIVE to hidden. Log in to file server EXPLOSIVE and type

FLAGDIR BOOM: H <Enter>

GRANT

Why Use GRANT?

Use GRANT to grant trustee rights to users or groups in a file or a directory.

Command Format

GRANT *rightslist...* [FOR *path*] TO [USER | GROUP] *name* [/*option*]

Replace *rightslist* with one or more of the following. An explanation of each right begins on the next page.

ALL	*C*reate
No Rights	*E*rase
*S*upervisory	*M*odify
*R*ead	*F*ile Scan
*W*rite	*A*ccess Control

NOTE: You must insert a space between each right.

Replace *path* with a directory path leading to the volume, directory, subdirectory, or file where you want to grant rights.

Replace *name* with the name of the user or group to whom you want to grant rights.

The constants USER and GROUP are optional unless a user and a group share the same name.

Replace /*option* with either /S for subdirectories or /F for files.

GRANT supports wildcard characters.

Rights

NOTE: You can include the constants ONLY or ALL BUT before the rights below (except for ALL and No Rights).

For example, if you include ONLY, you grant only the specified right. If you include ALL BUT, you grant all rights except the specified right.

ALL

Include this right to grant users all trustee rights except Supervisory. (The Supervisory right must be granted separately.)

No Rights

Include this right to revoke ALL trustee rights.

Supervisory

Include this right to grant users all eight rights to the directory, its files, and subdirectories.

The Supervisory right overrides any restrictions placed on subdirectories or files with an Inherited Rights Mask. Any user who has the Supervisory right or supervisor equivalency can grant the Supervisory right.

Read

Include this right to allow users to open and read files. Read and File Scan rights are usually granted in combination.

Write

Include this right to allow users to open and write to existing files. To use Write, the user also needs to have the Create, Erase, and Modify rights.

Create

Include this right to allow users to create directories and to create and write to files. Unless Read rights are also granted, the user cannot re-open the file once it is closed.

Erase

Include this right to allow users to delete a directory, its files, and subdirectories.

Modify

Include this right to allow users to change directory and file attributes. It also grants users the right to rename a directory, its files, and its subdirectories.

File Scan

Include this right to allow users to see files and directories. File Scan and Read rights are usually granted in combination.

Access Control

Include this right to allow users to modify file or directory trustee assignments and Inherited Rights Masks.

The Access Control right allows users to grant every right except Supervisory to other users. It also allows users to revoke rights or remove users as trustees of a directory.

Additional Information

You can also use SYSCON to grant trustee rights to users or groups.

You must be attached to a file server before you can grant trustee rights in any directories or files on that file server. (See "ATTACH" on page 45 and "MAP" on page 194.)

Before you can grant rights to a user or group, the user or group must exist on the network. (Supervisors can use SYSCON to create users.)

You can grant trustee rights only to one user or one group with each GRANT command.

NOTE: GRANT, REVOKE, and REMOVE are closely related. When you use GRANT to grant even one trustee right to a user or group, the user or group is automatically enrolled on that directory's trustee list and then given the specified right.

If you use REVOKE to revoke trustee rights from a user or group, the user or group remains a trustee of that directory. Use REMOVE to remove the user or group from that directory.

USER and GROUP are optional. If a user and a group have the same name, however, you must use the constant GROUP before the name of the group in your GRANT command. The default is always the username.

For a complete explanation of trustee rights, see “Security” in *Concepts*.

Grant Rights in Directories

Grant Rights in Your Default Directory

If you want to grant a user or a group rights in your default directory, you do not need to include the directory path in your command.

To grant the trustee rights Read and File Scan to user FRED in your default directory, type

GRANT R F TO USER FRED <Enter>

Grant Rights in Any Directory

Suppose you want to grant the trustee rights Read and File Scan to user RUTH in the ACCPAY directory. Also suppose drive P: is mapped as follows.

Drive P: = COUNT/ACCT: ACCPAY

To grant Read and File Scan rights to RUTH, type

GRANT R F FOR P: TO RUTH <Enter>

Grant Rights in Files

Grant Rights to a File in Your Default Directory

To grant Create and Erase rights to user SALLY in the TASK file in your default directory, type

GRANT C E FOR TASK TO SALLY <Enter>

Grant Rights to a File in Any Directory

Suppose you want to grant Read and File Scan trustee rights to user GARY in the REPORTS file. Assume that drive Q: is mapped as follows.

Drive Q: = COUNT/ACCT: ACCPAY

To grant Read and File Scan rights to user GARY in the REPORTS file, type

GRANT R F FOR Q:REPORTS TO GARY <Enter>

Task Examples

Grant All But a Specific Right

Suppose you want to grant all rights except Access Control to user JOE in your default directory. Type

GRANT ALL BUT A TO JOE <Enter>

Grant a Specific Right and Revoke All Other Rights

Suppose you want to grant the Read right to user LILI and to revoke all other rights that she may have in your default directory. Type

GRANT ONLY R TO LILI <Enter>

Grant All Rights

To grant all rights to user ALLEN in your default directory, type

GRANT ALL TO ALLEN <Enter>

Revoke All Rights

Suppose you want to revoke all rights from user ROSA in your default directory. Type

GRANT NO RIGHTS TO ROSA <Enter>

Grant Rights to a Group

Suppose you want to grant Read, Write, Create, and File Scan rights to the group MEMBERS. Type

GRANT R W C F TO MEMBERS <Enter>

INSTALL

Why Use INSTALL?

INSTALL is the utility that installs NetWare v3.12. It can be used for the following maintenance tasks as well:

- Create, delete, or modify NetWare partitions on hard disks
- Mirror or unmirror hard disks
- Create or modify volumes
- Create, delete, or modify the NetWare boot files, AUTOEXEC.NCF, or STARTUP.NCF
- Format a hard disk
- Execute a surface test of the hard disk for bad blocks
- Upload the NetWare v3.x diskettes

As you move through the INSTALL menus, press <F1> at any time for help.

Command Format

LOAD [*path*] INSTALL [*parameter*]

For a complete explanation of "INSTALL," see *System Administration*.

IPXS

Why Use IPXS?

Use IPXS if you have a loadable module that requires STREAMS-based IPX protocol services.

Command Format

```
LOAD [path] IPXS
```

Command Parameters

Replace *path* with a full directory path to the directory containing the module; begin with a DOS drive letter or a NetWare volume name. If no *path* is specified, the operating system assumes that the loadable module is located in the SYS:SYSTEM directory.

Additional Information

If your module requires STREAMS-based IPX protocol services, load the following modules in the order listed below:

STREAMS
CLIB
TLI
IPXS

Larger packet sizes in the workstation IPX driver improve driver throughput, while smaller packet sizes free up more memory for applications.

If your driver is JUMPERS configurable, we suggest you set the workstation packet size to the same size as the server's maximum packet size.

For a complete explanation of "IPXS," see *System Administration*.

LISTDIR

Why Use LISTDIR?

Use LISTDIR to accomplish the following tasks:

- View the subdirectories of a directory
- View the Inherited Rights Mask of each subdirectory
- View the effective rights of each subdirectory
- View the creation date of each subdirectory
- View subsequent subdirectories

Command Format

LISTDIR [*path*] [*option...*]

Replace *path* with a directory path leading to and including the volume, directory, or subdirectory you want to view.

Replace *option* with one or more of the options listed below.

Command Options

/Rights

Include this option to view the Inherited Rights Mask of all subdirectories in a directory.

/Effective Rights

Include this option to view the effective rights you have in all subdirectories of a directory.

/Date or /Time

Include either option to view the creation date of each subdirectory in a directory.

/Subdirectories

Include this option to view the subdirectories of a directory and all subsequent subdirectories.

/All

Include this option to view the Inherited Rights Mask, the effective rights, and the creation date of all subdirectories, and to view all subsequent subdirectories in a directory. (The /All option combines the functionality of the other four options.)

Additional Information

You must be attached to a file server before you can use LISTDIR to view the subdirectories of any directory on that file server.

After typing LISTDIR, you can press <Ctrl><S> to temporarily stop your screen from scrolling through all the subdirectories in a given directory. Press any key to resume scrolling.

View Subdirectories in Your Default Directory

Type

LISTDIR <Enter>

You see a list of the subdirectories in your default directory.

View Subdirectories in Any Directory

To view subdirectories in a given directory, specify the directory path leading to the directory in your LISTDIR command.

For example, to view the subdirectories in the ACCPAY directory in volume ACCT on file server COUNT, map a drive to the directory ACCPAY. Suppose you choose drive P:

Drive P: = COUNT/ACCT: ACCPAY

Replace *path* in the LISTDIR command format with P: or with COUNT/ACCT: ACCPAY to specify the ACCPAY directory. Type

LISTDIR P: <Enter>

View the Inherited Rights Mask of Subdirectories

Include the /Rights option in your LISTDIR command to view the Inherited Rights Mask of subdirectories in a directory. To view the Inherited Rights Mask of subdirectories in your default directory, type

LISTDIR /R <Enter>

To view the Inherited Rights Mask of all subdirectories in any directory, specify the full directory path leading those subdirectories.

Suppose you want to view the Inherited Rights Mask in the ACCREC directory in volume ACCT on file server COUNT. Drive L: is mapped to ACCREC as follows:

L: = COUNT/ACCT: ACCREC

Type

LISTDIR L: /R <Enter>

View Your Effective Rights in Subdirectories

Use the /E option to view your effective rights in subdirectories. To view the effective rights of subdirectories in your default directory, type

LISTDIR /E <Enter>

To view your effective rights in subdirectories in another directory, specify the path to that directory in the LISTDIR command.

View the Creation Date of Subdirectories

Include the /Date or /Time option in your LISTDIR command. Type

LISTDIR /D <Enter>

or

LISTDIR /T <Enter>

To view the creation date of subdirectories in any directory, specify the directory path in your LISTDIR command.

View the Complete Directory Structure

Include the /Subdirectories option in your LISTDIR command if you want to view the complete structure of your default directory. Type

LISTDIR /S <Enter>

To view subdirectories and all subsequent subdirectories in any directory, specify the directory path leading to that directory in the LISTDIR command.

Use the /All Option

Include the /All option to view the Inherited Rights Mask, the creation date of all subdirectories, and all subsequent subdirectories in a given directory. Type

LISTDIR /A <Enter>

To view all available information about the subdirectories in any directory, specify the directory path leading to that directory in your LISTDIR command.

LOAD

Why Use LOAD?

Use LOAD to link loadable modules with the operating system. This command is used to load the types of modules listed below.

Module Type	Command Name
Hard disk drivers	LOAD disk_driver
LAN drivers	LOAD LAN_driver
Name spaces	LOAD name_space
NLM utilities	LOAD NLM_utilities

Command Format

LOAD [*path*] *loadable_module* [*parameter...*]

For a complete explanation of "LOAD," see *System Administration*.

LOGIN

Why Use LOGIN?

Use LOGIN to invoke your login script for a particular file server and gain access to that file server's resources. (A user's access to a file server's resources is always limited by his or her effective rights on that server.)

Command Format

LOGIN [*/option...*] [*fileserver/*[*name*]] [*scriptparameters*]

Replace */option* with one or more of the options listed in the section that follows.

Replace *fileserver* with the name of the file server you want to log in to.

Replace *name* with your username.

Replace *scriptparameters* with the LOGIN parameters that you set in your login script. For a complete explanation of LOGIN parameters, see the IF...THEN commands in Chapter 4 of *Installation and Upgrade*.

Command Options

/Script

Include this option right after LOGIN to override the system and user login scripts with a different login script. Include the complete path specification to the login script you want to invoke. Use this option with the /NoAttach option.

/NoAttach

This option allows you to invoke a particular login script without logging out of current servers and attaching to a server. You can use this option with the /Script option.

/Clearscreen

Include this option if you want to clear your workstation screen as soon as you enter your password.

Log In to Your Default File Server

When you boot your workstation with the NetWare shell, your workstation transparently attaches to the file server that is logically closest on your network. This file server becomes your default file server until you log in to a different file server.

To log in to your default file server, type

LOGIN <Enter>

Enter your username and (if applicable) your password when you are prompted for them.

Log In to Any File Server

Suppose you are user SANDY on file server COUNT, and your password is BEACH. To log in to COUNT, complete the following steps.

Procedure

1. Type

   LOGIN COUNT/SANDY <Enter>

   The following prompt appears.

   ```
   Enter your password:
   ```

2. Type

   BEACH <Enter>

   A message similar to the following appears on your screen.

   ```
   You are logged in to server COUNT as user SANDY.
   ```

   You can also type just

   LOGIN COUNT/ <Enter>

   Enter your username and password when prompted. A message similar to the following appears.

   ```
   You are logged in to server COUNT as user SANDY.
   ```

Include a LOGIN Command in Your AUTOEXEC.BAT File

If you frequently log in to the same file server, you may want to include a LOGIN command in your AUTOEXEC.BAT file on your boot diskette.

When you boot your workstation with the NetWare shell and enter your password, you are logged in to the file server.

For example, you may want to log in to file server COUNT as user SANDY. Your AUTOEXEC.BAT file might look similar to the following:

```
LSL
NE2000
IPXODI
VLM
F:
LOGIN COUNT/SANDY
```

LSL™ loads the Link Support Layer™; NE2000™ loads the network board driver; IPXODI loads the communication protocol; VLM™ loads the NetWare DOS Requester™; F: changes the DOS prompt to the network drive F; and LOGIN COUNT/SANDY logs user SANDY in to file server COUNT. (For more information about AUTOEXEC.BAT files, see your DOS manual.)

Synchronize Passwords

If your login script attaches you to more than one file server when you log in, LOGIN automatically checks if all passwords are valid. If a password has expired, LOGIN asks you if you want to change it.

If you change the password, LOGIN prompts you to see if you want to synchronize passwords (make all passwords the same) on all servers you are attached to. If you answer "Yes," LOGIN synchronizes all passwords for all file servers on which you use the *same* password.

Log Out with LOGIN

Whenever you type a LOGIN command, you not only log in to the specified file server, but you also automatically log out of any file servers to which you were attached before you typed LOGIN.

For example, you are logged in to file server COUNT and attached to file servers MKTG and SALES. Type

LOGIN LEGAL/ <Enter>

You log in to file server LEGAL and log out of file servers COUNT, MKTG, and SALES.

To access another file server and remain logged in to your default file server, use the ATTACH command.

LOGOUT

Why Use LOGOUT?

Use LOGOUT to log out of one or all file servers to which you are attached. When you log out of a file server, you terminate your access to that file server.

Command Format

LOGOUT [*fileserver*]

Replace *fileserver* with the name of the file server that you want to log out of.

IMPORTANT: As you log out of a file server, all of your temporary drive mappings to that file server disappear. If you intend to still use the network, be sure that one of your remaining drive mappings is mapped to the PUBLIC directory of a file server you are still attached to. If it is not, you lose access to all the NetWare utilities (contained in your PUBLIC directory), and you must reattach or login again and set your search mapping to the PUBLIC directory.

Log out of File Servers

To log out of all file servers you are attached to, type

LOGOUT <Enter>

To log out of one file server you are attached to, specify the file server in your LOGOUT command.

For example, suppose you are attached to file servers COUNT, SALES, and MFG. To log out of server SALES, type

LOGOUT SALES <Enter>

MAKEUSER

Why Use MAKEUSER?

A supervisor or workgroup manager can use MAKEUSER to create and delete users on a regular basis (such as setting up user accounts for new students each semester) or if you have many users to create.

The tasks you can perform with MAKEUSER are organized according to the topics in the "Available Options" menu.

Figure 20 MAKEUSER Available Options menu

IMPORTANT: The system defaults set up in SYSCON do not apply to users created with MAKEUSER.

Create and Delete Users

To create and delete users with MAKEUSER, you must first create a USR file. This file contains the keywords necessary to create and assign rights and restrictions to new users or to delete existing users.

We suggest that you create a directory for all USR files. When you create a USR file, MAKEUSER places the file in the current directory. If you need to modify or process a USR file, you must be in the directory where the file is located.

For example, you might want to create a directory USERS with subdirectories STUDENTS and ASSISTANTS. The STUDENTS directory might have subdirectories such as FALL93 and WINTER94. Then, each time you use MAKEUSER to create or delete user accounts for students in a class in the winter semester of 1994, move to the USERS/STUDENTS/WINTER91 directory before executing MAKEUSER.

NOTE: You can also use any text editor to create USR files. Follow the instructions in the text editor documentation for saving an ASCII/DOS file. Be sure the file has the .USR extension.

To create a USR file with MAKEUSER, complete the following steps.

Procedure

1. Go to the directory where you want to create the USR file and enter MAKEUSER.
2. Choose "Create New USR File" from the "Available Options" menu.
3. In the "Creating a new USR file" entry box, type the keywords needed to create or delete users.

   The keywords are explained below.
4. After you have entered the keywords you want, save the file by pressing <Esc> and choosing "Yes."
5. Type a filename in the "Enter the new USR file name" window and press <Enter>.

   You return to the "Available Options" menu.

   You must now process the USR file with MAKEUSER before the users are actually created or deleted. See "Process a USR File" on page 191.

MAKEUSER Keywords

The keywords you must use to create and delete users in MAKEUSER are listed here alphabetically. Each one is explained in detail on subsequent pages.

#ACCOUNT EXPIRATION *month day year*
#ACCOUNTING *balance, lowlimit*
#CLEAR or #RESET
#CONNECTIONS *number*
#CREATE *username* [*option...*]
#DELETE *username*
#GROUPS *group*
#HOME_DIRECTORY *path*
#LOGIN_SCRIPT *path*
#MAX_DISK_SPACE *vol*, *number*
#PASSWORD_LENGTH *length*
#PASSWORD_PERIOD *days*

#PASSWORD_REQUIRED
#PURGE_USER_DIRECTORY
#REM or REM
#RESTRICTED_TIME *day*, *start*, *end*
#STATIONS *network*, *station*
#UNIQUE_PASSWORD

Several restrictions apply to entering keywords.

- The #CREATE keyword or #DELETE keyword must be included; all other information is optional.
- All other keywords that you want to apply to specific users must precede the #CREATE or #DELETE keywords for those users.
- The #CLEAR or #RESET keywords can be used to mark the beginning of a new set of keywords within the same file.
- Each keyword must be on a separate line.
- If the same keyword is specified more than once, only the last value is used; previous values are ignored.

#ACCOUNT_EXPIRATION *month day year*

Use this keyword to specify when users' accounts expire. If it is not used, the accounts never expire.

Use this keyword only in conjunction with #ACCOUNTING.

Replace *month day year* with the appropriate dates.

Example. To assign User1 and User2 an account expiration date of July 24, 1994, type

```
#account_expiration July 24, 1994
#create user1^
#create user2^
```

#ACCOUNTING *balance*, *lowlimit*

Use this keyword to specify the account balance and low balance limit for the users you create.

Replace *balance* and *lowlimit* with numeric values based on what you specified when you installed accounting. *Balance* cannot be less than *lowlimit*.

You must have the accounting feature installed on your file server to use this keyword.

Example. To assign User1 a balance of 1,000 and a lowlimit of -200, and User2 a balance of 500 and a low limit of 0, type

```
#accounting 1000, -200
#create user1^
#clear
#accounting 500, 0
#create user2^
```

#CLEAR or #RESET

Use these keywords to start a new set of keywords in the same USR file. All previous keywords encountered in the USR file have no effect on what follows #CLEAR.

Example. To add User1 and User2 to the group SALES and to assign User3 time restrictions, but not add User3 to the group SALES, type

```
#groups sales
#create user1^
#create user2^
#clear
#restricted_time mon, 12:00 p.m., 2:00 p.m.
#create user3^
```

#CONNECTIONS *number*

Use this keyword to specify the maximum concurrent connections each user can have. If no number is specified, each user can have as many concurrent connections as the file server supports.

Example. To allow User1 and User2 to log in from only one workstation at a time, type

```
#connections 1
#create user1^
#create user2^
```

#CREATE *username* [;*fullname*] [;*password*] [;*group*] [;*directory* [*rights*]]

Use this keyword to create users and specify information about them. You must include *username*; other variables are optional. If you include other variables, you must separate them with semicolons.

When you create a user, a home directory is automatically created in the SYS volume. If you want home directories created in a different location, see #HOME_DIRECTORY.

MAKEUSER has a flag labeled #NoHomeDirectory that can be used in the script file to override the automatic creation of a home directory.

Replace *username* with the account name of the user to be created. You cannot use the same username more than once in a USR file.

Replace *fullname* with the full name of the user. The name cannot contain commas.

Replace *password* with the password of the user to be created.

Replace *group* with the name of the group that the new user belongs to. Each user is automatically assigned to the group EVERYONE. You can assign users to more than one group, but you must separate group names with a comma.

Replace *directory* with the path of any existing directory you want the user to have rights in.

Replace *rights* with the rights you want the user to have in the specified directory. If you do not specify rights, the default rights (R, F) are assigned. To assign all rights, type "All" after the directory. This excludes the Supervisory right. It must be granted separately.

You can assign rights in more than one directory, but you must separate each sequence (*directory*, *rights*) with a comma.

NOTE: To extend the information for each keyword to the next line, put "+" after a variable. If you want to specify some but not all of the variables listed above, insert a double semicolon (;;) to indicate that one variable is missing. Insert a caret (^) to terminate a line at any point.

Example A. To create user NANCY; assign her the full name Nancy I. Smith; assign her a password, "knockknock"; make her a member of two groups, CLASS1 and CLASS5; and assign her all trustee rights to directory SYS:READ, type

```
#create nancy; Nancy I. Smith; knockknock;+ CLASS1,
CLASS5;+ SYS:READ ALL
```

Example B. To create user DANIEL and assign him only the password "openup," type

```
#create daniel;;openup^
```

Example C. To create user RACHEL and not include any other variables, type

```
#create rachel^
```

#DELETE *username* [;*username*]

Use this keyword to delete users and any information relative to those users.

Replace *username* with the name of the user you want to delete.

You can enter #DELETE in the same file as #CREATE. For example, in a teaching environment, you might want to delete the users of classes taught last semester as you create users for classes taught this semester. However, you cannot delete a username that has been created in the same file unless #CLEAR or #RESET separates the two instances of the same name.

To delete the user's home directory when you delete the user, precede the DELETE keywords with both HOME_DIRECTORY and PURGE_USER_DIRECTORY.

Example. To create users GEORGE, PATTY, and JAMES and assign them home directories, and to delete users CHARLES, SALLY, and EDMUND and remove their home directories, type

```
#home_directory SYS:HOME
#create george^
#create patty^
#create james^
#purge_user_directory
#delete charles; sally; edmund
```

#GROUPS *group* [;*group*]

Use this keyword to assign users to groups.

Replace *group* with the name of the group you want to assign the user to. Only groups you have already created with SYSCON can be included.

New users are automatically assigned to the group EVERYONE. New users can also be assigned to groups using #CREATE.

Example. To assign LARRY to groups G1 and G2, type

```
#groups g1; g2
#create larry^
```

#HOME_DIRECTORY *path*

Use this keyword to assign or delete a home directory when creating or deleting a user.

Replace *path* with a directory path leading to and including the volume, directory, and subdirectory where you want to create a home directory.

When this keyword is used before #CREATE, MAKEUSER creates home directories under users' names in the specified path. Only existing directories can be specified. If this keyword is not used before #CREATE, a home directory is automatically created in the SYS volume (see #CREATE).

Example A. To create the home directory in the SYS:NEWUSERS directory for user ROBIN, type

```
#home_directory sys:newusers
#create robin^
```

Example B. To delete user ROBIN and his home directory, type

```
#home_directory sys:newusers
#purge_user_directory
#delete robin^
```

#LOGIN_SCRIPT *path*

Use this keyword to specify the location of the file containing a login script to be copied and used as each new user's login script. MAKEUSER places the file in each user's mail directory.

Replace *path* with a directory path leading to and including the volume, directory, subdirectory, and file you want to use.

The file containing the login script must already exist. You must create the file in SYSCON or with a text editor and put it in a convenient directory.

Example. To assign user LIZ a login script found in the file EVERYONE.LOG in the SYS:PUBLIC directory, type

```
#login_script sys:public/everyone.log
#create liz^
```

#MAX_DISK_SPACE *vol*, *number* [;*vol*, *number*]

Use this keyword to specify the maximum number of disk blocks (4KB in size) allocated per volume for each new user. The default is an unlimited number of disk blocks.

Replace *vol* with the name of the volume. Replace *number* with a numeric value.

Example. To assign user JUDY a maximum disk space of 4 megabytes (4,096 KB) on volume SYS, type

```
#max_disk_space SYS, 1024
#create judy_punch^
```

#NO_HOME_DIRECTORY

Use this keyword to specify that a user home directory *not* be created.

#PASSWORD_LENGTH *length*

Use this keyword to specify the minimum length of the new users' passwords.

Replace *length* with a number between 1 and 20. The default is five characters.

You must enter PASSWORD_REQUIRED before you enter PASSWORD_LENGTH.

Example. To require user MEIKE to have a password of at least seven characters, type

```
#password_required
#password_length 7
#create meike_avenues^
```

#PASSWORD_PERIOD *days*

Use this keyword to assign the number of days between password expirations. If this keyword is not used, the password never expires.

Replace *days* with a number from 1 to 365.

You must enter PASSWORD_REQUIRED before you enter PASSWORD_PERIOD.

Example. To require user DOUG to change his password every 30 days, type

```
#password_required
#password_period 30
#create doug_umbrella^
```

#PASSWORD_REQUIRED

Use this keyword to require users to have a password. If this keyword is not specified, users can decide whether to assign passwords to their accounts.

You must enter PASSWORD_REQUIRED before PASSWORD_LENGTH, UNIQUE_PASSWORD, or PASSWORD_PERIOD can be specified.

Example. To require user BECKY to have a password, type

```
#password_required
#create becky;;beckie^
```

#PURGE_USER_DIRECTORY

Use this keyword to delete any subdirectories owned by the user when the user is deleted. Use it also in conjunction with the HOME_DIRECTORY keyword to delete the user's home directory.

You must enter this keyword before #DELETE. If you want to delete the user's home directory, you must include #HOME_DIRECTORY.

Example. To delete user RANDY, his home directory in the SYS:HOME directory, and any subdirectories he may have created, type

```
#home_directory SYS:HOME
#purge_user_directory
#delete randy^
```

#REM or REM

Use this keyword to make comments about the information in your USR file.

#REM must appear as the first word on the line. The rest of the line is ignored when the file is processed.

Example. To identify the contents of a USR file, you may want to include #REM.

```
#rem students in english 302 winter semester `91
#create student1^
#create student2^
#create student3^
```

#RESTRICTED_TIME *day*, *start*, *end* [;*day*, *start*, *end*]

Use this keyword to specify which days and hours new users cannot log in to the file server. If this keyword is not used, no restrictions apply.

Replace *day* with a single day of the week, or use "everyday."

Replace *start* and *end* with regular time-of-day formats. The *end* time cannot be earlier than the *start* time.

Example. To prevent user CINDY from logging in on Monday from 8:00 a.m. to 2:00 p.m., type

```
#restricted_time mon, 8:00 a.m., 2:00 p.m.
#create cindy^
```

#STATIONS *network, station* [;*station*] [;*network*, *station*]

Use this keyword to specify the physical workstations from which users can log in to the file server. If this keyword is not used, users can log in from any workstation.

Replace *network* with the hexadecimal network address. The address cannot exceed eight digits.

Replace *station* with the hexadecimal station address. The address cannot have more than 12 digits. If all stations are to be included for any given network, you can replace the station address with "all" (e.g., "Stations 12345, all").

Example. To allow user MALIA to log in only from stations FE and DD on Network 12345, type

```
#stations 12345, FE, DD
#create malia^
```

#UNIQUE_PASSWORD

Use this keyword to prevent users from reusing any of their previous eight passwords when they change their passwords. If this keyword is not specified, users can choose passwords they used previously.

You must enter PASSWORD_REQUIRED before you enter UNIQUE_PASSWORD.

Example. To require user MARJ to change to a unique password every 30 days, type

```
#password_required
#password_period 30
#unique_password
#create marj_apple^
```

Edit a USR File

The MAKEUSER menu utility lets you edit a USR file. However, MAKEUSER does not create or change an account for a user already on the network.

To make changes to the USR file *before* you process it, complete the following steps.

To change the USR file *after* you have processed it, you must reprocess the file after making your corrections.

Procedure

1. Move to the directory that contains the USR file you want to edit and enter MAKEUSER.
2. Choose "Edit USR File" from the "Available Options" menu.
3. Type the name of the USR file in the "Enter USR File Name" entry box and press <Enter>.

   You can also press <Insert> to see a list of USR files in your current directory and choose the one you want to edit.
4. Make the necessary changes to the file.
5. After entering the changes you want, press <Esc>.

Process a USR File

MAKEUSER does not create or delete users until the USR file is processed. You can process a USR file in two ways:

- With the MAKEUSER menu utility
- With the MAKEUSER command line utility

MAKEUSER Menu Utility

To process a USR file with the MAKEUSER menu utility, complete the following steps.

Procedure

1. Move to the directory that contains the USR file you want to process and enter MAKEUSER.
2. Choose “Process USR File” from the “Available Options” menu.
3. Type the name of the USR file in the “Enter USR File Name” entry box and press <Enter>.

   First the file is scanned for any syntax errors. You may see error messages similar to the following on your screen.

   ```
   Keyword expected

   Error line 3 Specification exceeded the limit, the rest of
     the line ignored

   Error line 4 Username CHUCK already specified
   ```

   These errors will be reported on the screen and must be corrected by using the MAKEUSER “Edit USR File” option or with a text editor before the file can be processed (see “Edit a USR File” on page 191).

   Once scanned successfully, the file is processed. Logic errors such as “Group NOBODY could not be found” or “User Tom already exists” are placed in a report (RPT) file, along with the results of processing the USR file.
4. You should always check the RPT file to see if your USR file has been processed successfully. To do this, exit MAKEUSER.
5. Enter the DOS TYPE command and the name of the USR file, with its .RPT extension, that you have just processed.

   For example, if the USR filename is DEPT1.USR, type

   `TYPE DEPT1.RPT` <Enter>

   You see the contents of the DEPT1.RPT file. If the results are not what you expected, you can return to MAKEUSER and edit the USR file.

MAKEUSER Command Line Utility

To process a USR file with the MAKEUSER command line utility, complete the following steps.

Procedure

1. Change to the directory containing the USR file you want to process and type

   MAKEUSER *filename* <Enter>

   You need not type the .USR extension.

   The USR file is scanned for syntax or logic errors. If there are errors, you see a message similar to the following:

   ```
   Error : Line 001, Undefined keyword Warning: Line 002,
     Group expected

   Please fix the error in the file and try it again.
   ```

   You must correct any errors using the "Edit USR File" option of the MAKEUSER menu utility or a text editor. Then start over again.

   If there are no errors, the USR file is processed and a report file, *filename*.RPT, is placed in the current directory. You see a message similar to the following:

   ```
   Check the results in filename.RPT
   ```

2. To check the results, type

   TYPE *filename*.RPT <Enter>

   You see a message similar to the following:

   ```
   User USER1 created

   User USER2 not created

   Already exists
   ```

MAP

Why Use MAP?

Use MAP to

- View current drive mappings
- Create or change network drive mappings
- Create or change search drive mappings
- Map a drive to a fake root directory
- Map the next available drive

Command Formats

View current drive mappings

MAP [*drive*:]

Create or change network drive mappings

MAP *path* MAP *drive*: = [*drive*: | *path*]MAP [*option*] *drive*:

Create or change search drive mappings

MAP [*option*] *drive*: = [*drive*:*path*]

Map a drive to a fake root directory

MAP [ROOT] *drive*: = [*drive*: | *path*]

Replace *drive* with the drive letter mapped to the directory you want to work with.

Replace *path* with the directory path you want to work with.

Replace *option* with one of the command options on the next page.

Include ROOT to map a drive to a fake root directory.

Command Options

Replace *option* with the appropriate option as explained below.

INS[ert]

Use this option to change search drive mappings.

DEL[ete]

Use this option to delete a default, network, or search drive mapping.

REM[ove]

Use this option to delete a default, network, or search drive mapping.

N[ext]

Use this option to map the next available drive to a specified path. To execute this option, type

MAP n[ext] ***path name*** <Enter>

Additional Information

Some software applications write files to and read files from the root directory only. Because users do not have rights in the root directory, they cannot retrieve or write to files they create in those applications. NetWare v3.*x* allows users to map a drive to a fake root directory where they have the rights they need. For further explanation, see "Fake Root" in *Concepts*.

Drive mappings are temporary. They are deleted when you log out or turn off your workstation. Drives mapped to fake root directories are also deleted.

You can save drive mappings—including fake root mappings—in your login script if you want them to be invoked each time you log in.

If you attempt to map a local drive to a network directory path, a prompt similar to the following appears on your workstation screen.

```
Drive B: currently maps to a local disk

Do you want to assign it as a network drive? (Y/N) Y
```

If you want to assign the drive letter to a network drive, answer "Yes."

View Current Drive Mappings

View All Mappings

Type

MAP <Enter>

You see information similar to the following:

```
Drive A: maps to a local drive
Drive B: maps to a local drive
Drive F:= COUNT/SYS: /HOME/KAREN
Drive G:= COUNT/SYS: /
Drive H:= COUNT/ACCT: /ACCDATA
    _____
SEARCH1:=Z:. [COUNT/SYS: /PUBLIC]
SEARCH2:=Y:. [COUNT/SYS: /PUBLIC/WP]
SEARCH3:=X:. [COUNT/ACCT: /ACCREC]
```

View Specific Mappings

To view the mapping of drive F:, specify that drive in the command:

MAP F: <Enter>

You see information similar to the following:

```
Drive F:= COUNT/SYS: /HOME/KAREN
```

Create or Change a Drive Mappings

Suppose you are user KAREN on file server COUNT. To create or change a drive mapping, complete one of the following.

Create a Default Mapping

To map drive G: to your home directory and use it as your default directory, type

MAP G: = COUNT/SYS:HOME/KAREN <Enter>

Create a Network Mapping

Suppose you want to map a network drive to a directory in which you have files. To see what network drive letters are available, type

MAP <Enter>

Choose a drive letter that is not being used, such as drive J:. Type

MAP J: = *path* <Enter>

Replace *path* with the directory path leading to the files to which you want network drive J: mapped.

Extend a Mapping

To extend the mapping for drive G: (your default drive) from COUNT/SYS to COUNT/SYS:HOME/KAREN, type

MAP HOME/KAREN <Enter>

Remap Your Default Drive

Suppose your default drive is mapped as

Drive G: = COUNT/SYS:

You want to remap drive G: as

Drive G: = COUNT/ACCT:ACCDATA

Type

MAP ACCT:ACCDATA <Enter>

Because file server COUNT is your default file server, you do not have to include COUNT in the MAP command.

Map to Another Volume

To map drive M: to the PUBLIC directory in volume SYS on your default file server COUNT, type

MAP M: = SYS:PUBLIC <Enter>

If file server COUNT is not your default file server, you must include the file server name in your command:

MAP M: = COUNT/SYS:PUBLIC <Enter>

If another drive, such as drive Z:, is already mapped to COUNT/SYS:PUBLIC, you can type

MAP M: = Z: <Enter>

Map to Your Default Drive

You can map network drives to the same path as your default drive. Suppose your default drive is drive G: mapped to volume SYS: on file server COUNT as follows:

Drive G: = COUNT/SYS:

To map a network drive (for example, drive P:) to the same path as your default drive (drive G:), change to your default drive and type

MAP P: = G: <Enter>

Delete a Network Drive Mapping

To delete network drive G:, type

MAP DEL G: <Enter>

or

MAP REM G: <Enter>

A message similar to the following appears on your screen, verifying that the drive has been deleted.

```
Definition for drive G: has been removed.
```

Create or Change Search Drive Mappings

You can create, modify, or delete a search drive mapping. Complete one of the following.

Create a Search Drive Mapping

Suppose you are user TERRY and your search drives appear as follows:

```
SEARCH1:=Z:. [COUNT/SYS: /PUBLIC]
SEARCH2:=Y:. [COUNT/SYS: /PUBLIC/WP]
```

The next available search drive is SEARCH3 (S3). To map a search drive to directory ACCREC on volume ACCT:, type

MAP S3: = COUNT/ACCT:ACCREC <Enter>

When you type MAP again, you see that the new search drive mapping has been added:

```
SEARCH1:=Z:. [COUNT/SYS: /PUBLIC]
SEARCH2:=Y:. [COUNT/SYS: /PUBLIC/WP]
SEARCH3:=X:. [COUNT/ACCT: /ACCREC]
```

Change a Search Drive Mapping

Suppose that you want to remap search drive 3 so that instead of searching drive X: mapped to COUNT/ACCT:ACCREC, search drive 3 searches the next available drive letter mapped to COUNT/SYS:HOME/TERRY.

To remap search drive 3 in this way, use one of the following commands:

MAP S3: = COUNT/SYS:HOME/TERRY <Enter>

or

MAP INS S3: = COUNT/SYS:HOME/TERRY <Enter>

The first command converts drive X: to a regular network drive and reassigns search drive 3 to the next available drive letter (in this case, drive W:) mapped to COUNT/SYS:HOME/TERRY:

```
Drive X:= COUNT/ACCT: /ACCREC
    ------

SEARCH1:=Z:. [COUNT/SYS: /PUBLIC]
SEARCH2:=Y:. [COUNT/SYS: /PUBLIC/WP]
SEARCH3:=W:. [COUNT/SYS: /HOME/TERRY]
```

The second command reassigns drive X: from search drive 3 to search drive 4, leaving search drive 3 temporarily vacant. Then the command inserts the next available drive (in this case, drive W:) mapped to COUNT/SYS:HOME/TERRY into the vacancy:

```
SEARCH1:=Z:. [COUNT/SYS: /PUBLIC]
SEARCH2:=Y:. [COUNT/SYS: /PUBLIC/WP]
SEARCH3:=W:. [COUNT/SYS: /HOME/TERRY]
SEARCH4:=X:. [COUNT/ACCT: /ACCREC]
```

Delete a Search Drive Mapping

To delete search drive 3, type

MAP DEL S3: <Enter>

or

MAP REM S3: <Enter>

A message similar to the following appears on your screen, verifying that the drive has been deleted:

```
Mapping for SEARCH3: has been deleted.
```

Map a Drive to a Fake Root Directory

Some applications read files from and write files to the root directory. Since you do not want users working at the root level, you can map a drive to a fake root directory where the user has rights.

NOTE: Fake roots only work with the NetWare 386 v3.0 version of NETX.COM If you are using older NetWare versions, you cannot create fake roots.

Map to Your Default Drive

Suppose you are user TERRY on file server COUNT and your default drive is mapped as follows:

F: = COUNT/SYS:HOME/TERRY <Enter>

You need access to the root directory to run one of your applications. Since you don't have rights to the root directory, map a fake root to TERRY where you do have all rights. Type

MAP ROOT F: = HOME/TERRY <Enter>

The default file server and volume are COUNT/SYS:, so you don't need to include them in the command.

To delete a fake root, type

MAP ROOT F: <Enter>

When you type MAP, you see a double space and slash after TERRY, indicating that the root directory for drive F: is now TERRY:

```
F:=COUNT/SYS:HOME/TERRY  /
```

Change to subdirectory FILES in directory TERRY to see more clearly how to identify the fake root.

```
F:=COUNT/SYS:HOME/TERRY  /FILES
```

NOTE: From a fake root, you cannot use the CD command to return to the original root. To change the fake root back to the original root, remap the drive.

Map to Another File Server

Suppose you are attached to file servers COUNT and MKTG. Your default server is COUNT, but you need to create a fake root directory on server MKTG so you can use accounting applications. Your drive mapping to accounting applications on server MKTG is as follows:

H: = MKTG/SYS:ACCT/TERRY

From any drive on server COUNT, type

MAP ROOT H: = MKTG/SYS:ACCT/TERRY <Enter>

Change to server MKTG and type MAP. You see the following.

```
H:=MKTG/SYS:ACCT/TERRY  /
```

Map to a New Directory

Suppose you are attached to file servers COUNT and MKTG. Your default server is COUNT, but you want to map a fake root to directory ACCT on file server MKTG. From any drive on server COUNT, type

MAP ROOT H: = MKTG/SYS:ACCT <Enter>

The fake root directory of drive H: on server MKTG is now ACCT. Type

MAP H:=MKTG/SYS:ACCT / <Enter>

The double space and slash after ACCT indicate that ACCT is the root directory for drive H:. If you change to subdirectory TERRY, you see

```
H:=MKTG/SYS:ACCT  /TERRY
```

MATHLIB

Why Use MATHLIB?

Use MATHLIB if your server has a 386 or 486 coprocessor installed. CLIB must be loaded before MATHLIB can be loaded.

Command Format

```
LOAD [path] MATHLIB
```

Command Parameters

Replace *path* with a full directory path to the directory containing the name space module; begin with a DOS drive letter or a NetWare volume name.

If no *path* is specified, the operating system assumes that the loadable module is located in the SYS:SYSTEM directory.

Additional Information

If the loadable module needs MATHLIB, load the following modules in the order listed:

STREAMS
CLIB
MATHLIB

Follow these same instructions to load MATHLIBC.

For complete explanations of "MATHLIB" and "MATHLIBC," see *System Administration*.

MEMORY

Why Use MEMORY?

Use MEMORY to display the total amount of installed memory that the operating system can address.

Command Format

```
MEMORY
```

Additional Information

NetWare v3.12 automatically addresses memory above 16 MB on EISA machines. To enable the operating system to address memory above 16 MB on Micro Channel and ISA (AT bus) machines, use the REGISTER MEMORY command.

If you have an EISA machine with more than 16MB of memory and have also installed an AT bus disk adapter or network board that uses DMA or bus mastering, set the SET parameter ("Auto Register Memory Above 16 Megabytes") to "Off." You cannot use memory above 16 MB with these types of cards.

For a complete explanation of "MEMORY," see *System Administration*.

MODULES

Why Use MODULES?

Use MODULES to display the name and a descriptive string for the loadable modules currently loaded into the file server.

Command Format

```
MODULES
```

For a complete explanation of "MODULES," see *System Administration*.

MONITOR

Why Use MONITOR?

Use MONITOR to lock the file server console and to see how efficiently your network is operating. Use MONITOR to view information about the following:

- Percentages of utilization and overall activity
- Status of the cache memory
- Connections and their status
- Disk drives
- Mounted volumes
- LAN drivers
- Loaded modules, including the amount of memory they are using
- File lock status
- Memory usage

Command Format

LOAD [*path*] MONITOR [*parameter*]

For a complete explanation of "MONITOR," see *System Administration*.

MOUNT

Why Use MOUNT?

Use this command to make a volume available to your users. You can mount and dismount one or several volumes while the file server is running.

Command Format

MOUNT *volume_name*

or

MOUNT ALL

For a complete explanation of "MOUNT," see *System Administration*.

NAME

Why Use NAME?

Use NAME to display the name of the file server.

Command Format

```
NAME
```

For a complete explanation of "NAME," see *System Administration*.

NCOPY

Why Use NCOPY?

Use NCOPY to copy one or more files from one network directory to another.

NCOPY preserves NetWare file attributes and sparse files. NCOPY has more direct access to servers than DOS COPY has and is more reliable for copying files on a network.

Command Format

NCOPY [*path1*]*filename* [TO] *path2* /[*option...*]

Replace *path1* with a directory path leading to and including the file you want to copy.

Replace *path2* with a directory path leading to and including the volume, directory, or subdirectory you want to copy the file to. If you want to rename the file, include the new filename in the path you specify.

Replace *option* with one or more of the options below.

Command Options

/Subdirectories

Use this option if you want to copy subdirectories.

/Empty subdirectories

Use this option to copy empty subdirectories. This option is only valid if you use it *with* /s.

/Force sparse files

Use this option to force the operating system to write to sparse files. For more information on sparse files, see *Concepts*.

/Copy

Use this option if you want to copy files without preserving file attributes and name space information. NCOPY copies all attributes and name space information supported by the target server or hard disk.

/Inform

Use this option if you want to be notified with a warning message when attributes or name space information cannot be copied because the target server or hard disk does not support those features.

/Verify

Use this option to verify that the original file and the newly created file are identical.

/A

Use this option to copy only those files that have the archive bit set. The attribute of the source file is not changed.

/M

Use the option to copy files whose archive bit is set. This option turns off the archive bit of the source file. It also allows NCOPY to be used in a backup procedure. When the archive bit of a file's attribute is one, the file has been created or modified since the last NCOPY /M.

Additional Information

If you need to copy files between directories and no drives are mapped to those directories, specify the complete directory path in your NCOPY command.

Newly copied files retain the date and time of original files; however, the creation and access date and time of the copied files change.

NCOPY supports wildcard characters.

NOTE: Purge is the only file attribute that is not preserved when you copy files with NCOPY. If your original file has the Purge attribute, reassign PURGE once you have copied the file.

Copy to Local Drives

If you use NCOPY to copy a file from a network drive to a local drive, only the file attributes that correspond with DOS attributes, Read Only and Shareable, are preserved in the copy.

If the file on the network has been assigned NetWare-specific attributes, these attributes will not be copied to the file on the local drive.

Copy a File between Network Directories

Copy to a Different Directory

Suppose you want to copy a file called ACC.DAT from your default directory to the SALEPROG directory in volume SYS: on file server SALES. Drive G: is mapped to SALEPROG as follows:

Drive G: = SALES/SYS:SALEPROG

To copy the ACC.DAT file to the SALEPROG directory, type

NCOPY ACC.DAT TO G: <Enter>

Copy to Your Default Directory

Suppose you want to copy a file called ACC.DAT from the SALEPROG directory in volume SYS: on file server SALES to your default directory. Drive G: is mapped to SALEPROG as follows:

Drive G: = SALES/SYS:SALEPROG

Type

NCOPY G:ACC.DAT <Enter>

Copy between Volumes

Suppose you want to copy the ACC.DAT file from the PUBLIC directory in volume SYS: to the PROGRAMS directory in volume ACCT. Drives F: and G: are mapped as follows:

Drive F: = COUNT/SYS:PUBLIC
Drive G: = COUNT/ACCT:PROGRAMS

Type

NCOPY F:ACC.DAT TO G: <Enter>

Copy between File Servers

Suppose you want to copy the FINDIT.EXE file from the PUBLIC directory on file server COUNT to the PROGRAMS directory on file server SALES. Drives F: and G: are mapped as follows:

Drive F: = COUNT/SYS:PUBLIC
Drive G: = SALES/SYS:PROGRAMS

Type

NCOPY F:FINDIT.EXE TO G: <Enter>

Copy Multiple Files

You can copy several related files in one NCOPY command. Suppose drives F: and G: are mapped as follows:

Drive F: = COUNT/SYS:PUBLIC
Drive G: = COUNT/ACCT:PROGRAMS

If you want to copy all the files with the extension .EXE in the PUBLIC directory to the PROGRAMS directory, type

NCOPY F:*.EXE TO G: <Enter>

To copy all files in the PUBLIC directory to the PROGRAMS directory, replace "*.EXE" with "*.*" in the commands above. If only one asterisk (*) is used, only files without extensions are copied.

Change Name during Copy

You can copy the ACC.DAT file from the PUBLIC directory to the PROGRAMS directory and change the filename to DATA. Suppose drives F: and G: are mapped as follows:

Drive F: = COUNT/SYS:PUBLIC
Drive G: = COUNT/ACCT:PROGRAMS

Type

NCOPY F:ACC.DAT TO G:DATA <Enter>

NDIR

Why Use NDIR?

You can use NDIR options to specify exactly the set of files you want to view in a directory. Use NDIR to view the following information about files and subdirectories in a given directory.

Files

- Filenames
- Sizes of files in bytes
- Dates and times files were last modified
- Dates files were last accessed
- Files that need to be archived
- Dates files were last archived
- Dates files were created or copied
- Attributes (file attributes) assigned to files
- Owner (the creator of or the last person to update files) of the files
- Files that were created by a Macintosh machine (marked with a lowercase “m”), an OS/2 machine (marked with a lowercase “o”), or an NFS machine (marked with a lowercase “n”).
- Entire volume

Subdirectories

- Subdirectory names
- Dates subdirectories were created
- Inherited Rights Mask
- Effective rights
- Owner (creator)
- Subdirectories that were created by a Macintosh (“m”), an OS/2 machine (“o”), or an NFS machine (“n”).

Command Format

NDIR [*path*] [/*option*...]

Replace *path* with a directory path leading to and including the directory and file you want to view. You can include a file chain of up to 16 filenames.

Replace *option* with any of the command options described on the following pages.

NOTE: A forward slash (/) must precede the first element of the option list. Use a backslash (\) in path names.

Command Options

Command options are divided into four categories:

Sort options	“Sort Options” on page 215
Format options	“Format Options” on page 215
Attribute options	“Attribute Options” on page 216
Restriction options	“Restriction Options” on page 217

Tasks

Task	Page
View all files and subdirectories	“View All Files and Subdirectories” on page 218
View one or more files in your default directory	“View One or More Files in Your Default Directory” on page 219
View one or more files in any directory	“View One or More Files in Any Directory” on page 219
Use wildcard characters to view related files	“Use Wildcard Characters to View Related Files” on page 220
Use options to view default directory files	“Use Options to View Default Directory Files” on page 220
Use two or more options to view directory files	“Use Two or More Options to View Directory Files” on page 222

Task	Page
View Macintosh files	“View Macintosh Files” on page 222

NOTE: A forward slash (/) is required only before the first option.

Sort Options

Option	Sorts by
[/REVerse] /SORT Owner	Owner name in alphabetical or reverse alphabetical order.
[/REVerse] /SORT SIze	File size from smallest to largest or reverse.
[/REVerse] /SORT UPdate	Last modified date from the earliest to latest or reverse.
[/REVerse] /SORT CReate	Creation/copy date from earliest to latest or reverse.
[/REVerse] /SORT ACcess	Last accessed date from earliest to latest or reverse.
[/REVerse] /SORT ARchive	Last archived date from earliest to latest or reverse.
[/REVerse] /UNsorted	Include this option if you do not want NDIR to sort files and subdirectories.

Format Options

Option	Sorts by
/DATES	Last modified, last archived, last accessed, and created dates.
/RIGHTS	Inherited and effective rights on files and subdirectories, as well as file attributes.

Option	Sorts by
/MACintosh	Macintosh files and subdirectories. Long names of up to 31 characters.
/LONGnames	Macintosh, OS/2 and NFS long filenames.
/HELP	NDIR command format and command options.

Attribute Options

Only the abbreviations are recognized for attribute options at the command line. Insert a space between each option.

Option	Explanation
[/NOT] /REad Only	Displays all Read Only files or all but Read Only files.
[[/NOT] /Shareable	Displays all Shareable files or all but Shareable files.
[/NOT] /Archive needed	Displays all files that have an Archive attribute set or not set.
[/NOT] /eXecute Only	Display all Execute Only files or all but Execute Only files.
[/NOT] /Hidden	Displays all Hidden files or all but Hidden files.
[/NOT] /SYstem	Displays all System files or all but System files.
[/NOT] /Transactional	Displays all Transactional files or all but Transactional files.
[/NOT] /Indexed	Displays all Indexed files or all but Indexed files.
[/NOT] /Purge	Displays all Purge files or all but Purge files.

Option	Explanation
[/NOT] /Read Audit	You can set and view the Read Audit attribute in NDIR; however, it is not supported by NetWare v3.11
[/NOT] /Write Audit	You can set and view the Write Audit attribute in NDIR; however, it is not supported by NetWAre v3.11
[/NOT] /Copy Inhibit	Restricts copy rights of Macintosh users. Can be assigned only to files.
[/NOT] /Delete Inhibit	Prevents users from erasing directories and files even when they have the Erase right.
[/NOT] /Rename Inhibit	Prevents users from renaming directories and files if they have Modify right.

Restriction Options

You can combine several restriction options at the command line.

Option	Explanation
/OWner [NOT] EQual to *name*	Displays all files created by the same user or all but those created by the same user.
/SIze [NOT] GReater than | EQual to | LEss than *nnn*	Displays all files with byte sizes greater than, equal to, or less than the same value or all but those greater than, equal to, or less than the same value. Replace *nnn* with number of bytes.
/UPdate [NOT] BEFore | EQual to | AFTer *mm-dd-yy*	Displays all files that were last updated on, before, or after the same date or all but those last accessed on, before, or after the same date.
/CReate [NOT] BEFore | EQual to | AFTer *mm-dd-yy*	Displays all files that were created on, before, or after the same date or all but those created on, before, or after the same date.

Option	Explanation
/ACcess [NOT] BEFore | EQual to | AFTer *mm-dd-yy*	Displays all files that were last accessed on, before, or after the same date or all but those last accessed on, before, or after the same date.
/ARchive [NOT] BEFore | EQual to | AFTer *mm-dd-yy*	Displays all files archived on, before, or after a specified date. Files are displayed in BACKUP display format.
/Files Only	Displays only files.
/Directories Only	Displays only directories.
/SUBdirectory	Displays subdirectories and subsequent subdirectories.

View All Files and Subdirectories

To view all files and subdirectories in your default directory, type

NDIR <Enter>

View All Files and Subdirectories in Any Directory

Suppose drive G: is mapped as follows.

Drive G: = COUNT\SYS: PROGRAMS

To view all files and subdirectories in the PROGRAMS directory, type

NDIR G: <Enter>

Search an Entire Volume for a Particular File

To search an entire volume for a specific file, type

NDIR [*filename*]/SUB <Enter>

View One or More Files in Your Default Directory

View a File in Your Default Directory

To view one file, include the filename in the command. To view the file named SCREENS, type

NDIR SCREENS <Enter>

View Several Files in Your Default Directory

To view several files in your default directory, include commas between the filenames.

Suppose you want to view the files HOCKEY, SKIING, and TENNIS in your default directory. Type

NDIR HOCKEY,SKIING,TENNIS <Enter>

NOTE: To search filenames that have the same names as NDIR keywords, the filename must be preceded by a drive letter or path. (Keywords are any words that appear in uppercase letters in the NDIR help screen.)

To see a file named SORT in user LEO's HOME directory, type

NDIR G:\HOME\LEO\SORT

or if drive G: is mapped to \HOME\LEO, type

NDIR G: SORT

View One or More Files in Any Directory

View Files in Any Directory

When viewing files in a directory other than your default directory, specify the directory path before the filename.

Suppose you want to view the files BOOKS and REPORTS in the ENGLISH directory on MILTON/SYS. Type

NDIR MILTON\SYS:ENGLISH\BOOKS,REPORTS <Enter>

Use Wildcard Characters to View Related Files

To view related files using wildcards in your default directory, use wildcards in the command.

To view all the files with the extension .DAT, type

NDIR *.DAT <Enter>

To view related files in any directory, include the path in the command.

Suppose drive G: is mapped as follows.

Drive G: = COUNT\SYS: PROGRAMS

Also suppose you want to view all files with extension .EXE and all subdirectories in the PROGRAMS directory. Use wildcard characters to specify all files with extension .EXE. Type

NDIR G:*.EXE <Enter>

Use Options to View Default Directory Files

You can use NDIR options to specify exactly the set of files you want to view in a directory. You can view files according to owner name, last-accessed date, last update, creation date, size, or file attributes.

Files can be displayed in alphabetical or reverse alphabetical order, or in ascending or descending order according to access date, update date, creation date, size, owner, or archive status.

The following examples explain how to use the command options to view files in your default directory. To view files in a directory other than your default directory, indicate the path before the command option. You can replace *path* with a drive letter mapped to the directory path.

View Files by Owner

Suppose drive F: is mapped as follows.

Drive F: = COUNT\ACCT: ACCPAY

ACCPAY is your default directory. To see all the files owned (created) by user MARTY, type

NDIR /OWNER=MARTY <Enter>

Suppose ACCPAY is not your default directory. To view the same files in the ACCPAY directory, type

NDIR F: /OWNER=MARTY <Enter>

View Files Except Those Owned by a Specific Owner

To see all the files except those owned by user DEBI, type

NDIR /OWNER NOT = DEBI <Enter>

View Files by Date

To see all the files created before 7-20-90, type

NDIR /CREATE BEF 7-20-90 <Enter>

To see all the files created on or after 7-20-90, type

NDIR /CREATE NOT BEF 7-20-90 <Enter>

View Files by Size

To see all files with byte sizes greater than 2,000 bytes, type

NDIR /SIZE GR 2000 <Enter>

To see all files with byte sizes less than or equal to 2,000 bytes, type

NDIR /SIZE NOT GR 2000 <Enter>

View Files by Attribute

To see all files with the file attribute Read Write, type

NDIR RW <Enter>

To see all files that do not include the file attribute Shareable, type

NDIR /NOT S <Enter>

View Files by Sorting

To see the files displayed from smallest to largest, type

NDIR /SORT SIZE <Enter>

To see the files displayed from largest to smallest, type

NDIR /REV SORT SIZE <Enter>

View Only Files or Only Subdirectories

To see only files (and not subdirectories), type

NDIR /FO <Enter>

To see only subdirectories, type

NDIR /DO <Enter>

Use Two or More Options to View Directory Files

You can use two or more options with the NDIR command to specify exactly which files you want to view or how you want them listed. The following are examples for your default directory. Include *path* before your command options to view files in another directory.

Use Several Options to View Default Directory Files

Suppose you want to see all files created before 7-20-90 and you want them displayed in ascending order (from smallest to largest). Type

NDIR /CREATE BEF 7-20-90 SORT SIZE <Enter>

Suppose you want the preceding command to apply only to files with .EXE extensions. Type

NDIR *.EXE /CREATE BEF 7-20-90 SORT SIZE <Enter>

View Macintosh Files

To view only the Macintosh files in your default directory, type

NDIR /MAC <Enter>

To view only the Macintosh files in a directory named MACSTUFF on SERVER/SYS, type

NDIR SERVER\SYS:MACSTUFF /MAC <Enter>

NETBIOS

Why Use NETBIOS?

Use the NETBIOS options to

- View the NetWare version information
- View whether NETBIOS has been loaded
- View which interrupts are currently in use
- Unload NETBIOS

Command Format

NETBIOS [I] | [U]

Command Options

[I]

Use the "I" option to view version information, whether NETBIOS has been loaded, and which interrupts it is using.

NOTE: Typing "NETBIOS I" at the command line does not reload NETBIOS.

When you execute NETBIOS [I], you see a screen similar to the following:

```
Novell Network BIOS Emulator v3.01 Rev A
(C) Copyright 1990 Novell, Inc. All rights reserved.
Novell NETBIOS interface (interrupt 5Ch) loaded.
Novell NETBIOS alternate interface (interrupt 2Ah)
  not loaded.
```

[U]

Use the "U" option to unload NETBIOS. This option frees up the memory used by NETBIOS, restores the interrupts that NETBIOS was using, and cancels all NETBIOS activity for that workstation.

When you execute NETBIOS [U], you see a screen similar to the following.

```
Restored interrupt 2Ah handler successfully.
Restored interrupt 5Ch handler successfully.
Restored interrupt 2Fh handler successfully.
NETBIOS unloaded from Memory successfully.
```

NOTE: The unload option unloads only NETBIOS v3.01. It will not unload previous NETBIOS emulator versions.

NMAGENT

Why Use NMAGENT?

Use NMAGENT to allow LAN drivers to register and pass configuration parameters to NMAGENT.

NMAGENT must be loaded before LAN drivers can be loaded.

Command Format

LOAD [*path*] NMAGENT

Command Parameters

Replace *path* with a full directory path to the directory containing the name space module; begin with a DOS drive letter or a NetWare volume name.

If no *path* is specified, the operating system assumes that the loadable module is located in the SYS:SYSTEM directory.

For a complete explanation of "NMAGENT," see *System Administration*.

NMENU

Why Use NMENU?

Use NMENU to access customized menus you create.

Menus provide an easy way for you to control how applications and data are used on the network.

Menus also create a working environment for users that makes it easier to access network resources, because users don't need to learn about DOS commands, directory structures, or program entry commands.

NMENU replaces the MENU utility included in earlier versions of NetWare. NMENU requires less memory than the old MENU utility.

Command Format

NMENU [*path*] *filename*

Additional Information

When you run a menu from a station, you only need to consider the memory requirements of the programs that are launched by menu choices. You don't need to add more for NMENU itself.

When you upgrade to NetWare v3.12 and use menus created with MENU, you can convert them to NMENU and continue using them (see "Converting an Existing MENU Program" on page 229.)

The NetWare NMENU utility makes it possible for you to complete the following tasks:

- Combine several NetWare utilities into one menu operation, speeding up access to and execution of command sequences that you use often.
- Organize seldom-used DOS and NetWare command line tasks within one menu. Users can access the task from the menu rather than having to remember the command names and formats. They can also use the menu prompts to issue command parameters.
- Make individual menus that cater to beginning or occasional users who may not be familiar with DOS or NetWare tasks.

- Make as many menus as there are users, so that every user can use a menu tailored to his or her specific needs.

Before you begin to create a menu, you should be familiar with the format of the NetWare menu utilities and know how to use them.

The following sections describe how to plan, create, and access custom menus.

Creating a Menu Program

Prerequisites

- A workstation running DOS 3.30 or later, logged in to the network.
- The Write file system right to the directory where you will create the menu.

Procedure

1. Create a directory for menu files and temporary files.

   NMENU creates temporary files when it executes a menu program. The temporary directory provides a place for each user to store those files.

   The temporary directory can be on the network, or you can create it on the workstations where users will run the menu program.

   For example, if you want the program and temporary directories on the network, you might create a directory called MENU and then create two subdirectories under MENU called PROGRAM and TEMP.

   You can use FILER (see "FILER" on page 103) or the DOS MD command to create the directories.

2. Using a text editor, create a menu source file by completing the following steps.

   2a. In the subdirectory you created for the menu program files, open a new text file.

   You can use any DOS text editor to create the file.

   2b. Enter the menu program commands in the file.

   See "Using NMENU" on page 232 for a list of rules for using the menu commands.

See “NMENU organizational and control commands” on page 233 for a summary of available organizational and control commands you can use to write the menu.

2c Save the text file, giving it a name with an .SRC extension, and exit the file.

The filename can be a maximum of eight characters long, not including the three-letter extension.

For example, to create a menu system for users in the Accounting department, you might name the file “ACCOUNT.SRC.”

3 Compile the menu source file by typing

MENUMAKE *menu_name* <Enter>

Replace *menu_name* with the name of the source file you created in Step 2. For example, to compile the menu you created for users in the Accounting department, you would type:

menumake account <Enter>

The program is compiled and a data file is created with a .DAT extension. The data filename for the example above would be ACCOUNT.DAT.

The .DAT file and the source file are created in your current directory. If you want the files to be created in a different directory, specify the entire directory path instead of the filename only.

If you want to compile multiple files in a directory, you can use a wildcard character (for example, MENUMAKE *.SRC).

4 (Optional) Set NMENU colors.

You can set NMENU colors using the COLORPAL utility. For more information, see “COLORPAL” on page 65.

5 Set up user environments by completing the following steps.

5a Set up drive mappings in the system or user login script.

Map drives to the directory or directories containing the menu program and the temporary file directories you created in Step 1.

If you have created the menu and temporary file area in the PUBLIC directory, you don’t need to add drive mappings, because the default mapping Z:SYS:PUBLIC is already in the system login script.

5b Set up pointers to the temporary files in the system or user login script.

If you are storing users' temporary files in a network directory, place the following commands in the login script.

For example, if you created a subdirectory called TEMP in the PUBLIC directory, you would type

```
SET S_FILEDIR="Z:\PUBLIC\TEMP\"
SET S_FILE="%STATION"
```

These commands point to the directory where temporary files are stored and create unique files in the temporary directory for each workstation ID number.

5c If you want the menu to execute from within a login script, add the EXIT login script command.

For example, to execute the ACCOUNT menu from a user's login script, add the following line to the login script:

```
EXIT "NMENU ACCOUNT"
```

5d Assign trustee rights to users or groups

Users need Read, Write, and File Scan rights to the directory set up for temporary files and Read and File Scan rights to the directory where the menu program resides.

For instructions on assigning rights, see "GRANT" on page 163.

Converting an Existing MENU Program

Use this procedure to convert an existing menu program (created with MENU) to NMENU. These older menu programs usually have the extension .MNU.

Prerequisites

- Workstation running DOS 3.30 or later, logged into the network.
- The Write file system right to the directory where you will create the new menu.

Procedure

1. (Optional) Create a directory for the new menu files and temporary files.

   If you want to use the directories you already have set up for menu programs, you do not need to create new ones.

   NMENU creates temporary files when users execute a menu program. The temporary directory provides a place to store those files. This directory can be on the network, or you can create it on the workstations.

2. Change the old .MNU source files to the new .SRC file format by completing the following steps.

   2a At the command line, type

   MENUCNVT *menu_name* <Enter>

   Replace *menu_name* with the name of the old menu you want to convert. If the menu is not in your current directory, enter the complete path to the menu name.

   The program creates a new .SRC file, leaving the original .MNU file unchanged.

   2b (Optional) Edit the new menu source file.

   See "Using NMENU" on page 232 for a list of rules for using the menu commands.

   See "NMENU organizational and control commands" on page 233 for a summary of available organizational and control commands you can use to write the menu.

3. Compile the source file by typing

   MENUMAKE *menu_name* <Enter>

   Replace *menu_name* with the name of the menu source file you created in Step 2. The file is compiled and a data file is created with a .DAT extension.

4. (Optional) Set up menu colors.

   You can set up menu colors with the COLORPAL utility.

5. Set up user environments by completing the following steps.

   5a If you created new directories for the menu program and temporary files, modify the system or user login script to add drive mappings to the new areas.

5b Set up pointers to the temporary files in the system or user login script.

If you are storing users' temporary files in a network directory, place the following commands in the login script.

For example, if you created a subdirectory called TEMP in the PUBLIC directory, you would type

```
SET S_FILEDIR="Z:\PUBLIC\TEMP\"
SET S_FILE="%STATION"
```

These commands point to the directory where temporary files are stored and create unique files in the temporary directory for each workstation ID number.

5c If you want the menu to execute from within a login script, add the EXIT login script command.

For example, to execute the ACCOUNT menu from a user's login script, add the following line to the login script:

```
EXIT "NMENU ACCOUNT"
```

5d Assign trustee rights to users or groups

If you created the new menu or temporary file directory in a different location than the old programs, give users rights to the new areas.

Users need Read, Write, and File Scan rights to the directory set up for temporary files and Read and File Scan rights to the directory where the menu program resides.

For instructions on assigning rights, see "GRANT" on page 163.

Modifying a Menu Program

Use this procedure to make changes to an existing NMENU program.

Prerequisites

- Workstation running DOS 3.30 or later, logged into the network.
- The Write file system right to the directory where the NMENU program resides.

Procedure

1. Open the menu source (.SRC) file you want to change.

   You can use any DOS text editor to open the file.

2. Modify the menu program file.

   See "Using NMENU" on page 232 for a list of rules for using the menu commands.

   See "NMENU organizational and control commands" on page 233 for a summary of available organizational and control commands you can use to write the menu.

3. Exit the file and save your changes.

4. Recompile the file by typing

   MENUMAKE *menu_name* <Enter>

   Replace *menu_name* with the name of the menu source file you modified. If you are not in the directory where the file is located, enter the complete path, including the menu name.

   The file is compiled with the new changes.

Using NMENU

Rules and Hints for Using NMENU

Keep these guidelines in mind as you plan and create menu programs:

- The maximum menu level depth is 11 (one main menu and ten submenus).
- The maximum number of menu screens is 255.
- The maximum menu name length is 40 characters.
- The maximum list item width is 40 characters.
- The maximum text file width is 80 characters.
- The main menu must be at the beginning of the source file. The program calls up subsequent menus by menu number.
- If a command wraps to another line, type a plus sign (+) at the end of the line and continue the command on the next line.

Menu programs use two types of commands. Table 1 gives an overview of the commands. Detailed information about individual commands begins under "MENU" on page 234.

Organizational Commands establish the content and organization of the menus the user sees on the screen. You use these commands to set what the menu program looks like.

Control Commands tell NMENU how to perform an action, such as displaying a submenu or user prompt, performing a DOS function, or starting an application.

You also use these commands to tell the menu program how to process information and execute commands.

Table 1 NMENU organizational and control commands

Command type	Command	Explanation
Organizational	MENU	Marks the beginning of a new menu or submenu screen. See "MENU" on page 234.
	ITEM	Identifies an item to be listed on the menu. Defines submenus. Specifies execution parameters. See "ITEM" on page 234.
Control	EXEC	Instructs DOS to execute the ITEM statement. Executes a DOS command. See "EXEC" on page 236.
	LOAD	Calls and displays a submenu from a different menu program than the one you are running. See"LOAD" on page 237.
	SHOW	Displays a submenu from the same menu program. See "SHOW" on page 238.
	GETO	Requests information from the user before a menu item is executed. User input is *optional*. See "GETR, GETO, GETP" on page 238.
	GETP	Requests information from the user before a menu item is executed. Assigns a variable (%*n*) to the information so it can be used again. See "GETR, GETO, GETP" on page 238.
	GETR	Requests information from the user before a menu item is executed. User input is *required* for the program to proceed. See "GETR, GETO, GETP" on page 238.

MENU

Format

MENU *menu_number,menu_name*

Using MENU

Replace *menu_number* with the number of the menu you want to assign to this menu. Menus are called by the program by number.

A menu number can be any number from 1 through 255. Each menu within a source file must be assigned a unique number.

The first menu defined in the source file is always the first menu displayed. Subsequent menus are referenced by their numbers.

For example, if you have defined three menus and assigned them numbers 1, 2, and 5, and menu 5 is the first menu in the source file, it is displayed first. Menus 1 and 2 are referenced in control commands and displayed depending upon user selection.

Replace *menu_name* with the title you want to appear at the top of the menu.

Menu names can be a maximum of 40 characters long.

Examples

To define a main menu for a program to be used by accountants in your company, you would type a line similar to the following:

```
MENU 1,Accounting Main Menu
```

Since this is the first menu you want to appear, you would place it at the beginning of your menu program.

ITEM

Format

ITEM *item_name* {*option option*}

Replace *item_name* with the list item you want to appear in the menu. The maximum length for an item is 40 characters.

Replace *option* with one or more options shown in the following table. Separate multiple options with a space. Enclose all options for a single ITEM in a single set of braces.

ITEM option	Explanation
BATCH	Removes the menu program from memory before executing the item. Without this option, a portion of the memory stays resident, requiring approximately 32 KB of available memory, even though an application may be running. For example, if you enter “ITEM Word 5.0 {BATCH}” the menu program is removed from memory when Word 5.0 is executed. Setting this option automatically sets the option CHDIR. Don’t use this command with the EXEC DOS command, use EXEC CALL or EXEC COMMAND instead. For more information, see “EXEC” on page 236.
CHDIR	Changes to the drive and directory that were in effect before an ITEM was executed. Without this option, the drive and directory of the most recently run application or function remains in effect. For example, to change back to the drive and directory you were in after executing a wordprocessing application in another directory, you would type “ITEM WordPerfect 5.0 {CHDIR}”. When the WordPerfect application is closed, the directory is changed to the original directory for the menu.
PAUSE	Allows users to read messages associated with a DOS command being executed from the menu. The message “Press any key to continue” is also displayed, and the screen does not change until a key is pressed by the user. For example, to display a message when a user selects the item “DOS Copy” from the menu, type “ITEM DOS Copy {PAUSE}”.
SHOW	Displays the DOS command name of the item being executed (in the upper-left corner of the screen), such as COPY or DIR. For example, if you enter “ITEM Copy Files {SHOW}” the DOS command COPY is displayed when the item is executed.

Using ITEM

List items appear on the menu in the order in which they appear in the source file.

Each item is automatically assigned an alphabetic selection character which the user types to select the item from the menu.

If you want to assign a different letter, place a carat (^) and the letter you want in front of the item name.

For example, if the first menu item is "Word Processing" and you want to assign it the letter "W" instead of the automatic letter designation of "A," you would type

```
ITEM ^WWord Processing
```

If you assign selection letters, you should assign them to all menu list items. Otherwise another item may be automatically assigned a character you have previously assigned.

EXEC

Format

EXEC *command*

Replace *command* with the command required to execute the ITEM. This could be the name of an executable file, a DOS command, or one of the following four NMENU commands associated with EXEC.

EXEC option	Explanation
EXEC EXIT	Exits the user from NMENU. For security reasons, users cannot access the DOS prompt unless this command is included in the menu.
EXEC CALL	Calls a batch file while in another batch file.
EXEC DOS	Runs the DOS command processor. If this command is used, the menu user must type "EXIT" when DOS processing is completed in order to return to NMENU.
EXEC LOGOUT	Ends a session and logs the user out of the network.

Using EXEC

EXEC must follow the ITEM it applies to. It must also follow other control commands needed by ITEM.

Example

To load Word 5.0 from a menu, type

```
ITEM Word 5.0
EXEC word5.exe
```

LOAD

Format

LOAD *filename*

Replace *filename* with the name of another NMENU program.

If you have several menu programs created with the .DAT extension, use this command to call another menu program from the active menu program.

Using LOAD

Use this command when you have multiple menu programs defined. Although you can define up to 255 menus per source file, smaller files are easier to manage and update.

Use the NMENU filename, not the main menu name. The .DAT extension is optional.

The NMENU file being loaded must be in the current directory, or you must have a search path to the file defined.

Example

If you are writing a menu program for Sales and you want to call up the Accounting menu program, you would type

```
MENU 1,Sales Main Menu
ITEM Word Processing Menu
LOAD ACCOUNT
```

SHOW

Format

SHOW *menu_number*

Replace *menu_number* with the number of the menu or submenu to be displayed when the user selects the corresponding item from a menu list.

Using SHOW

Include SHOW commands to identify the submenu to be displayed when an item is selected from a menu.

SHOW commands always use menu numbers, not titles.

Example

If you have a menu with items listing categories of applications such as "Word Processing" and "Spreadsheets," each ITEM would have the following SHOW commands to call up the appropriate submenus for those categories:

```
ITEM Word Processing
SHOW 3
ITEM Spreadsheets
SHOW 5
```

To continue this example, if menu "3" were a list of available word processing programs needed by both Sales and Accounting, and each group had its own menus defined, the programs could "share" that screen and its calls to execute the applications.

GETR, GETO, GETP

Format

GET*x prompt* {*prepend*} *length,prefill,* {*append*}

Replace *x* with a letter "O" for optional user input, an "R" for required user input, or a "P" to assign a variable to user input. If you want the user to press a key to continue, use GETO.

If you want the user to enter information (such as a password), use GETR.

If you want user input to be used by other GET commands after it is entered, use GETP. The information is assigned a variable (such as %1, %2, etc.).

Replace *prompt* with the text to be displayed to the user (40 characters maximum).

Prepend is a value added to the beginning of the user response. If no value is needed, enter a space between the braces.

Replace *length* with the maximum number of characters the user can enter. This parameter is required. Enter "O" if using GETO and the user is only required to confirm an action.

Replace *prefill* with a default response displayed with the prompt. The user can accept the default, change the response by typing over characters, or cancel selection of the item.

This parameter is optional. If you do not want to include a default response, enter a comma in place of the prefill.

Append is the value added to the end of the user response. If no value is needed, enter braces with a blank space between them.

Using GETR,GETO, and GETP interactive commands

You must define commands for each menu ITEM separately.

Enter commands between the ITEM and the EXEC command associated with the ITEM.

Enter the commands in upper or lower case.

Each ITEM can have a maximum of 100 GETx commands.

Limit each prompt to one line.

Examples

Require users to enter a project code to keep track of work performed for that project.

To create a dialog box containing two prompts and a third prompt in its own box, type

```
GETR Please enter your user ID: { } 08,, { }
GETR Please enter your password: {}+ 08,,
GETO
GETP Load default macros? { } 01,, { }
```

To create a program to calculate mortgages using GETR for user input, type

```
GETR Enter the load amount: { }7,,{ }
GETR Enter the interest rate: { } 5,8.5, { }
GETO Enter the period (/m=months or+ /y=years): { } 7,/
  y=30, { }
EXEC mortgage
```

To create the previous program using GETP in place of other GET commands, type

```
GETP Enter the load amount: { }7,,{ }
GETP Enter the interest rate: { } 5,8.5, { }
GETP Optional-Enter the period (/m=months or+ /y=years):
  { } 7,/y=30, { }
EXEC echo %1
EXEC echo %2
EXEC echo %3
EXEC mortgage %1 %2 %3
EXEC pause
```

Example Menu Program

In this example program, the first menu defined in the source file (Main Menu) is displayed automatically when the menu is called up.

Submenus are called through the SHOW command included in the main menu definition.

If you select "Word Processing Menu" from the Main Menu in the following example, you are prompted for a password, and then the SHOW command under that ITEM indicates that Menu 5 is displayed.

```
MENU 1, Main Menu
ITEM Word Processing Menu
GETR Please enter your user ID: { } 08,, { }
SHOW 5ITEM MailEXEC EMAIL
MENU 5, Word Processing Menu
ITEM Microsoft Word
GETR Enter project code: { } 15,, { }
EXEC WORD5
ITEM WordPerfect
SHOW 20
ITEM WordStar 2000
```

```
EXEC WORDSTAR
MENU 20, WordPerfect Menu
ITEM WordPerfect 5.0
GETO choose file: { } 12,*.*,noparent+nosub { }
EXEC WPITEM Tutorial {BATCH}
EXEC WPTUTORIAL
```

Products that Work with NMENU

You can build on the functionality of NMENU with Saber Software Corporation's Saber Menu System for DOS. This product works with NMENU to provide advanced menuing capability, including

- Dynamic Item Configuration, which allows you to define a single menu file and have it display different options for different groups of users, depending on their particular needs.
- Login Processor, which works with the LOGIN utility to provide a formatted login shell that prompts for a user ID and password.
- Startup Assistance, which can display a multi-line broadcast message to users and allow the selection of terminate-and-stay-resident (TSR) programs. It also gives you behind-the-scenes configuration of workstations and sessions.
- Enhanced security, with password protection by menu, submenu, or item. It also provides built-in screen blanking.
- Unlimited customized help screen definitions by menu or item.

Saber Software Corporation also provides a seamless interface to Microsoft Windows through its iconic Menu System for Windows.

Using the same script files as NMENU and Saber Menu System for DOS, Menu System for Windows provides a replacement for Microsoft's Program Manager and makes Windows easier to set up, manage, and maintain on a network.

Features include:

- Centralized management and all .INI files
- The ability for users to create drag-and-drop personal menus and unlimited, customized views of the network
- Automatic PIF generation for DOS applications
- Dynamic item configuration, as with DOS menus
- Enhanced security

For more information about these products, contact Saber Software Corporation at (800) 338-8754 or (214) 361-8086.

NPRINT

Why Use NPRINT?

Use the NPRINT command to print files from outside an application to a network printer. These files must be DOS text files or files that have been formatted by an application for your specific printer.

Command Format

NPRINT ***path*** **[*option...*]**

For a complete explanation of "NPRINT," see *Print Server*.

NVER

Why Use NVER?

Use NVER to determine the version of software running on your file server and workstation. The software includes:

- NetBIOS
- IPX
- SPX
- LAN driver
- Shell
- Workstation operating system
- File server operating system

Command Format

NVER

Use a /C after the command to allow continuous scrolling. If /C is not used, NVER pauses after every screen of information.

View NetWare Version

To view your NetWare version, type

NVER <Enter>

Information similar to the following appears on your screen:

Figure 21 NetWare version information

```
NetBIOS Protocol Specification: V1.0

IPX Version: 2.15
SPX Version: 2.15

LAN Driver:  NetWare RX-Net/2 -- SMC PS110 V1.00
 (880817) V1.00 IRQ = 9, I/O Base =
   02E0h, RAM Buffer at C000:0

Shell:        V2.15 Rev. A
DOS:          MSDOS V3.30 on IBM_PC\

FileServer:   SIR
Novell   NetWare 386 V3.00 Rev. A   (9/3/92)
```

If you are attached to more than one file server, information for each file server is listed.

NWXTRACT

Task

- Extract and copy files from CD-ROM or the installation diskettes to the network or to local drives.

Command Syntax

```
NWXTRACT path filename | groupname [destination]
  [option...]
```

Command Parameters

Replace *path* with the path to the master data file (FILES.DAT).

NOTE: The master data file (FILES.DAT) is located on CD-ROM and on the installation diskettes.

Replace *filename* with the name of the file you want to extract from the diskettes or replace *groupname* with the name of the group of files you want to extract from the diskettes. A list of valid group names is available in online help.

Replace *destination* with the path where you want the extracted files copied to if you don't want them copied to the directories they were copied to at installation.

Replace *option* with any of the options in the following table.

Option	Syntax	Description
Server	/S=*server* | *server object*	Copies files to their normal location on the specified server.
Type	/T=*type*	Specifies the type of file to be extracted. Valid types: DOS, MAC, OS2, SER (server), UNX, WIN.
Help	/?	Displays online help.

Examples

To	Type
Extract FILER.EXE from the diskette and put it in the normal location on server ACCT	NWXTRACT A:FILER.EXE /S=ACCT

To	Type
Extract NCOPY.MSG from the diskette and put it on drive C:	NWXTRACT A:NCOPY.MSG C:
Extract the OS/2 FILER.EXE from the diskette and put it in the normal location on server ACCT	NWXTRACT A:FILER.EXE /S=ACCT /T=OS2
View online help	NWXTRACT /?

OFF

Why Use OFF?

Use OFF to clear information from the file server console screen.

Command Format

```
OFF
```

For a complete explanation of "OFF," see *System Administration*.

PAUDIT

Why Use PAUDIT?

Use PAUDIT to view the system accounting records. Accounting services must be installed on your file server.

Command Format

PAUDIT

Use /C after the command to allow continuous scrolling. If /C is not used, PAUDIT pauses after every screen of information.

Additional Information

PAUDIT allows you to view the system accounting records. It also records each time an intruder is detected trying to log in to the file server.

The audit file, NET$ACCT.DAT, contains a chronological record of all accounting records. When accounting is installed, an entry is placed in the file server's audit file each time a user logs in to or out of the file server.

The file server can also track and charge users for several services including blocks read, blocks written, connect time, service requests, and disk storage.

View System Accounting Records

To view the system's accounting records, complete the following steps:

Procedure

1. Change to the SYS:SYSTEM directory or map a search drive to the directory.
2. Type

   PAUDIT <Enter>

   You see a listing of all accounting records.

Redirect PAUDIT Data to a File and Print a Copy

PAUDIT generates a large amount of data. You can redirect the output of PAUDIT to a file to make it more accessible. This file can then be viewed or printed.

Redirect PAUDIT Data

To redirect PAUDIT data to a file, use the DOS piping feature. Type

PAUDIT > *filename* <Enter>

Print the PAUDIT Data File

To print a copy of the file, type

NPRINT *filename* <Enter>

You may want to erase or move the NET$ACCT.DAT file after you have redirected the information to a file. The system will generate a new NET$ACCT.DAT file for future accounting records.

However, the information is stored in a more compressed form (binary data) in the NET$ACCT.DAT file. If you have a billing program that reads the information directly from the NET$ACCT.DAT file, you may want to leave the information in that form rather than periodically erasing the file and starting over.

PCONSOLE

Why Use PCONSOLE?

Use PCONSOLE to:

- Set up the print server
- Control network printing
- View information about network printing.

For a complete explanation of "PCONSOLE," see *Print Server*.

PRINTCON

Why Use PRINTCON?

Use PRINTCON to define your preferred print options and set them up as unchanging configurations. PRINTCON serves as a kind of macro for printing with CAPTURE, NPRINT, and PCONSOLE.

If you never use CAPTURE, NPRINT, or PCONSOLE, you don't need PRINTCON. If you use them to print data that doesn't require any particular format, you may want to use the system default configuration.

If you choose to use PRINTCON, the network supervisor should use PRINTDEF first to set up a database of printer definitions. PRINTDEF defines which printers and forms are available on your file server.

For a complete explanation of "PRINTCON," see *Print Server*.

PRINTDEF

Why Use PRINTDEF?

Use PRINTDEF to set up a database of printer definitions.

The network supervisor can define functions and modes of operation for network printers, plotters, and other devices. You can also define the forms (types of paper) that the print devices will use.

The information defined in PRINTDEF is used by PRINTCON, NPRINT, and CAPTURE to configure print jobs.

Network users can use PRINTDEF to view the device functions, modes, and forms that the network supervisor has set up.

For a complete explanation of "PRINTDEF," see *Print Server*.

PROTOCOL

Why Use PROTOCOL?

Use PROTOCOL to view the protocol identification numbers (based on the communication protocol and media type) registered with your file server.

Use PROTOCOL REGISTER to register a new protocol ID number (based on the communication protocol and the media type) for a loadable module not currently registered with NetWare.

If you load the communications protocol module, try to bind it, and then get an error message to the effect that the module is not loaded, it probably means that the communications protocol or the media type contained in the driver is not registered with NetWare. Use PROTOCOL REGISTER to register the new media or protocol.

Command Format

PROTOCOL

or

PROTOCOL REGISTER *protocol frame id#*

For a complete explanation of "PROTOCOL," see *System Administration*.

PSC

Why Use PSC?

Print Server Operators can use PSC to quickly control print servers and network printers. Network users can use PSC to see the status of print servers and network printers.

Command Format

PSC PS [=]*printserver* P [=]*printernumber flaglist*

The three parameters can be in any order.

Replace *printserver* with the print server name.

Replace *printernumber* with the number of the printer.

Replace *flaglist* with one of the flags listed below:

STATus	FormFeed
PAUse	MOunt Form=*n*
ABort [K*eep*]	PRIvate
STOp [K*eep*]	SHared
STARt	CancelDown
Mark [*character*]	

Print Server operators can use any of the flags. Network users can use only the STATus flag.

For a complete explanation of "PSC," see *Print Server*.

PSERVER (Workstation Utility)

Why Use PSERVER?

Use PSERVER to load the print server on the dedicated workstation and to establish print services for the network.

Command Format

PSERVER.EXE [*fileserver*] *printserver*

Before you load the print server, you must set up a print server account and configuration files using PCONSOLE.

For a complete explanation of "PSERVER.EXE," see *Print Server*.

PSERVER (Console Utility)

Why Use PSERVER?

Use LOAD PSERVER to load the print server on the file server and establish print services for the network.

Command Format

LOAD PSERVER.NLM *printserver*

For a complete explanation of "PSERVER," see Print Server.

PURGE

Why Use PURGE?

Use PURGE to permanently delete previously erased files.

Command Format

PURGE [*filename* | *path*] [*/ALL*]

Replace *filename* with the name of the file you want to purge.

Replace *path* with the full directory path you want to purge.

Include the /ALL option to purge all recoverable files in your current directory and its subdirectories.

PURGE supports wildcard characters.

Additional Information

If you use PURGE alone or with *.*, you will lose all recoverable files in your current directory.

If your workstation is attached to more than one file server, PURGE deletes only those recoverable files *that you own* and that are located on the file server your current drive is mapped to.

When you delete a file on a NetWare v3.*x* file server, the file and disk space it occupies remain until the server needs disk space. Any file you delete is stored as a recoverable file and can be identified by its deletion date. (See "SALVAGE" on page 284.)

IMPORTANT: When the NetWare v3.*x* file server needs space for new files, it automatically purges recoverable files, beginning with the oldest deleted file. You can control which files are deleted first by using PURGE and SALVAGE regularly.

Purge Files

Purge Files in Current Directory

To delete permanently all the recoverable files in your current directory, type

PURGE <Enter>

You see the following message:

```
Only specified files on fileserver have been purged from
  current directory.
```

Purge Files in Current Directory and Subdirectories

To delete permanently all the recoverable files in your current directory and all its subdirectories, type

PURGE /ALL <Enter>

You see the following message:

```
Only specified files on fileserver have been purged from
  current directory and its subdirectories.
```

Purge a Group of Files

Use wildcards to purge all recoverable files with the same extension. For example, to purge all files with the extension .OBJ, type

PURGE *.OBJ <Enter>

To purge all recoverable files that begin with the letters *name*, type

PURGE NAME *.* <Enter>

Purge Files on another Server

Use PURGE to delete files from other NetWare v3.*x* file servers. PURGE will not delete files from NetWare v2.*x* file servers.

If your default file server is a NetWare v3.*x* called ACCT and you want to purge recoverable files from NetWare v3.*x* file server MKTG that is mapped to drive G:, change to drive G: and type

PURGE G: <Enter>

Your recoverable files from file server MKTG are deleted permanently.

To delete all files with the .OLD extension from file server MKTG, type

PURGE G: *.OLD <Enter>

RCONSOLE

Why Use RCONSOLE?

Use RCONSOLE to access the file server console from a workstation and turn the workstation into a virtual file server console. You can then load and unload modules, execute all console commands, and copy files to the file server's NetWare directories or DOS partition.

Command Format

```
RCONSOLE
```

Function Keys

The number pad plus <+> and minus <-> keys scroll forward or backward through file server screens if you have loaded modules that activate a screen. All other keys on the keyboard function exactly as if you were at the file server console. RCONSOLE uses the following keys to perform specialized functions:

Key	Function
Number pad < - >	Scrolls you backward through the active console screens or sessions.
Number pad < * >	Scrolls you forward through the active console screens or sessions.
<Shift><Esc>	Returns you to the list of servers that have REMOTE and RSPX loaded. Allows you to exit and use the workstation as a workstation.

For more information about using a remote console, see *System Administration*.

REGISTER MEMORY

Why Use REGISTER MEMORY?

Use REGISTER MEMORY if the operating system does not recognize installed memory above 16 MB.

Command Format

REGISTER MEMORY ***start length***

Command Parameters

Replace *start* with the starting hexadecimal address where the memory beyond 16 MB begins. In most instances, this is 0x1000000, which equates to 16 MB.

Replace *length* with a hexadecimal value of the memory installed beyond 16 MB. This number must be an even paragraph boundary that is divisible by 0x10.

For a complete explanation of "REGISTER MEMORY," see *System Administration*.

REMOTE

Why Use REMOTE?

Use REMOTE to allow access to the file server console from a workstation. For REMOTE to be fully functional, RSPX must also be loaded.

Command Format

```
LOAD [path] REMOTE [password]
```

Command Parameters

Replace *path* with a full directory path to the directory containing the name space module; begin with a DOS drive letter or a NetWare volume name.

If no path is specified, the operating system assumes that the loadable module is located in the SYS:SYSTEM directory.

Replace *password* with the password that you want all remote administrators of the file server to use.

For a complete explanation of "REMOTE," see *System Administration*.

REMOVE

Why Use REMOVE?

Use REMOVE to delete a user or a group from the trustee list of a file or a directory.

Command Format

REMOVE [USER | GROUP] ***name*** **[[FROM]** ***path*****] [***option***...]**

Replace *name* with the name of the user or group whose name you want to remove.

Replace *path* with a directory path leading to and including the volume, directory, subdirectory, or file from which you want to remove a user or a group.

Replace *option* with one or both of the options below.

[-SUBdirectories]

Include to remove trustee from all subdirectories in path.

[-Files]

Include to remove trustee from files. Include with the Supervisory option to remove trustees from all files in the directory and subdirectories of path.

REMOVE supports wildcard characters.

Additional Information

You can also use SYSCON or MAKEUSER to remove trustees from directories and files.

To view the trustee list of a file or a directory, use TLIST.

You must be attached to a file server before you can remove a user or a group from the trustee list of a file or a directory on that file server. You must also have the Access Control right in that directory.

NOTE: GRANT, REVOKE, and REMOVE are closely related. When you use GRANT to grant even one trustee right to a user or a group, the user or group is automatically enrolled on that directory's trustee list and then given the specified right.

If you use REVOKE to revoke trustee rights from a user or a group, the user or group remains a trustee of that directory. Use REMOVE to remove the user or group from that directory.

USER and GROUP are optional. If a user and a group have the same name, however, you must use the constant GROUP before the name of the group in your REMOVE command. The default always removes the user.

For a complete explanation of trustee rights, see "Security" in *Concepts*.

Remove a User from the Trustee List of a File or a Directory

Remove a User from Your Default Directory

Suppose you want to remove user DAVID from the trustee list of your default directory. Type

REMOVE USER DAVID <Enter>

Remove a User from a File in Your Default Directory

To remove user DAVID from the trustee list of file TASK in your default directory, type

REMOVE USER DAVID FROM TASK <Enter>

Remove a User in Any Directory

Suppose you want to remove user SIMONE from the trustee list of the PROGRAMS directory, which is not your default directory. Also suppose drive G: is mapped to the PROGRAMS directory as follows:

Drive G: = COUNT/SYS: PROGRAMS

To remove user SIMONE from the trustee list of the PROGRAMS directory, type

REMOVE USER SIMONE FROM G: <Enter>

Remove a User from a File in Any Directory

Suppose you want to remove user SIMONE from the trustee list of the START file in the PROGRAMS directory, which is not your default directory. Also suppose drive G: is mapped to the PROGRAMS directory as follows:

Drive G: = COUNT/SYS: PROGRAMS

To remove user SIMONE from the trustee list of the START file, type

REMOVE USER SIMONE FROM G:START <Enter>

Remove a Group from the Trustee List of a File or a Directory

Remove a Group from Your Default Directory

To remove group STAFF from the trustee list of your default directory, type

REMOVE GROUP STAFF <Enter>

Remove a Group from a File in Your Default Directory

To remove group STAFF from the trustee list of file START from your default directory, type

REMOVE GROUP STAFF FROM START <Enter>

Remove a Group from the Trustee List in Any Directory

Suppose you want to remove group STAFF from the trustee list of the PROGRAMS directory, which is not your default directory. Also suppose drive G: is mapped to the PROGRAMS directory as follows:

Drive G: = COUNT/SYS: PROGRAMS

To remove group STAFF from the trustee list of the PROGRAMS directory, type

REMOVE GROUP STAFF FROM G: <Enter>

Remove a Group From a File in Any Directory

Suppose you want to remove group STAFF from the trustee list of the file START in the PROGRAMS directory, which is not your default directory. Also suppose drive G: is mapped to the PROGRAMS directory as follows:

Drive G: = COUNT/SYS: PROGRAMS

To remove group STAFF from the trustee list of the START file, type

REMOVE GROUP STAFF FROM G:START <Enter>

REMOVE DOS

Why Use REMOVE DOS?

Use REMOVE DOS to remove DOS from the file server's memory. The memory that was used for DOS is returned to the operating system for the file caching.

Use REMOVE DOS to prevent loadable modules from being loaded from the file server's DOS drives (floppy disk drives or a DOS partition on the hard drive).

Use REMOVE DOS to allow warm booting of the file server with the EXIT command.

Command Format

```
REMOVE DOS
```

For a complete explanation of "REMOVE DOS," see *System Administration*.

RENDIR

Why Use RENDIR?

Use RENDIR to rename a directory.

Command Format

RENDIR *path* [TO] *directoryname*

Replace *path* with the directory path leading to and including the directory or subdirectory you want to rename.

Replace *directoryname* with the new name of the directory.

Additional Information

When you rename a directory, you change only the directory name. You do not affect the trustee list for that directory. Users who were granted rights in the directory before it was renamed retain their rights. However, drive mappings in login scripts (if they exist) must be changed to reflect the new name of the directory.

You must be attached to a file server before you can change the name of a directory on that file server. You must also have the Modify right in the directory to rename subdirectories in that directory.

Rename Your Directories

Rename Your Default Directory

Suppose you want to rename your default directory to PROGRAMS. Use a period (.) to represent your default directory. Type

RENDIR . PROGRAMS <Enter>

You see a message on your screen, indicating that the default directory has been renamed PROGRAMS.

Rename Any Directory

Suppose you want to change the name of the ACCT directory to PROGRAMS. Also suppose drive G: is mapped to ACCT in volume SYS: on file server RECORDS as follows:

Drive G: = RECORDS/SYS:ACCT

To rename the directory, type

`RENDIR G: PROGRAMS` <Enter>

You can also use the character combination :/ to represent your default file server and volume (RECORDS/SYS):

`RENDIR :/ACCT PROGRAMS` <Enter>

RESET ROUTER

Why Use RESET ROUTER?

Use RESET ROUTER to reset the router table in the file server if this task becomes inaccurate or corrupted.

For example, if several file servers or bridges on your network go down, any packets sent to or through their routers are lost.

If you reset the routers in the file servers that are up, the router sends a request (or an advertising packet) to nearby file servers to verify any other networks they know about. From this information, the router builds a new, accurate router table.

This command cannot be used at the console when the file server is down.

Command Format

```
RESET ROUTER
```

For a complete explanation of "RESET ROUTER," see *System Administration*.

REVOKE

Why Use REVOKE?

Use REVOKE to revoke trustee rights from a user or group in a file or directory.

Command Format

REVOKE *rightslist...*[FOR *path*] FROM [USER | GROUP] *name* [*option...*]

Replace *rightslist* with one or more of the following. An explanation of each right follows this listing:

ALL	*E*rase
*S*upervisory	*M*odify
*R*ead	*F*ile Scan
*W*rite	*A*ccess Control
*C*reate	

NOTE: Only the abbreviation is recognized at the command line. You must insert a space between each right.

Replace *path* with any directory path leading to the volume, directory, subdirectory, or file where you want to revoke rights.

The constants USER and GROUP are optional unless a user and a group share the same name.

Replace *name* with the name of the user or the group whose rights you want to revoke.

REVOKE supports wildcard characters.

Replace *option* with one or both of the options below.

[-SUBdirectories]

Include to revoke specified rights from all subdirectories.

[-Files]

Include with the Supervisory option to revoke rights from all files in the directory and subdirectories of path.

Rights

ALL

Include this right to revoke all assigned trustee rights from the directory, its files, and subdirectories.

Supervisory

Include this right to revoke all rights to the directory, its files, and subdirectories. The Supervisory right overrides any restrictions placed on subdirectories or files with an Inherited Rights Mask.

Read

Include this right to revoke from users the right to open and read files.

Write

Include this right to revoke from users the right to open and to write to files.

Create

Include this right to revoke from users the right to create and to write to files.

Erase

Include this right to revoke from users the right to delete a directory, its files, and subdirectories.

Modify

Include this right to revoke from users the right to change directory and file attributes. It also revokes the right to rename the directory, its files, and subdirectories.

File Scan

Include this right to revoke from users the right to see files in a directory.

Access Control

Include this right to revoke from users the right to modify file or directory trustee assignments and Inherited Rights Masks. Access Control allows you to revoke all rights except Supervisory.

Additional Information

You can also use SYSCON to revoke trustee rights.

You must be attached to a file server before you can revoke trustee rights in a file or a directory on that file server. (See “ATTACH” on page 45.) You must also have the Access Control right in the file or the directory.

You can revoke trustee rights from only one user or one group with each REVOKE command.

NOTE: GRANT, REVOKE, and REMOVE are closely related. When you use GRANT to grant even one trustee right to a user or a group, the user or group is automatically enrolled on that directory’s trustee list and then given the specified right.

If you use REVOKE to revoke trustee rights from a user or a group, the user or group remains a trustee of that directory. Use REMOVE to remove the user or group from that directory.

USER and GROUP are optional. If a user and a group have the same name, however, you must use the constant GROUP before the name of the group in your REVOKE command. The default is to revoke rights from the user.

For a complete explanation of trustee rights, see “Security” in *Concepts*.

Revoke User Rights from a File or a Directory

Revoke Rights in Your Default Directory

Suppose you want to revoke Access Control and Modify rights from user REIKO in your default directory. Type

REVOKE A M FROM USER REIKO <Enter>

If you want to revoke all trustee rights from user REIKO, type

REVOKE ALL FROM USER REIKO <Enter>

Revoke Rights from a File in Your Default Directory

Suppose you want to revoke Access Control and Modify rights from REIKO in the TASK file in your default directory. Type

REVOKE A M FOR TASK FROM USER REIKO <Enter>

Revoke Rights in Any Directory

Suppose you want to revoke Erase and Create rights from user JULIAN in the DATA directory, which is not your default directory. Drive G: is mapped to DATA as follows.

Drive G: = RECORDS/SYS: DATA

To revoke these rights from user JULIAN, type

REVOKE E C FOR G: FROM JULIAN <Enter>

Revoke Rights from a File in Any Directory

You want to revoke from user JULIAN Write and Erase rights for the TASK file in the DATA directory, which is not your default directory. Drive G: is mapped to the DATA subdirectory as follows.

Drive G: = RECORDS/SYS: DATA

To revoke these rights from user JULIAN, type

REVOKE W E FOR G:TASK FROM JULIAN <Enter>

Revoke Group Rights from a File or a Directory

Revoke Rights from Your Default Directory

Suppose you want to revoke Access Control and Modify rights from group STAFF in your default directory. Type

REVOKE A M FROM GROUP STAFF <Enter>

If you want to revoke all trustee rights from group STAFF in your default directory, type

REVOKE ALL FROM GROUP STAFF <Enter>

Revoke Rights from a File in Your Default Directory

Suppose you want to revoke Access Control and Modify rights from group STAFF in the STOCK file in your default directory. Type

REVOKE A M FOR STOCK FROM GROUP STAFF <Enter>

Revoke Rights from Any Directory

Suppose you want to revoke Access Control and Modify rights from group STAFF in the DATA directory, which is not your default directory. Also suppose drive G: is mapped to DATA as follows:

Drive G: = RECORDS/SYS: DATA

To revoke Access Control and Modify rights from group STAFF, type

REVOKE A M FOR G: FROM GROUP STAFF <Enter>

Revoke Rights from a File in Any Directory

Suppose you want to revoke Access Control and Modify rights from group STAFF in file STOCK in the DATA directory, which is not your default directory.

Also suppose drive G: is mapped to the DATA subdirectory as follows:

Drive G: = RECORDS/SYS: DATA

To revoke Access Control and Modify rights from group STAFF, type

REVOKE A M FOR G:STOCK FROM GROUP STAFF <Enter>

RIGHTS

Why Use RIGHTS?

Use RIGHTS to view your effective rights in a file or a directory.

Command Format

RIGHTS [*path*]

Replace *path* with any directory path leading to the volume, directory, subdirectory, or file where you want to view your effective rights.

Additional Information

Effective rights are the rights that you can actually exercise in a given directory, subdirectory, or file. Effective rights are determined by a user's trustee rights.

If the trustee rights have been assigned, they become the effective rights.

If no trustee rights have been assigned, the effective rights are determined by the rights "held in common" in the Inherited Rights Mask and the previous directory level's effective rights (either the parent directory for directory effective rights, or the current directory for file effective rights).

For a complete explanation of rights, see "Security" in *Concepts*.

View Effective Rights in Directories

View Effective Rights in Your Default Directory

To view your effective rights in your default directory, type

RIGHTS <Enter>

If your effective rights include all rights, the following information appears:

Figure 22 Effective rights in a directory

```
SEVER1\SYS:PUBLIC\UTIL
Your Effective Rights for this directory are [SRWCEMFA]
     You have Supervisor Rights to Directory.      (S)
    *May Read from File.                           (R)
    *May Write to File.                            (W)
     May Create Subdirectories and Files.          (C)
     May Erase Directory.                          (E)
     May Modify Directory.                         (M)
     May Scan for Files.                           (F)
     May Change Access Control.                    (A)

*Has no effect in directory.

Entries in Directory May Inherit [SRWCEMFA] rights.
You have ALL RIGHTS to Directory Entry.
```

View Effective Rights in Any Directory

Suppose you want to view your effective rights in the PROJECTS directory. Also suppose drive G: is mapped to the PROJECTS directory on file server RECORDS as follows:

Drive G: = RECORDS/SYS: PROJECTS

Type

RIGHTS G: <Enter>

You see information similar to the following on your screen:

```
RECORDS/SYS:PROJECTS
Your Effective Rights for this directory are [ RW F ]
    May Read from File.(R)
    May Write to File.(W)
    May Scan for Files.(F)
Entries in Directory May Inherit [ RW F ] rights.
```

View Effective Rights in Files

View Effective Rights of a File in Default Directory

To view your effective rights in the TASK file in your default directory, include the name of the file with the command. Type

RIGHTS TASK <Enter>

If your effective rights include all rights, the following information appears:

Figure 23 Effective rights in a file

```
SERVER1\SYS:PUBLIC\TASK
Your Effective Rights for this file are [SRWCEMFA]
          You have Supervisor Rights to File. (S)
          May Read from File. (R)
          May Write to File. (W)
         *May Create Subdirectories and Files.(C)
          May Erase File. (E)
          May Modify File. (M)
          May Scan for File. (F)
          May Change Access Control. (A)

*Create is necessary to salvage a file that has been deleted.

          You have ALL RIGHTS to Directory Entry.
```

View Effective Rights of a File in Any Directory

Suppose you want to view your effective rights in the ERRAND file in the BUSINESS directory. Also suppose drive G: is mapped to the BUSINESS directory on file server CORP as follows:

Drive G: = CORP/SYS: BUSINESS

Type

RIGHTS G:ERRAND <Enter>

You see information similar to the following on your screen:

```
CORP\SYS:BUSINESS\ERRAND
Your Effective Rights for this file are [ RW F ]
    May Read from File.(R)
    May Write to File.(W)
    May Scan for File.(F)
Entries in File May Inherit [ RW F ] rights.
```

ROUTE

Why Use ROUTE?

Use ROUTE to allow NetWare to pass packets (frames) through IBM bridges on a Token-Ring cabling system. TOKEN.LAN must be loaded before ROUTE can be loaded.

All NetWare workstations must use the new Token-Ring driver.

Command Format

LOAD [*path*] ROUTE [*parameter...*]

Command Parameters

Replace *path* with a full directory path to the directory containing the module; begin with a DOS drive letter or a NetWare volume name. If no *path* is specified, the operating system assumes that the loadable module is located in the SYS:SYSTEM directory.

Replace *parameter* with one or more of the following.

BOARD = *number*	REMOVE = *number*
CLEAR	RSP = NR | AR | SR
DEF	TIME = *number*
GRB	UNLOAD
MBR	

For a complete explanation of "ROUTE," see *System Administration*.

RPRINTER

Why Use RPRINTER?

Use RPRINTER to connect a remote printer to or disconnect a remote printer from a print server.

Command Format

RPRINTER [*printserver printernumber*] [-r]

The "-r" option disconnects the remote printer from the print server.

If you type only "RPRINTER" without other parameters, a menu is displayed which allows you to choose the print server and printer number.

For complete information on "RPRINTER," see *Print Server*.

RS232

Why Use RS232?

RS232 is an asynchronous communications driver that initiates the file server's communication port and transfers screen and keystroke information to and from REMOTE.NLM.

Command Format

LOAD [*path*] RS232 [*comm port*] [*modem speed*]

If you want the file server to be accessible to asynchronous connection links, you must load RS232.NLM after you load REMOTE.NLM.

Command Parameters

If the module is in the SYS:SYSTEM directory, you do not need to specify a path. If the module is in a different directory, replace *path* with the directory path where the module is located, beginning with a DOS drive letter or a NetWare volume name.

Replace *comm port* with the communications port number (1 or 2). If you do not enter this number when entering the LOAD command, you are prompted to enter it.

Replace *modem speed* with the baud rate (2400, 4800, or 9600). If you do not enter the modem speed when entering the LOAD command, you are prompted to choose a baud rate.

The file server can now be accessed using a remote console. For complete instructions on activating and using a remote console see "Remote Management" in *System Administration*.

RSPX

Why Use RSPX?

Use RSPX to allow the file server to be accessed with the RCONSOLE utility.

REMOTE must be loaded before RSPX is loaded. RSPX loads the SPX driver for REMOTE and advertises the server to the workstations on the network.

Command Format

```
LOAD [path] RSPX
```

Command Parameters

Replace *path* with a full directory path to the directory containing the name space module; begin with a DOS drive letter or a NetWare volume name. If no path is specified, the operating system assumes that the loadable module is located in the SYS:SYSTEM directory.

Additional Information

Remote console requires two NLMs (RSPX and REMOTE) and a menu utility (RCONSOLE). You need to first load REMOTE and then RSPX. Then you can access the file server console with the RCONSOLE utility from any workstation on the network that is using the IPX/SPX protocol.

RCONSOLE is in the SYS:SYSTEM directory, so to use it you must be logged in as SUPERVISOR or have a trustee assignment of Read and File Scan rights in the SYS:SYSTEM directory.

For a complete explanation of RSPX, see “Remote Management” in *System Administration*.

SALVAGE

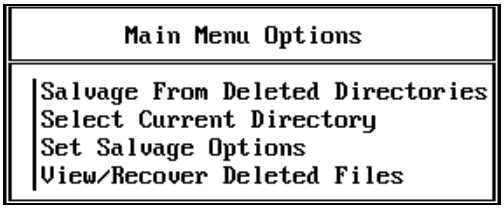
Why Use SALVAGE?

Use SALVAGE to

- View all deleted files;
- Recover or purge files that have been erased from your workstation or other files to which you have rights;
- Restore files to their original directories or to the DELETED.SAV directory.

The tasks in SALVAGE are organized according to the list in this menu:

Figure 24 SALVAGE main menu



Task	Page
Salvage from Deleted Directories	
Salvage files from deleted directories	“Salvage Files from Deleted Directories” on page 285
Purge files from deleted directories	“Purge Files from Deleted Directories” on page 286
Choose Current Directory	
Choose current directory	“Choose Current Directory” on page 287
Set Salvage Options	
Sort salvageable files	“Sort Salvageable Files” on page 288

Task	Page
View/Recover Deleted Files	
Salvage files from current directory	“Salvage Files from Current Directory” on page 288
Purge files from current directory	“Purge Files from Current Directory” on page 289

Additional Information

When you delete a file on a NetWare v3.*x* file server, the file and disk space it occupies remain until the server needs disk space. Any file you delete is stored as a recoverable file and can be identified by its deletion date.

Every file you delete is stored in the directory from which it was deleted. If you delete the *directory* in which deleted files are stored, the files are saved in a hidden directory called DELETED.SAV. Every volume has a DELETED.SAV directory.

Any file you salvage is restored, with its original trustee rights, to the directory from which it was deleted. If the directory no longer exists or if the file was deleted from DELETED.SAV, the file is salvaged to DELETED.SAV. You can copy a file from directory DELETED.SAV to any directory.

If you try to salvage more than one file with the same filename, the program prompts you to rename one of the files.

SALVAGE supports wildcard characters.

Salvage Files from Deleted Directories

Procedure

1. Enter SALVAGE and choose “Salvage From Deleted Directories” from the “Main Menu Options” window.

   If you have more than one volume, the “Select Volume” window appears. Choose the volume you want.

2. To salvage files using wildcards or to salvage a specific file, type the information in the “Erased File Name Pattern To Match” window.

   To view all salvageable files, press <Enter>.

3 Complete one of the following.

- *Salvage a single file.* Choose the file you want to salvage. You see file information and the "Recover This File" window. Choose "Yes."

  NOTE: If you highlight ".." or "/" while marking salvageable files with <F5> or <F6>, SALVAGE will not execute properly. Do not highlight either of these symbols when marking multiple files.

- *Salvage multiple files.* Use the Mark key (<F5> or <F6>) to choose multiple files. Choose "Yes" from the confirmation box.

- *Salvage multiple files using wildcards.* To match a filename pattern or extension, press the Mark key (<F5> or <F6>) and type the pattern you want to match.

Once you match the pattern of the files you want to salvage, press <Enter> and choose "Yes" from the "Recover ALL Marked Files?" confirmation box.

4 Press <Esc> to exit SALVAGE.

Purge Files from Deleted Directories

Procedure

1 Enter SALVAGE and choose "Salvage From Deleted Directories" from the "Main Menu Options" window.

If you have more than one volume, the "Select Volume" window appears. Choose the volume you want.

2 To purge files using wildcards or if you want to purge a specific file, type the information in the "Erased File Name Pattern To Match" window.

To view all the salvageable files from all deleted directories, press <Enter>.

3 Complete one of the following:

- Purge a single file. Highlight the file you want to purge and press <Delete>. File information appears on the screen. Choose "Yes" from the "Purge This File" window.

  NOTE: If you highlight ".." or "/" while marking salvageable files with <F5> or <F6>, SALVAGE will not execute properly. Do not highlight either of these symbols when marking multiple files.

- Purge multiple files. Use the Mark key (<F5> or <F6>) to highlight multiple files. Press <Delete> and then choose "Yes" from the "Purge ALL Marked Files?" confirmation box.
- Purge multiple files using wildcards. To match a filename pattern, extension, or other pattern, press <F5> or <F6> and type the pattern.

Once you match the pattern of the files you want to purge, press <Delete> to see the "Purge ALL Marked Files?" confirmation box. Choose "Yes."

4 Press <Esc> to exit SALVAGE.

Choose Current Directory

Suppose you erase a file called MAY.RPT from the directory RECORDS/SYS:HOME/JIRO and then you want to recover it.

Procedure

1 Enter SALVAGE and choose "Select Current Directory" from "Main Menu Options."

2 If the directory path that appears is not the path you need, backspace over the information.

Type the correct directory path

RECORDS\SYS:\HOME\JIRO <Enter>

This is your new default directory.

If you are unsure of the directory path, use the <Insert> key to choose the file server, volume, and directory that lead to the file you want to salvage. You *must* choose a NetWare v3.*x* file server.

3 Press <Enter> and then <Esc>.

4 Follow the steps under "Salvage Files from Current Directory" on page 288 to salvage the file.

5 Press <Esc> to exit SALVAGE.

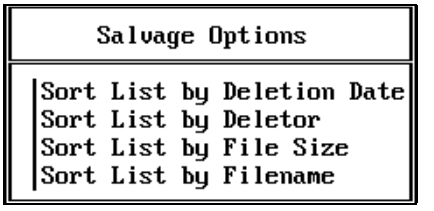
Sort Salvageable Files

Procedure

1. Enter SALVAGE and choose “Set Salvage Options” from the “Main Menu Options” window.

   The “Salvage Options” window appears:

   Figure 25 Salvage Options menu

2. Choose the method you want to use to sort your salvageable files.

   Once you choose a method, you return automatically to the “Main Menu Options” window.

Salvage Files from Current Directory

Procedure

1. Enter SALVAGE and choose “View/Recover Deleted Files” from “Main Menu Options.”

   If you have more than one volume, choose the volume you want from the “Select Volume” window.

   NOTE: If you have too many salvageable files to fit on the screen, you see the heading “(Incomplete).” Scroll through the list to see the entire list or use the Mark key (<F5> or <F6>) to mark a file pattern. Then exit the list and reenter it.

   You can also salvage or purge files, exit the list, and reenter it to see a rebuilt list of salvageable files.

2. If you want to salvage files using wildcards or salvage a specific file, type the information in the “Erased File Name Pattern To Match” window.

   If you want to view all salvageable files, press <Enter>.

3. To salvage a file, complete one of the following.

   - *Salvage a single file.* Choose the file you want to salvage. You see the "Recover This File?" box. Choose "Yes."
   - *Salvage multiple files.* Use the Mark key (<F5> or <F6>) to choose multiple files. When you choose multiple files, you see the confirmation box "Recover ALL Marked Files?" Choose "Yes."
   - *Salvage multiple files using wildcards.* To match a filename pattern, extension, or other pattern, press <F5> or <F6>. You can type in the pattern you want to match.

   Once you match the pattern of the files you want to salvage, press <Enter> to see the "Recover ALL Marked Files?" confirmation box. Choose "Yes."

4. Press <Esc> to exit SALVAGE.

Purge Files from Current Directory

Procedure

1. Enter SALVAGE and choose "View/Recover Deleted Files" from "Main Menu Options."
2. To purge files using wildcards or to purge a specific file, type the information in the "Erased File Name Pattern To Match" box.

   If you want to view all the salvageable files from all deleted directories, press <Enter>.

3. Complete one of the following.

   - *Purge a single file.* Highlight the file you want to purge and press <Delete>. Choose "Yes" from the "Purge This File" window.
   - *Purge multiple files.* Use the Mark key (<F5> or <F6>) to highlight multiple files. Press <Delete> and choose "Yes" from the "Purge ALL Marked Files?" confirmation box.
   - *Purge multiple files using wildcards.* To match a filename pattern, extension, or other pattern, press the Mark key (<F5> or <F6>). Type the pattern you want to match.

Once you match the pattern of the files you want to purge, press <Delete> and choose “Yes” from the “Purge ALL Marked Files?” confirmation box.

4. Press <Esc> to exit SALVAGE.

SEARCH

Why Use SEARCH?

Use SEARCH to indicate where the file server should look for loadable module files and .NCF batch command files. The default search path is SYS:SYSTEM.

You can add other search paths or delete current search paths. You can also use SEARCH to display current search paths on the file server.

Command Format

SEARCH [*parameter*]

Replace *parameter* in the command format with one of the following options:

Command Options

ADD [*number*] *path*

Use this parameter to add or insert a new search path. Adding a number inserts a path at the specified number.

DEL *number*

Use this parameter to delete the specified search path.

For a complete explanation of "SEARCH," see *System Administration*.

SECURE CONSOLE

Why Use SECURE CONSOLE?

Use SECURE CONSOLE to implement the following security measures.

- To prevent loadable modules from being loaded from any directory other than SYS:SYSTEM
- To prevent entry into the OS debugger
- To prevent anyone other than a console operator from changing the date and time
- To remove DOS from the file server

Command Format

```
SECURE CONSOLE
```

For a complete explanation of "SECURE CONSOLE," see *System Administration*.

SECURITY

Why Use SECURITY?

Use SECURITY to check for possible file server security violations. Because SECURITY is run from the SYS:SYSTEM directory, you must have supervisor rights or equivalent to run SECURITY.

Command Format

```
SECURITY
```

Use /C after the command to allow continuous scrolling. If /C is not used, SECURITY pauses after every screen of information.

Additional Information

SECURITY checks for possible security violations by examining the bindery, a special database maintained by each NetWare v2.*x* and v3.*x* file server.

The bindery contains information about each object (usually a user or a user group). SECURITY reports the possible security violations as explained on subsequent pages.

SECURITY identifies potential security problems on your network, but it does not correct them. You must take the appropriate measures to correct any security problems.

The output of SECURITY often fills more than one screen on the computer. You can redirect the output to a file, and then print the file.

No Password Assigned

Anyone can log in with an object's username if the object does not have a password. If a guest account does not have a password, anyone can obtain a list of all users on a file server through this account.

Failing to require a secure password for each object is a major weakness in network security. The potential damage depends on the privileges assigned to the object with no password. For example, if the object is security equivalent to the supervisor, an intruder will have full access to the file server.

Insecure Passwords

A secure network is hard to maintain if an object has a password that is easy to guess. The SECURITY command checks for passwords that are the same as the username and for accounts that are not required to have a password of at least five characters.

SECURITY ensures that users are required to change their passwords at least every 60 days, that they do not have unlimited grace logins after a password has expired, and that they are required to use a new and unique password each time they change their password.

Supervisor Equivalence

SECURITY checks for objects that are security equivalent to the network supervisor. As the number of users with supervisor privileges increases, your security risks multiply. However, you still need more than one way into the system.

You can assign more than one network supervisor. For example, if you assign two users, both can log in to the file server as SUPERVISOR with the same password. Even if you have only one network supervisor, you can create a plausible but fictitious user and make that user supervisor equivalent.

The network supervisor should always have two user accounts, one as SUPERVISOR and the other as a regular network user. The network supervisor should be logged in as SUPERVISOR only when there are supervisor tasks to perform.

Any time a user with supervisor rights leaves a workstation unattended, anyone can gain access to the file server.

Root Directory Privileges

SECURITY reports any users who have been granted access privileges in the root directory of any volume.

Granting a user privileges at the root directory of a volume gives that user privileges to the entire volume unless those rights are specifically revoked at a lower level. You should be especially cautious about granting the Access Control right in a root directory. Users with the Access Control right can grant themselves all other rights in any subdirectory on the volume.

You can improve network security by granting each user privileges only to the specific directories he or she accesses.

Login Scripts

Since the login script is kept in the user's mail directory, an intruder can create a login script file for any user who does not already have one. The MAIL directory gives the Create right to other users to allow them to deliver mail. Each user should have a login script to prevent this potential security weakness.

Excessive Rights

SECURITY checks the standard directories to see that users do not have more rights in these directories than they should have. Users or objects should have the following rights in each directory.

Figure 26 User rights

```
SYS:SYSTEM        [       ]
SYS:PUBLIC        [ R   F ]
SYS:LOGIN         [ R   F ]
SYS:MAIL          [ W C   ]
```

This check also ensures that the only object that has more rights than Create and Write in the subdirectories of SYS:MAIL is the user to whom the mail directory belongs.

Check for Security Violations

Use Security to Check the Network

In the SYS:SYSTEM directory, type

SECURITY <Enter>

You see the following message on the screen.

```
Security Evaluation UtilityChecking for possible network
  security violations, please wait...
```

SECURITY checks the bindery and report potential security violations. The information scrolls down the screen. To stop the information from scrolling, press <Ctrl><S> simultaneously. Press any key again to continue scrolling.

Redirect the Output to a File

To redirect the SECURITY evaluation to a file in the SYS:SYSTEM directory, use the DOS piping feature. Type

SECURITY > *filename* <Enter>

Print a Copy of the Security Evaluation

To print a copy of the output, type

NPRINT *filename* <Enter>

SEND (Command Line Utility)

Why Use SEND?

Use SEND to send a brief message from your workstation to one or more users or groups on your network.

To send messages from the filer server to workstations, use the SEND console command. You must be attached to another file server to send a message to a user or group on that file server.

Command Format

Send a message to one or more users or groups

```
SEND "message" [TO] [USER | GROUP] [fileserver/] name
  [[and |, fileserver]name...]
```

Send a message to the file server

```
SEND "message" [TO] [server/]CONSOLE
```

Send a message to all workstations

```
SEND "message" [TO] [server/]EVERYBODY
```

Send a message to one or more specified workstations

```
SEND "message" [TO] [STATION] [fileserver/]n [,n...]
```

Replace *message* with any string of characters up to 44 characters long minus the number of characters in your username.

Include *fileserver* only if the user to whom you want to send a message is not logged in to your server. Replace *fileserver* with the name of the user's server.

Replace *name* with the name of the user or the group you want to send a message to. If you send a message to one or more users or groups, separate the name of the user or the group by commas or blank spaces.

Replace *n* with a list of workstation numbers. Separate workstation numbers by commas or blank spaces.

Include GROUP in a SEND command only if both a user and a group have the same name and you want to send a message to the group.

Additional Information

Before you can send a message to a user or a group on another file server, you must be attached to that file server. (See “ATTACH” on page 45.)

Only IBM workstations support SEND.

Send a Message to One or More Users

Send a Message to Two Users on Your Default File Server

Suppose you want to send the following message to users CINDY and ERIC: “Meeting at 1:30 today.” Also suppose that CINDY and ERIC are logged in to your default file server. Type

SEND "MEETING AT 1:30 TODAY" CINDY,ERIC <Enter>

A confirmation message appears, telling you your message was sent.

Send a Message to a User on Another File Server

Suppose you want to send the following message to ISABEL: “Meeting at 1:30 today.” Also suppose ISABEL is logged in to file server SALES, which is not your default server. Type

SEND "MEETING AT 1:30 TODAY" SALES/ISABEL <Enter>

A confirmation message appears, telling you your message was sent.

Send a Message to a Group

Send a Message to a Group on Your Default File Server

Suppose you want to send the following message to group TEAM4: “Meeting at 1:30 today.” Also suppose that the members of TEAM4 are logged in to your default file server. Type

SEND "MEETING AT 1:30 TODAY" TEAM4 <Enter>

A confirmation message appears, telling you your message was sent.

Send a Message to a Group on Another File Server

Suppose you want to send the following message to group TEAM4: “Meeting at 1:30 today.” Also suppose that the members of TEAM4 are logged in to file server SALES, which is not your default server. Type

SEND "MEETING AT 1:30 TODAY" SALES/TEAM4 <Enter>

A confirmation message appears, telling you your message was sent.

Send a Message to the File Server

Suppose you want to send the following message to your default server console: “Wait! I am still saving data.” Type

SEND "WAIT! I AM STILL SAVING DATA" CONSOLE <Enter>

A confirmation message appears, telling you your message was sent.

To send a message to another file server, you must be attached to that server and specify the name of the server in the command.

Send a Message to All Workstations

Suppose you want to send the following message to all workstations: “Paychecks are here.” Type

SEND "PAYCHECKS ARE HERE." EVERYONE <Enter>

A confirmation message appears telling you your message was sent.

If you want to send a message to everyone on another file server, you must be attached to that server and specify the name of the server in the command.

Send a Message to Several Workstations

Suppose you want to tell the users at workstations 2, 7, and 9 that the department meeting is starting. Also suppose that the specified users are logged in to your default file server. Type

SEND "MEETING IS BEGINNING IN ROOM 11" TO 2,7,9 <Enter>

If you want to send a message to users on workstations on another file server, you must be attached to that file server and specify the name of the file server in the command.

SEND (Console Command)

Why Use SEND?

Use SEND at the file server console to send a message to all users logged in or attached to the file server or to a list of users or connection numbers.

Command Format

```
SEND "message" [[TO] username|connection number] [[and|,]
  username|connection number]
```

Replace *message* with the information you want to send to the users (up to 55 characters).

Replace *username* with the user or users you want to send the message to.

Replace *connection number* with the number of the workstation (shown in MONITOR).

For a complete explanation of "SEND," see *System Administration*.

SERVER

Why Use SERVER?

Use SERVER to install and boot NetWare on your file server. SERVER is an executable file that establishes the NetWare operating system. When booting, SERVER performs the tasks below.

- Executes STARTUP.NCF
  - Created during installation
  - Contains information to load disk drivers
  - Located in file server boot directory (A or C)
- Mounts volume SYS
- Executes AUTOEXEC.NCF
  - Created during installation
  - Contains the file server name
  - Contains the IPX internal network number
  - Contains commands to load LAN drivers and NLMs
  - Contains commands to mount remaining volumes
  - Contains commands to execute any other commands that can be entered at the file server console
  - Located in SYS:SYSTEM
- If neither NCF file exists, the console prompt (:) appears.

Command Format

SERVER [*parameter*]

For a complete explanation of "SERVER," see *System Administration*.

SESSION

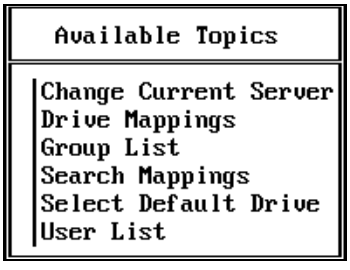
Why Use SESSION?

Use SESSION to

- Do tasks relating to a user's file server selections and drive mappings
- Change to another file server
- View or temporarily change your drive mappings
- View groups on your network or send a message to a group
- Temporarily create, change, or delete search drives
- Choose your default drive
- List user information and send messages to users

The tasks in SESSION are organized according to the "Available Topics" menu:

Figure 27 SESSION Available Topics menu



Change Current Server

Attach to another file server	"Attach to Another File Server" on page 304
Log out of a file server	"Log Out of a File Server" on page 304
Change to a different username on the current file server	"Change to a Different Username on the Current File Server" on page 305

Drive Mappings

Display drive mapping information	“Display Drive Mapping Information” on page 305
Add a drive mapping	“Add a Drive Mapping” on page 306
Delete a drive mapping	“Delete a Drive Mapping” on page 307
Modify a drive mapping	“Modify a Drive Mapping” on page 308

Group List

View groups	“View Groups” on page 309
Send a message to a group	“Send a Message to a Group” on page 310

Search Mappings

Display search drive mapping information	“Display Search Drive Mapping Information” on page 310
Add a search drive mapping	“Add a Search Drive Mapping” on page 311
Modify a search drive mapping	“Modify a Search Drive Mapping” on page 312
Delete a search drive mapping	“Delete a Search Drive Mapping” on page 314

Choose Default Drive

Change the default drive	“Change the Default Drive” on page 314

User List

View user information	“View User Information” on page 315
Send a message to a user	“Send a Message to a User” on page 315

Attach to Another File Server

Procedure

1. Enter SESSION and choose “Change Current Server” from the “Available Topics” menu.

   You see a list of the file servers you are attached to.

2. Press <Insert>.

   You see a list of the file servers you can attach to.

3. Choose the name of the file server you want to attach to. You see the “New User Name” box.

4. Enter the username you want to use to attach.

   If a password is required along with the username, the “Password” entry box appears.

5. Enter the password.

Log Out of a File Server

If you are attached to more than one file server, you can log out of any file server except your default file server.

Procedure

1. Enter SESSION and choose “Change Current Server” from the “Available Topics” menu.

   You see a list of the file servers you are attached to.

2. Highlight the file server you want to log out of and press <Delete>.

   To log out of more than one file server, mark each server by highlighting it with the Mark key (<F5> or <F6>). Then press <Delete>. The “Logout From Server” (or “Logout From All Marked Servers”) confirmation box appears.

3. Choose “Yes” to log out of the file servers.

Change to a Different Username on the Current File Server

You can log in to a file server with a username different from your default username if you know the password required by that username.

You cannot change your username on your default server. To change to a different username on the current file server, complete the following.

Procedure

1. Enter SESSION and choose “Change Current Server” from the “Available Topics” menu.

   You see a list of the file servers you are attached to.

2. Highlight the file server on which you want to change your username; then press the Modify key (<F3>).

   The “Name Of User To Change To” box is displayed.

3. Enter the new username you want to use.

   If that username requires a password, the “Password” entry box is displayed.

4. Enter the password.

Display Drive Mapping Information

When you view information about drives in SESSION, you can see your effective rights in the directory the drive is mapped to (network drives only, no information is available for local drives).

To display drive mapping information, complete the following.

Procedure

1. Enter SESSION and choose “Drive Mappings” from the “Available Topics” menu.

   A list of your current drive mappings is displayed.

2. Choose the drive you want information about.

Add a Drive Mapping

Drive mappings that you map in SESSION are temporary; they are usable only until you log out.

If you want permanent drive mappings, use SYSCON to map the drives in your login script.

Procedure

1. Enter SESSION and choose “Drive Mappings” from the “Available Topics” menu.

   You see a list of your current drive mappings.

2. Press <Insert>.

   The next available drive letter appears in a box. If you want to specify a different drive letter, delete the current drive letter and type the drive letter you want to use.

3. Press <Enter>.

   The “Select Directory” entry box is displayed.

4. If you know the name of the directory you want to map the drive to, enter the directory name and skip to Step 8.

   You can specify only directories for file servers you are attached to.

   If you do not know the name of the directory, go through the following steps:

5. Press <Insert>.

   The “File Servers/Local Drives” list is displayed. If the file server you want to add is not in this list, complete Steps 5a through 5d. Otherwise, go to Step 6.

   5a Press <Insert> to display the “Other File Servers” list.

   5b Choose the file server you want to attach to.

   The “New User Name” entry box is displayed.

   5c Enter the username.

   The “Password” entry box is displayed.

5d Enter the password.

You are attached to the file server you chose, and the file server is added to the "File Servers/Local Drives" list.

6 Choose the file server you want.

The file server is added to the "Select Directory" box, and the "Available Volumes" list is displayed.

If you need to choose a volume for the drive you are adding, complete Step 7. Otherwise, press <Esc> and skip to Step 11.

7 Choose the volume you want.

The volume is added to the "Select Directory" box and the "Network Directories" list is displayed.

NOTE: Choosing ".." takes you up a level in the directory structure. The ".." option appears in the "Available Volumes," "Network Directories," and "Local Directories" lists. If ".." appears as the only entry in the "Network Directories" list, there are no directories below the current level.

8 If you need to choose a directory, complete Step 9 and Step 10. Otherwise, press <Esc> and skip to Step 11.

9 Choose the directory you want.

The directory is added to the "Select Directory" box.

Repeat Step 9 as many times as necessary to complete the directory path.

10 Press <Esc>.

11 Press <Enter>.

The drive is now mapped to the specified directory.

Delete a Drive Mapping

Procedure

1 Enter SESSION and choose "Drive Mappings" from the "Available Topics" menu.

A list of your current drive mappings is displayed.

2 Delete the drive mapping.

To delete more than one drive mapping, mark each mapping by highlighting it with the Mark key (<F5> or <F6>). Then press <Delete>. The “Delete Drive Mapping” (or “Delete Marked Drive Mappings”) confirmation box is displayed.

3 Choose “Yes.” The drive mappings are deleted.

When a mapping for a network drive that was originally a local drive is deleted, the drive regains its local drive status.

Modify a Drive Mapping

Procedure

1 Enter SESSION and choose “Drive Mappings” from the “Available Topics” menu.

A list of your current drive mappings is displayed.

2 Choose the drive mapping you want to modify, and press the Modify key (<F3>).

The “Select Directory” box is displayed.

3 Press <Backspace> to delete the parts of the drive mapping you want to modify.

4 If you know the information you need to add, type it and press <Enter>; the drive mapping is modified. Skip to Step 8.

If you do not know the directory name, continue with the following steps as needed:

5 Press <Insert>.

A list of the available file servers is displayed. If the file server you want to specify is not displayed, complete Steps 5a through 5d.

5a Press <Insert> to see the “Other File Servers” list.

5b Choose the file server you want to attach to. Press <Enter> to see the “New User Name” box.

5c Type the username; then press <Enter>.

The “Password” entry box is displayed.

5d Type the password and press <Enter>.

You are attached to the specified file server, and the file server is added to the "File Servers/Local Drives" list.

6 Choose the file server you want; then press <Enter>.

The file server is added to the "Select Directory" box, and the "Available Volumes" list is displayed.

7 Choose the volume you want and press <Enter>.

The volume is added to the "Select Directory" box, and the "Network Directories" list is displayed.

NOTE: Choosing ".." takes you up a level in the directory structure. The ".." option appears in the "Available Volumes," "Network Directories," and "Local Directories" lists. If ".." appears as the only entry in the "Network Directories" list, there are no directories below the last directory listed in the "Select Directory" box.

8 If your directory path is complete, press <Esc>. Then skip to Step 11.

If you need to choose the directory or subdirectory for your drive mapping, complete Step 9 and Step 10.

9 Choose the directory you want and press <Enter>.

The directory is added to the "Select Directory" box.

10 Repeat Step 9 as many times as necessary to complete the directory path. Then press <Esc>.

11 Press <Enter>.

The drive is now mapped to the specified directory.

If you are modifying a local drive, the "Map Local Drive to Network Directory" confirmation box appears after you press <Enter>. Choose "Yes" to modify the drive mapping.

View Groups

Procedure

1 Enter SESSION.

2 Choose "Group List" from the "Available Topics" menu.

The groups on your file server are listed.

Send a Message to a Group

You can send short messages (55 characters or fewer including username and connection number) to a user or a group.

NOTE: You cannot delete your username or connection number.

To send a message to a group, complete the following.

Procedure

1. Enter SESSION.
2. Choose “Group List” from the “Available Topics” menu.
3. Choose the group you want to send a message to, or use the Mark key (<F5> or <F6>) to choose multiple groups.
4. Type the message.

   The message can be up to 55 characters long, including your username.
5. Press <Enter>.

Display Search Drive Mapping Information

When you view information about search drives in SESSION, you see your effective rights in the directory the drive is mapped to (network drives only, no information is available for local drives).

To display information about search drives, complete the following steps.

Procedure

1. Enter SESSION and choose “Search Mappings” from the “Available Topics” menu.

   The “Current Search Mappings” list appears.
2. Choose the drive you want information on.

Add a Search Drive Mapping

You can define up to 16 search drive mappings. These are labeled sequentially by number and letter (numbers begin with 1; letters begin with Z and move backwards). For example, the first search drive is assigned the number 1 and the letter Z; the second, 2 and Y; and so on.

Procedure

1. Enter SESSION and choose “Search Mappings” from the “Available Topics” menu.

   The “Current Search Mappings” list appears.

2. Press <Insert>.

   The next available search drive number is in the “Search Drive Number” box.

3. Press <Enter> to see the “Select Directory” box.

4. Specify the name of the directory you want to map the search drive to.

   If you know the directory path, type it and skip to Step 10.

   If you do not know the directory path, complete Step 5 through Step 9 below as needed.

5. Press <Insert>.

   “The File Servers/Local Drives” list appears.

   If you don’t see the file server you want to specify, complete Steps 5a through 5d.

   5a Press <Insert> to display the “Other File Servers” list.

   5b Choose the file server you want to attach to. The “New User Name” entry box is displayed.

   5c Enter the username.

   If the username has a password, the “Password” entry box is displayed.

   5d Enter the password.

   You are attached to the file server you chose, and the file server is added to the “File Servers/Local Drives” list.

6 Choose the file server or local drive you want.

The “Available Volumes” list is displayed if your new search drive mapping is a network drive; the “Local Directories” list is displayed if the search drive is mapped to a local drive.

7 Choose the volume you want. The “Network Directories” or “Local Directories” list is displayed.

NOTE: Choosing “..” takes you up a level in the directory structure. The “..” option appears in the “Available Volumes,” “Network Directories,” and “Local Directories” lists. If “..” is the only entry in “Network Directories,” no directories exist below the last directory in the “Select Directory” entry box.

8 Choose the directory you want.

If you do not need to add any more directories, skip to Step 10.

9 Repeat Step 8 as many times as necessary to complete the directory path.

10 Press <Esc>.

11 Press <Enter>.

The search drive has now been mapped to the specified directory.

Modify a Search Drive Mapping

Procedure

1 Enter SESSION and choose “Search Drive Mappings” from the “Available Topics” menu.

The “Current Search Mappings” list appears.

2 Choose the search drive mapping you want to modify, and press the Modify key (<F3>).

The “Select Directory” entry box appears.

3 Backspace over the parts of the directory name you want to change.

If the drive is a local drive, the “Select Directory” entry box will be blank.

4 Type information to replace what you delete; then press <Enter>.

For example, to change X:\PROJECTS\XFER to X:\PROJECTS\DONE, backspace over “XFER” and type “DONE”.

If you know the complete directory name, type it; then press <Enter>. If you do not know the directory path, complete Step 5 through Step 11 as needed.

5 Press <Insert>.

The "File Servers/Local Drives" list is displayed. If the file server you want to specify is not displayed, complete Steps 5a through 5d.

5a Press <Insert> to display the "Other File Servers" list.

5b Choose the file server you want to attach to.

The "New User Name" entry box is displayed.

5c Enter the username.

The "Password" entry box is displayed.

5d Enter the password.

You are attached to the file server you chose, and the file server is added to the "File Servers/Local Drives" list.

6 Choose the file server or local drive you want.

The "Available Volumes" list is displayed if your new search drive mapping is a network drive; the "Local Directories" list is displayed if the new search drive is a local drive.

7 Choose the volume you want.

The "Network Directories" list is displayed.

NOTE: Choosing ".." takes you up a level in the directory structure. The ".." option appears in the "Available Volumes," "Network Directories," and "Local Directories" lists. If ".." appears as the only entry in the "Network Directories" list, there are no directories below the current level.

8 Choose the directory you want.

If you do not need to add any more directories, go to Step 10.

9 Repeat Step 8 as many times as necessary to complete the directory path.

10 Press <Esc>.

11 Press <Enter>.

The search drive is now mapped to the specified directory.

Delete a Search Drive Mapping

Procedure

1. Enter SESSION and choose “Search Drive Mappings” from the “Available Topics” menu.

   The “Current Search Mappings” list appears.

2. Highlight the search drive mapping you want to remove and press <Delete>.

   To delete more than one search drive mapping, mark each mapping by highlighting with the Mark key (<F5> or <F6>). Then press <Delete>.

   The “Delete Drive Mapping” (or “Delete Marked Drive Mappings”) confirmation box appears.

3. Choose “Yes.”

   The search drive mappings are deleted.

Change the Default Drive

Your default drive is the drive on which you are currently working. When you execute a DOS or NetWare command, the default drive is the first drive that is searched.

Procedure

1. Enter SESSION and choose “Select Default Drive” from the “Available Topics” menu.

   The “Select Default Drive” list appears.

2. Choose the drive you want to specify as your default drive.

View User Information

The following instructions explain how to list users and view information about them. (You can see information about users who are attached to the file server.)

The information you can see about a user includes the user's full name, object type (the only entry you can see is "User"), login time, network address (a number assigned to the file server), and network node (a number assigned to the user's workstation).

Procedure

1. Enter SESSION and choose "User List" from the "Available Topics" menu.

   A list of the users currently attached to the server is displayed.

2. Choose the user you want information about.

   The "Available Options" menu is displayed.

3. Choose "Display User Info."

   An inset displays the user information.

Send a Message to a User

You can send short messages (55 characters or fewer including username and connection number) to a user on your network.

NOTE: You cannot delete your username or connection number.

Procedure

1. Enter SESSION.
2. Choose "User List" from the "Available Topics" menu.

   The "Current Users/Station" list is displayed.

3. Choose the user you want to send the message to, or use the Mark key (<F5> or <F6>) to choose more than one user.

   If you are sending a message to more than one user, skip to Step 5.

4 If you chose a single user, the “Available Options” menu is displayed. choose “Send Message.”

The “Message” entry box appears.

5 Type the message you want to send.

The message can be up to 55 characters long, including your username and connection number.

6 Then press <Enter>.

A message indicating whether or not the message was sent to the user appears on your screen.

SET

Why Use SET?

Use SET to view the current parameters for the operating system and to configure the operating system to fit your situation.

Most of the parameters do not need to be changed. They have been set to give maximum performance to most users. However, by changing some of the parameters, you might be able to increase performance for your unique situation.

Command Format

SET [*parameter*]

A few of the most often-used parameters include:

Communications
Memory
File Caching
Directory Caching
File System
Locks
Transaction Tracking
Disk
Miscellaneous

For a complete explanation of "SET," see *System Administration*.

SET TIME

Why Use SET TIME?

Use SET TIME to set the date and time kept by the file server.

Command Format

SET TIME [*month/day/year*] [*hour:minute:second*]

Replace the variables with the appropriate information.

For a complete explanation of "SET TIME," see *System Administration*.

SETPASS

Why Use SETPASS?

Use SETPASS to create or change your password on one or more file servers. You can also synchronize passwords on multiple file servers.

A password can consist of up to 127 characters but cannot include control characters.

Command Format

SETPASS [*fileserver*] [/*username*]

Replace *fileserver* with the name of the file server on which you want to set or change your password.

Replace *username* with the name of the user whose password you want to set or change.

Additional Information

You must be attached to a file server before you can set or change your password on it.

If you are attached to more than one file server with the same password, you can synchronize passwords.

Create or Change a Password

Procedure

1. To create or change a password on your default file server, type

   SETPASS <Enter>

   To create or change a password on a file server other than your default server, include the name of the server in the command.

   For example, to create or change a password for user LEROY on server RECORDS, type

   SETPASS RECORDS <Enter>

The following prompt appears on your screen:

```
Enter old password for RECORDS/LEROY:
```

2. If you are changing a password, enter the old password. If you are creating a password, press <Enter>. You see the following prompt:

   ```
   Enter your new password:
   ```

3. Enter the password you want.

   The following prompt appears:

   ```
   Retype your new password:
   ```

4. Enter the new password again, and you see the following message on your screen:

   ```
   The password for RECORDS\LEROY has been changed.
   ```

5. To change a user's password on the default server, type

   SETPASS/*username* <Enter>

6. To change a user's password on a specific server, type

   SETPASS *servername/username* <Enter>

   The following prompt appears:

   ```
   Enter your new password:
   ```

7. Enter the password you want.

   The following prompt appears:

   ```
   Retype your new password:
   ```

8. Enter the new password again, and you see the following message:

   ```
   The password for servername\username has been changed.
   ```

Synchronize a Password

If your workstation is attached to more than one file server and you have the *same* password on all the file servers, you can synchronize the passwords by changing the password on one file server.

Procedure

Suppose your workstation is attached to servers RECORDS, ACCT, and MKTG and you use the same password on each server.

Your username is LEROY and your password is GOLD.

1. To change your password on server RECORDS, type

   SETPASS RECORDS <Enter>

   The following message is displayed:

   ```
   Enter old password for RECORDS/LEROY:
   ```

2. Type

   GOLD <Enter>

   You see the following message:

   ```
   Enter your new password:
   ```

3. Suppose your new password is SILVER. Enter it, and enter it a second time when you are prompted.

   You see the following message:

   ```
   The password for RECORDS\LEROY has been changed.

   MKTG/LEROY
   ACCT/LEROY

   Synchronize passwords on these file servers? (Y/
   N) Y
   ```

4. If you choose the default response, “Yes”, the old password for ACCT and MKTG is changed to the new password you set for server RECORDS.

5 To retain the original passwords on ACCT and MKTG, choose “No.”

NOTE: If a file server has password restrictions, the password for that server will not be synchronized. A message appears, telling you which password was not changed.

For example, a file server may have a restriction on password length or using unique passwords.

SETTTS

Why Use SETTTS?

Use SETTTS to ensure that the Transaction Tracking System (TTS) works in harmony with your application in tracking a transaction.

Command Format

SETTTS [*logical level* [*physical level*]]

Replace *logical level* with the number (0 through 254) of logical record locks that TTS ignores before beginning to track a transaction.

Replace *physical level* with the number (0 through 254) of physical record locks that TTS ignores before beginning to track a transaction. (If you set a physical level, you must set a logical level first.)

Leave a space between *logical level* and *physical level*.

Additional Information

Use SETTTS if your situation meets the following requirements:

- The TTS feature is installed on your file server.
- You are using an application program to modify transactional data files used for applications such as database management, accounting systems, or inventory maintenance. (Files can be flagged as Transactional using the FLAG and FILER utilities.)
- The application program you are using to modify transactional files requires you to set new transaction beginning points.

  NOTE: Currently, dBASE III PLUS v1.0 is the only software program tested that requires you to use SETTTS. Version 1.0 uses an immediate record lock for copy protection and does not release the lock until you exit the program. Later versions of dBASE III PLUS (v1.1 and above) do not use record locks in this way and can be used normally.

Once you specify the number of logical and physical record locks TTS will ignore, you can change the settings only by issuing another SETTTS command, logging out, or rebooting your workstation.

See “Transaction Tracking System” in *Concepts* to learn more about TTS, logical and physical record locks, and the kinds of programs that require SETTTS.

View the Current Transaction Tracking Setting

Suppose you want to view your current transaction tracking setting. Type

SETTTS <Enter>

You see information similar to the following on your screen.

```
Transaction Tracking Record Lock Thresholds

Logical level: 1

Physical level: 2
```

This screen display indicates that TTS will ignore one logical record lock and two physical record locks before beginning to track your transaction.

Set the Logical and Physical Locks

Suppose you want to set the logical and physical levels. You want TTS to ignore two logical record locks and two physical record locks before beginning to track your transaction. Type

SETTTS 2 2 <Enter>

You see the following information on your screen.

```
Transaction Tracking Record Lock Thresholds

Logical level: 2

Physical level: 2
```

After issuing a SETTTS command, you can enter your application program and access, modify, and close files normally.

The TTS feature tracks each transaction, ensuring that the entire transaction is recorded correctly or (if a problem arises) none of the transaction is recorded.

In this way, none of your database files that are marked Transactional are corrupted by incomplete transactions.

SLIST

Why Use SLIST?

Use SLIST to view a list of the file servers on your internetwork and information about those file servers.

Command Format

SLIST [*fileserver*] [/C]

To view information about one file server, replace *fileserver* with the name of that file server. You can use wildcard characters to view a group of file servers.

Include the /C (Continuous) option if you want the list of file servers to scroll down the screen without stopping.

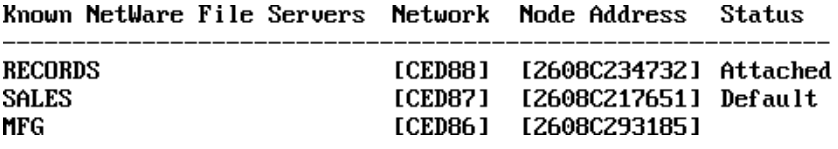
View Information About All File Servers

To view information about all file servers on your internetwork, type

SLIST <Enter>

You see information similar to the following:

Figure 28 File server information



NetWare v3.*x* File Servers

On a NetWare v3.*x* file server, *Network* is the internal network number. *Node address* is the file server's unique station number for the internal network. On a NetWare v3.*x* file server, that number is always 1. The screen displays information similar to the following:

Figure 29 NetWare v3.*x* file server information

```
Known NetWare File Servers  Network  Node Address  Status
-------------------------------------------------------------
RECORDS                     [CED88]  [          1] Attached
SALES                       [CED87]  [          1] Default
```

See "Network numbering" in *Concepts* for more information.

NetWare v2.*x* File Servers

On a NetWare v2.*x* file server, *Network* is the network number of LAN A. *Node address* is the file server's unique station number on LAN A. On a NetWare v2.*x* file server, the screen displays information similar to the following:

Figure 30 NetWare v2.*x* file server information

```
Known NetWare File Servers   Network   Node Address
-------------------------------------------------
RECORDS                      [CED88]   [2608C234732]
SALES                        [CED87]   [2608C217651]
```

View Information About One File Server

To view information about file server RECORDS, type

SLIST RECORDS <Enter>

You see information similar to the following:

Figure 31 Information about one file server

```
Known NetWare File Servers   Network   Node Address
-------------------------------------------------
RECORDS                      [CED88]   [2608C234732]
```

SMODE

Why Use SMODE?

Use SMODE to specify how a program uses search drives when looking for a data file.

Command Format

SMODE [*path* [*mode*] [/SUB]

Replace *path* with a directory path leading to and including the executable file whose search modes you want to view or change.

Replace *mode* with the number of the search mode (0 through 7) you want to assign to the file specified in your command. Each search mode number indicates how your executable file searches for a data file.

Include /SUB in the command to extend the search mode assignment to include all subdirectories of the specified directory.

If you include /SUB in your SMODE command, you must include the variable *path* in the command.

Modes

0

No search instructions. The executable file looks for instructions in the NET.CFG file. Mode 0 is the default setting for all executable files. See shell configuration options.

1

If a directory path leading to the data file is specified in the executable file itself, the executable file searches only that path. If a path is not specified, the executable file searches the default directory and then all search drives.

2

If a directory path leading to the data file is specified in the executable file itself, the executable file searches only that path. If a path is not specified, the executable file searches only the default directory.

3

If a directory path leading to the data file is specified in the executable file itself, the executable file searches only that path. If a path is not specified, the file searches the default directory. Then, if the open request is read only, the file searches the search drives.

4

Reserved.

5

If a directory path is specified, the executable file searches the path first and then the search drives. If no path is specified, the file searches the default directory first and then the search drives.

6

Reserved.

7

If a directory path is specified, the executable file searches the path first. If the open request is read only, the executable file searches the search drives. If no path is specified, the executable file searches the default directory first. If the open request is read only, the executable file then searches the search drives.

Additional Information

You can specify how an executable file uses search drives by assigning a search mode to the executable file.

If you assign mode 2, the executable file will not use the search drives.

If you assign mode 5, the executable file can use the search drives to find a data file if the file is not found in the first directory it looks in.

The other modes specify whether to use the search drives based on how the program requests to open the data file.

NOTE: A request only to read the file is different from a file being flagged with the Read Only attribute. If the open request is read only, it is a request to open and read the file. It is not a set attribute.

The following table summarizes the modes and shows when the executable file will use search drives:

Figure 32 Search mode assignments

Mode	No Path		Path	
	Read Only	Read/Write	Read Only	Read/Write
1	Yes	Yes		
2				
3	Yes			
5	Yes	Yes	Yes	Yes
7	Yes		Yes	

- Read Only and Read Write specify that when the program opens the file, it will either read the file, or will read and write to the file.
- No Path and Path specify whether the program includes a directory path when requesting a file.
- "Yes" specifies when a program can use search drives to look for a file.

Once you assign a search mode to an executable file, you can change the search mode only with another SMODE command.

After you enter the SMODE command, you can press <Ctrl><S> to temporarily stop your screen from scrolling through all the files in a given directory. Press <Enter> to resume scrolling.

Assign a Search Mode

Suppose you want to assign search mode 1 to all executable files (.EXE and .COM) in the PROGRAMS directory and all its subdirectories (SALES, REPORTS, and PERSONNEL). Also suppose that drive G: is mapped to PROGRAMS as follows:

G: = RECORDS/SYS: PROGRAMS

Type

`SMODE G: 1 /SUB` <Enter>

You see information similar to the following.

```
RECORDS/SYS:PROGRAMS

ACC.EXE mode = 1, search on all opens with no path

USERS.EXE mode = 1, search on all opens with no path

HELP.EXE mode = 1, search on all opens with no path

RECORDS/SYS:PROGRAMS/SALESLOCK.COM mode = 1, search on all
  opens with no path

MOVE.COM mode = 1, search on all opens with no path

BLOCK.COM mode = 1, search on all opens with no path

RECORDS/SYS:PROGRAMS/REPORTSFORM.COM mode = 1, search on all
  opens with no path

UPDAT.EXE mode = 1, search on all opens with no path
```

Search mode 1 has been assigned to all executable files in PROGRAMS and its subdirectories. If a subdirectory (such as PERSONNEL) does not contain any executable files, it is not listed.

View Current Search Mode Settings in Your Default Directory

View Search Mode of a Specific File

To view the search mode assigned to a particular file in your default directory, specify the filename in your command.

Suppose you want to view the search mode assigned to the ACC.EXE file in your default directory. Type

SMODE ACC.EXE <Enter>

View Search Modes of All Executable Files

To view the search modes assigned to all executable files in your default directory, type

SMODE <Enter>

You see information similar to the following:

```
ACC.EXE mode = 2, do not search
```

Search mode 2 is assigned to the executable file ACC.EXE, which means that ACC.EXE will not look for data files in the search drives.

View Current Search Mode Settings in Any Directory

View Search Mode of a Specific File

Suppose you want to view the search mode assigned to the ACC.EXE file in the PROGRAMS directory. Also suppose drive G: is mapped to PROGRAMS as follows.

Drive G: = COUNT/SYS: PROGRAMS

Type

SMODE G:ACC.EXE <Enter>

You see information similar to the following.

```
ACC.EXE mode = 2, do not search
```

View Search Modes of All Executable Files

To view the search modes assigned to all executable files in the PROGRAMS directory, type

SMODE G: <Enter>

Change Search Mode Settings in Your Default Directory

Change Search Mode of a Specific File

Suppose you want to change the search mode assigned to the ACC.EXE file in your default directory from mode 2 to mode 5. Type

SMODE ACC.EXE 5 <Enter>

Information similar to the following appears on your screen:

```
ACC.EXE mode = 5, search on all opens
```

The executable file ACC.EXE has been assigned search mode 5, which means that ACC.EXE can search for a data file in the default directory and on all search drives no matter how the executable file is programmed to open the data file (read only or read write).

Change Search Modes of Executable Files

Suppose you want to assign search mode 5 to all the executable files in your default directory. Type

SMODE . 5 <Enter>

The period (.) in this command represents all the files in your default directory. You could also use a wildcard character to represent all files (*.*).

Change Search Mode Settings in Any Directory

Change Search Mode of a Specific File

Suppose you want to change the search mode assigned to the ACC.EXE file in the PROGRAMS directory from mode 2 to mode 5. Also suppose drive G: is mapped to the PROGRAMS directory as follows:

Drive G: = COUNT/SYS: PROGRAMS

Type

SMODE G:ACC.EXE 5 <Enter>

You see information similar to the following on your screen:

```
ACC.EXE mode = 5, search on all opens
```

The executable file ACC.EXE has been assigned search mode 5, which means that ACC.EXE can use the search drives to find data files if the file is not found in the initial search.

Change Search Modes of Executable Files

To assign search mode 5 to all the executable files in your directory PROGRAMS, type

SMODE G: 5 <Enter>

SPEED

Why Use SPEED?

Use SPEED to display the speed at which the processor is running.

Command Format

```
SPEED
```

For a complete explanation of "SPEED," see *System Administration*.

SPOOL

Why Use SPOOL?

Use SPOOL to create, change, or display the spooler mappings.

These mappings are necessary to set up default print queues for NPRINT and CAPTURE. They also support applications that make calls to printer numbers rather than to queues.

Command Format

Create or change the spooler mapping

SPOOL *n* [TO] [QUEUE] *name*

List the spool mappings

SPOOL

Replace *n* with the spool number (0 through 4).

Replace *name* with the queue name.

For a complete explanation of "SPOOL," see *Print Server*.

SPXCONFG

Why Use SPXCONFG?

Use SPXCONFG to configure certain parameters of SPX.

Command Format

LOAD [*path*] SPXCONFG

Command Parameters

Replace *path* with a full path to the directory containing the SPXCONFG module. Begin with a DOS drive letter or a NetWare volume name.

If you do not specify a path, the operating system looks for SPXCONFG in SYS:SYSTEM. (Use SEARCH to set up additional paths for automatic searching.)

For more information on "SPXCONFG," see *System Administration*.

SPXS

Why Use SPXS?

Use SPXS if you have a loadable module that requires STREAMS-based IPX protocol services.

Command Format

LOAD [*path*]SPXS

Command Parameters

Replace *path* with a full directory path to the directory containing the module; begin with a DOS drive letter or a NetWare volume name.

If no path is specified, the operating system assumes that the loadable module is located in the SYS:SYSTEM directory.

Additional Information

If your loadable module requires STREAMS-based IPX protocol services, load the following modules in the order listed here:

STREAMS
CLIB
TLI
IPXS

For a complete explanation of "SPXS," see *System Administration*.

STREAMS

Why Use STREAMS?

Use STREAMS if you are using applications that require the CLIB loadable module or STREAMS-based protocol services.

The STREAMS loadable module provides a common interface between NetWare and transport protocols (such as SNA and OSI) that need to deliver data and requests to NetWare for processing. STREAMS must be loaded before CLIB can be loaded.

Command Format

LOAD [*path*] STREAMS

Command Parameters

Replace *path* with a full directory path to the directory containing the module; begin with a DOS drive letter or a NetWare volume name.

If no path is specified, the operating system assumes that the loadable module is located in the SYS:SYSTEM directory.

For a complete explanation of "STREAMS," see *System Administration*.

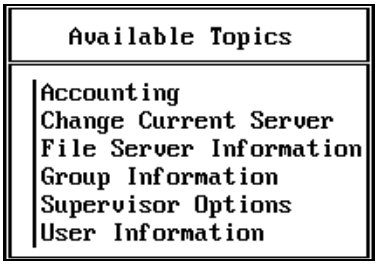
SYSCON

Why Use SYSCON?

Use SYSCON to control accounting, file server, group, and user information. As supervisor, you can also control the network activities of the workgroup managers.

The tasks you can do are organized according to the options in SYSCON's "Available Topics" menu.

Figure 33 SYSCON Available Topics menu



Accounting

Install the accounting feature	"Install the Accounting Feature" on page 342
Remove the accounting feature	"Remove the Accounting Feature" on page 342
Set up and delete accounting servers	"Set Up and Delete Accounting Servers" on page 342
Set and modify charge rates for network use	"Set and Modify Charge Rates for Network Use" on page 343

Change Current Server

Attach to or log out of additional file servers	“Attach to or Log Out of Additional File Servers” on page 350
Choose an attached file server as the current server	“Choose an Attached File Server as the Current File Server” on page 351
Change to a different username on the current file server	“Change to a Different Username on the Current File Server” on page 352

File Server Information

View NetWare operating system information	“View NetWare Operating System Information” on page 352

Group Information

List the groups on the file server	“List the Groups on the File Server” on page 354
Create, rename, or delete a group	“Create, Rename, or Delete a Group” on page 354
Assign or modify a group’s full name	“Assign or Modify a Group’s Full Name” on page 355
View, add, or delete managed users or groups	“View, Add, or Delete Managed Users or Groups” on page 355
View, add, or delete managers	“View, Add, or Delete Managers” on page 356
Assign or delete users in a group	“Assign or Delete Users in a Group” on page 356
View a group’s ID number	“View a Group’s ID Number” on page 357
Assign or modify a group as trustee of a directory	“Assign or Modify a Group as Trustee of a Directory” on page 357
Assign or modify group trustee rights in a file	“Assign or Modify Group File Trustee Rights” on page 359

Supervisor Options

Set up and change default account balances and restrictions	“Set Up and Change Default Account Balances and Restrictions” on page 360
Assign time restrictions to all users	“Assign Time Restrictions to All Users” on page 362
Create or modify the system’s AUTOEXEC file	“Create or Modify the System’s AUTOEXEC File” on page 362
Assign or delete a group or user as a console operator	“Assign or Delete a Group or User as a Console Operator” on page 364
Activate intruder detection feature	“Activate Intruder Detection Feature” on page 365
Create or modify the system login script	“Create or Modify the System Login Script” on page 366
View and erase the error log	“View and Erase the Error Log” on page 367
Assign and modify system workgroup managers	“Assign and Modify System Workgroup Managers” on page 367

User Information

Create, rename, or delete users	“Create, Rename, or Delete Users” on page 369
Set a user’s account balance	“Set a User’s Account Balance” on page 370
Set a user’s account restrictions	“Set a User’s Account Restrictions” on page 371
Assign or change a user’s password	“Assign or Change a User’s Password” on page 375
Assign or change a user’s full name	“Assign or Change a User’s Full Name” on page 376
Add or delete a user in a group	“Add or Delete a User in a Group” on page 376
Create or modify a user’s login script	“Create or Modify a User’s Login Script” on page 377
Copy one user’s login script to another user	“Copy One User’s Login Script to Another User” on page 377

View and modify managed users and groups	“View and Modify Managed Users and Groups” on page 378
View and modify list of managers	“View and Modify List of Managers” on page 378
View a user’s login information, including user ID	“View a User’s Login Information, Including User ID” on page 379
Assign or delete a user’s security equivalence	“Assign or Delete a User’s Security Equivalence” on page 379
Assign station restrictions	“Assign Station Restrictions” on page 380
Assign time restrictions to individual users	“Assign Time Restrictions to Individual Users” on page 381
Assign or modify a user as trustee of a directory	“Assign or Modify a User as Trustee of a Directory” on page 382
Assign or modify user trustee rights in a file	“Assign or Modify User Trustee Rights in a File” on page 383
Limit disk space for individual users	“Limit Disk Space for Individual Users” on page 385

Accounting

Use the “Accounting” option to complete the following tasks. For additional accounting information, see *Concepts*.

Task	Page
Install the accounting feature	“Install the Accounting Feature” on page 342
Remove the accounting feature	“Remove the Accounting Feature” on page 342
Set up and delete accounting servers	“Set Up and Delete Accounting Servers” on page 342
Set and modify charge rates for network use	“Set and Modify Charge Rates for Network Use” on page 343

Install the Accounting Feature

Procedure

1. Enter SYSCON and choose “Accounting” from the “Available Topics” menu.

   The first time you choose “Accounting,” the “Install Accounting” confirmation box appears.

2. Choose “Yes.”

Remove the Accounting Feature

To completely remove the accounting feature from your file server, you must delete all accounting servers.

Procedure

1. Enter SYSCON and choose “Accounting” from the “Available Topics” menu.
2. Choose “Accounting Servers.”

   You see a list of all servers that are authorized to charge for services.

3. If only one file server is listed, highlight it and press <Delete>.

   If you want to delete multiple accounting servers, highlight each with the Mark key (<F5> or <F6>) and press <Delete>.

4. Once you have deleted all accounting servers, press <Esc>.
5. Choose “Yes” in the “Do you wish to remove accounting?” confirmation box.

Set Up and Delete Accounting Servers

Procedure

1. Enter SYSCON and choose “Accounting” from the “Available Topics” menu.
2. Choose “Accounting Servers.”

   You see a list of all servers that are currently authorized to charge for services.

To set up or delete an accounting server, complete one of the following:

- *Set up an accounting server.* Press <Insert>. The "Select Server Type" list appears, showing the types of servers that are authorized to charge. (If no servers are authorized to charge for their services, you see a message to that effect.)

  Choose the type of server you want to authorize to charge.

  If the server you want is not listed, press <Enter> to see the "Other Servers" list. Choose the server you want to add to the list, or use the Mark key (<F5> or <F6>) to choose multiple servers.

  Press <Esc> to return to the "Accounting" menu.

- *Delete an accounting server.* Highlight the server that you no longer want authorized to charge for its services, or use the Mark key (<F5> or <F6>) to highlight multiple servers. Press <Delete>. The "Delete Account Server" confirmation box appears. Choose "Yes" to confirm the deletion.

  The "Accounting Servers" list is displayed again, with the specified servers deleted.

Set and Modify Charge Rates for Network Use

If you plan to charge users for services provided by the file server, you need to calculate the amount to charge. The amount you charge depends on your network environment.

Do the following before setting or modifying charge rates for services.

Procedure

1. Determine what your operating costs are and the amount you want to charge over a given period of time.

   The rate you choose is entirely arbitrary. If you use a charge rate that is not effective, you can change the rate.

2. Determine what services you will charge for and the amount you expect to make from each service.

3. Estimate how much time each service is being used.

   You will need to monitor the file server for a period of time.

For the system to record total usage for each service, you must assign a charge rate. The suggested charge rate is 1/1 for "Disk Storage" and "Connect Time." This rate is for monitoring purposes only and has no bearing on actual charge rates.

Monitor your file server for two or three weeks to determine how much time each service is being used.

4. At the end of the monitoring period, enter ATOTAL at the DOS prompt to see total usage for each service.

   A screen appears listing the total daily and weekly usage of each service.

5. After you have determined the amount you want to charge for each service and have a good estimate of how much time each service is used, you can calculate the charge rates.

   Charge rates are specified as multipliers and divisors. Once you figure out the multiplier/divisor ratio, you use it to convert the amount of service usage to a monetary charge.

   The unit of charge for a service is arbitrary, but we suggest you begin with one charge unit equaling one cent. You can adjust this ratio later if it doesn't work well for your network environment.

6. Use the following formula to calculate a charge rate:

Figure 34 Charge rate formula

$$\frac{\text{CHARGE (charge rate multiplier)}}{\text{ESTIMATED USAGE (charge rate divider)}} = \text{CHARGE RATE}$$

For example, if you wanted to charge $100 a month for blocks read services and you found that 250,000 blocks were being read each month, then your charge rate is $100/250,000 (total charge for a service divided by estimated total usage of the service).

Make the necessary conversion to cents (assuming one charge is equal to one cent) to calculate the charge rate per block.

Calculate a Charge Rate

Assuming one charge is equal to one cent, and using the example in Step 6, the total charge for the blocks read services is $100.00. When you convert $100.00 to cents, you see that the charge rate multiplier is 10,000.

$100.00=10,000 cents

If 250,000 blocks are read each month, 250,000 is the charge rate divisor:

Figure 35 Calculating a charge rate

$$\frac{\textbf{10,000}\ \text{cents}}{\textbf{250,000}\ \text{blocks read}} = \textbf{1}\ \text{cent}\ \textbf{/}\ \textbf{25}\ \text{blocks read}$$

The user's account is charged the number of units in the multiplier each time the number of service units indicated in the divisor is used.

In the example above, the user's account is charged 1 unit for every 25 units of service.

The following three examples show how to set and modify charge rates for network usage:

Assign a Charge Rate

Suppose you want to charge $500 a week for connect time. You decide to assign charge rates only Monday through Friday, 8:00 a.m. to 5:00 p.m.

Procedure

1. Enter SYSCON and choose "Accounting" from the "Available Topics" menu.

   The "Accounting" menu appears.

2. Choose "Connect Time Charge Rates."

   The "Connect Time Charge Rates" screen appears. The default setting is no charge for any time period. The number 1 indicates no charge rate.

3 Highlight the block of time (8:00 a.m. to 5:00 p.m.) you want to assign a charge rate to.

3a Use the Right-arrow key to move the cursor to Monday at 8:00 a.m. Then press the Mark key (<F5>).

3b Press the Right-arrow key until Friday at 8:00 a.m. is highlighted.

The upper-left corner of the screen should read "Monday To Friday, 8:00 a.m. To 8:29 a.m."

3c Press the Down-arrow key until you have highlighted "Monday To Friday, 8:00 a.m. To 4:59 p.m." Press <Enter>.

The "Select Charge Rate" box appears.

4 Choose "Other Charge Rate."

The multiplier/divisor ratio is equal to the amount you want to charge for total usage of connect time. (You need to determine what one charge is equal to in monetary units. For this example, assume one charge is 1 cent.)

You want to charge $500 per week for connect time, and you know that 100,000 minutes of connect time were used in the first week of monitoring the file server.

The charge rate is 50,000 cents (multiplier) over 100,000 (divisor), or 1/2. If a user is connected to the file server for 80 hours, the amount charged is

Figure 36 Example charge rate calculation

4,800 minutes (units used) X 1/2 = **2400** cents

5 In the "New Charge Rate" box, leave the multiplier as 1. Press the Down-arrow key and type "2" for the divisor. Press <Esc> twice.

The new charge rate is indicated by a 2 on the screen. The 2 indicates that this charge rate is higher than the "no charge" rate indicated by the number 1. The numbers on the screen do not reflect the specific multiplier/divisor ratio. The charge rate (1/2) appears on the left side of the screen.

Assign Rates for Specific Tasks

The charge rates for blocks read, blocks written, and service requests are assigned the same way as rates for connect time (explained in the previous example). In these three options, charges are assigned per block (4,096 bytes).

Suppose you want to charge $500 a week for reading blocks. You decide to charge for the service for all hours. To assign charge rates, complete these steps.

Procedure

1. Enter SYSCON and choose "Accounting" from the "Available Topics" menu.
2. Choose "Blocks Read Charge Rates."

   The "Blocks Read Charge Rates" screen appears. The default setting is no charge for any time period. The number 1 indicates a no charge rate.
3. Highlight the block of time you want to assign a charge rate to.

   3a Press the Mark key (<F5>).

   3b Press the Right-arrow key until the whole line is highlighted.

   The upper-left corner of the screen should read "Sunday To Saturday, 8:00 a.m. To 8:29 a.m."

   3c Press the Down-arrow key until you have blocked the whole screen, "Sunday To Saturday, 8:00 a.m. To 7:59 a.m." Press <Enter>.

   The "Select Charge Rate" box appears.
4. Choose "Other Charge Rate."

   The "New Charge Rate" box appears.

   The multiplier/divisor ratio in this example is equal to the amount of connect time divided by total usage of connect time. (You must determine what one charge is equal to in monetary units. Assume one charge is 1 cent.)

   You want to charge $500 per week for blocks read, and you know that in the first week of monitoring the file server 500,000 blocks were read. The charge rate is 50,000 (multiplier) over 500,000 (divisor), or 1/10.

If a user reads 2,000 blocks, the charge is

Figure 37 Example charge rate

5 Leave the multiplier as 1 in the "New Charge Rate" box. Press the Down-arrow key and type "10" for the divisor. Press <Esc> twice.

The new charge rate is 1/10. Charges are listed from smallest to largest on the left side of the screen.

You can assign a different charge rate to different times of the day by repeating this same process. The numbers on the screen represent the charge rates, with the lowest number representing the lowest charge rate. When you look at the screen, you can tell which rates are higher and which are lower.

Modify a Charge Rate

Disk storage rates are assigned differently from the other charge rates. To assign disk storage rates, you specify how often you want the system to charge for the disk space being used.

Suppose you want to charge $500 per week for disk storage. Using statistics compiled running ATOTAL, you estimate that 200,000 block days of storage space are used each week. (Block days are the units disk storage is measured in.)

Assign Rates for Specific Tasks

The charge rates for blocks read, blocks written, and service requests are assigned the same way as rates for connect time (explained in the previous example). In these three options, charges are assigned per block (4,096 bytes).

Suppose you want to charge $500 a week for reading blocks. You decide to charge for the service for all hours. To assign charge rates, complete these steps.

Procedure

1. Enter SYSCON and choose "Accounting" from the "Available Topics" menu.
2. Choose "Blocks Read Charge Rates."

   The "Blocks Read Charge Rates" screen appears. The default setting is no charge for any time period. The number 1 indicates a no charge rate.
3. Highlight the block of time you want to assign a charge rate to.

   3a Press the Mark key (<F5>).

   3b Press the Right-arrow key until the whole line is highlighted.

   The upper-left corner of the screen should read "Sunday To Saturday, 8:00 a.m. To 8:29 a.m."

   3c Press the Down-arrow key until you have blocked the whole screen, "Sunday To Saturday, 8:00 a.m. To 7:59 a.m." Press <Enter>.

   The "Select Charge Rate" box appears.
4. Choose "Other Charge Rate." The "New Charge Rate" box appears.

You want the file server to charge for storage at an inactive time each day so this accounting task will not interfere with user activities on the network. For this example, use 2:00 a.m. as the charge time.

Procedure

1. Choose "Disk Storage Charge Rates" from the "Accounting" menu.

   The "Disk Storage Charge Rates" screen appears. The default setting is no charge rate.
2. Specify when to charge for disk storage usage.

   2a Move the cursor to Sunday at 2:00 a.m. and press the Mark key (<F5>).

   2b Move the cursor to Saturday at 2:00 a.m.

   "Sunday To Saturday 2:00 a.m. To 2:29 a.m." should be highlighted. Press <Enter>.

   Since you want to charge $500 (assume one charge is equal to 1 cent) for disk storage and you estimate that 200,000 block days are used, the charge rate is 50,000/200,000, or 1/4.

So if a user uses 1,000 block days, the amount charged is

Figure 38 Example charge rate

1,000 (units used) X 1/4 = **250** cents

3 In the “New Charge Rate” box, leave the multiplier as 1. Press the Down-arrow key and type “4” for the divisor. Press <Esc> twice.

The new charge rate is 1/4, as listed on the left side of the screen.

NOTE: The disk storage charge rates screen allows a maximum of 20 disk charge time entries. If you change the charge rate or when charges are made, one entry is added to the disk storage charge rates screen.

Change Current Server

Use the “Change Current Server” option to complete the following tasks:

Task	Page
Attach to or log out of additional file servers	“Attach to or Log Out of Additional File Servers” on page 350
Choose an attached file server as the current file server	“Choose an Attached File Server as the Current File Server” on page 351
Change to a different username on the current file server	“Change to a Different Username on the Current File Server” on page 352

Attach to or Log Out of Additional File Servers

If you are not defined as a user on the file server you want to attach to, you can usually attach as user GUEST. GUEST is automatically created on every server when the server is installed and GUEST usually does not have a password.

You can also attach to an additional file server as a defined user if you know that user’s password.

Procedure

1. Enter SYSCON and choose “Change current server” from the “Available Topics” menu to list the file servers you are attached to.
2. To attach to or log out of additional file servers, complete one of the following:
   - *Attach to other file servers.* Press <Insert> to see the “Other File Servers” window. This window lists the file servers you can attach to.

     Choose the file server you want to attach to. Enter the username you want to use in the “User Name” entry box.

     If a password is required, the “Password” entry box appears. Enter the password. If the username or password is incorrect, you are denied access to the file server.
   - *Log out of additional file servers.* If you are attached to more than one file server, you can log out of any file server except your default server.

     Highlight the file server you want to log out of, or use the Mark key (<F5> or <F6>) to highlight multiple servers. Press <Delete>.

     Choose “Yes” in the “Logout from Server” confirmation box.

Choose an Attached File Server as the Current File Server

Even when you are attached to more than one file server, you can access information from only one at a time—the one you designate as your current file server.

To access information from another file server you are attached to, you must make that server your current server. Complete the following steps.

Procedure

1. Enter SYSCON and choose “Change current server” from the “Available Topics” menu.
2. Choose the file server that you want to make your current server.

Change to a Different Username on the Current File Server

You can change your username on a file server by attaching to that file server under a different username. You must be attached to at least two servers in order to specify a different username.

Procedure

1. Enter SYSCON and choose “Change current server” from the “Available Topics” menu to list the file servers you are attached to.
2. Highlight the file server on which you want to change your username; then press the Modify key (<F3>).

   The “New User Name” entry box appears.
3. Enter the new username.

   If a password is required, the “Password” entry box appears.
4. Enter the password.

   If the username or password is incorrect, you are denied access to the file server.

File Server Information

View NetWare Operating System Information

Procedure

1. Enter SYSCON and choose “File Server Information” from the “Available Topics” menu.
2. The “Known NetWare Servers” list appears; choose the file server you want to view information about. The “File Server Information” inset appears.

   You can view the following information about any file server on your internetwork:

File Server Name

The name of the file server on the network.

NetWare Version

The NetWare version the file server is using.

System Fault Tolerance

The level of SFT NetWare that the file server is running. This information appears with NetWare versions 2.1 and above.

Transaction Tracking

Indicates whether the file server supports TTS (Transaction Tracking System) recovery for database files. This information appears with NetWare versions 2.1 and above.

Connections Supported

The maximum number of users that can be logged in to the file server at any one time.

Connections In Use

The number of users currently logged in to the file server.

Volumes Supported

The maximum number of disk volumes the file server can support.

Network Address

The address of the network the file server is attached to.

Node Address

The file server's node address on the network it is attached to.

NOTE: If other file servers on your network are running NetWare v2.1 or above, you can use SYSCON to display information about those file servers. For example, if MARKETING is your default server and you want to display information about the file server in the Communications department, you can highlight COMMUNICATIONS file server in the "Known NetWare Servers" window.

To view certain information about the operating system on a particular file server (Application number or Serial number), you must be attached to the file server as SUPERVISOR or supervisor equivalent.

Group Information

Use the “Group Information” option to complete the following tasks:

Task	Page
List the groups on the file server	“List the Groups on the File Server” on page 354
Create, rename, or delete a group	“Create, Rename, or Delete a Group” on page 354
Assign or modify a group’s full name	“Assign or Modify a Group’s Full Name” on page 355
View, add, or delete managed users or groups	“View, Add, or Delete Managed Users or Groups” on page 355
View, add, or delete managers	“View, Add, or Delete Managers” on page 356
Assign or delete users in a group	“Assign or Delete Users in a Group” on page 356
View a group’s ID number	“View a Group’s ID Number” on page 357
Assign or modify a group as trustee of a directory	“Assign or Modify a Group as Trustee of a Directory” on page 357
Assign or modify group trustee rights in a file	“Assign or Modify Group File Trustee Rights” on page 359

List the Groups on the File Server

Enter SYSCON and choose “Group Information” from the “Available Topics” menu to display the groups on the current file server.

Create, Rename, or Delete a Group

Procedure

1. Enter SYSCON and choose “Group Information” from the “Available Topics” window.

   The “Group Names” window appears.

2. To create, rename, or delete a group, complete one of the following:

   - *Create a group.* Press <Insert> to display the “New Group Name” entry box. Enter the name of the group you want to create.

- *Rename a group.* Highlight the group whose name you want to change. Press the Modify key (<F3>), backspace over the name, and enter the new name.
- *Delete a group.* Highlight a single group, or use the Mark key (<F5> or <F6>) to highlight multiple groups. Press <Delete>.

Assign or Modify a Group's Full Name

Procedure

1. Enter SYSCON and select "Group Information" from the "Available Topics" menu.

   The "Group Names" list appears.

2. Choose the group whose full name you want to assign or modify.

   The "Group Information" menu appears.

3. Choose "Full Name." The "Full Name" entry box appears.

4. To assign or modify a group's full name, do one of the following:

   - *Assign a group's full name.* If the group has not been assigned a full name, the window is blank. Enter a full name for the group.
   - *Modify the group's full name.* Backspace over the old name and enter the new name.

View, Add, or Delete Managed Users or Groups

Procedure

1. Enter SYSCON and choose "Group Information" from the "Available Topics" menu.

   The "Group Names" list appears.

2. Choose the group you want to view information about.

   The "Group Information" window appears.

3. Choose "Managed Users And Groups."

   The "Managed Users And Groups" window appears.

4. To add or delete managed users and groups, do one of the following:
   - *Add managed users and groups.* Press <Insert> to see a list of other users and groups. Choose a user or group, or use the Mark key (<F5> or <F6>) to choose multiple users and groups to manage.
   - *Delete managed users and groups.* Highlight the user or group from the "Managed Users And Groups" list, or highlight multiple users or groups with the Mark key (<F5> or <F6>). Press <Delete>.

View, Add, or Delete Managers

Procedure

1. Enter SYSCON and choose "Group Information" from the "Available Topics" window.
2. Choose "Managers" from the "Group Information" window to see the "Managers" list.
3. To add or delete managers, do one of the following.
   - *Add managers.* Press <Insert> to see the list "Other Users And Groups." Choose a user or group to add as a manager, or use the Mark key (<F5> or <F6>) to choose multiple users as managers.
   - *Delete managers.* Highlight a single manager from the "Managers" list, or use the Mark key (<F5> or <F6>) to highlight multiple managers. Press <Delete>.

Assign or Delete Users in a Group

Procedure

1. Enter SYSCON and choose "Group Information" from the "Available Topics" window. The "Group Names" list appears.
2. Choose the group in which you want to assign or delete users. The "Group Information" window appears.
3. Choose "Member List" to see the "Group Members" list.

4 To assign or delete users in a group, complete one of the following:

- *Assign users to a group.* Press <Insert>. The "Not Group Members" list appears. Choose the user you want to add to the group, or use the Mark key (<F5> or <F6>) to choose multiple users.

  If no names appear in the "Not Group Members" list, you cannot add members to the "Group Members" list.

- *Delete users from a group.* Highlight a single user, or use the Mark key (<F5> or <F6>) to highlight multiple users. Press <Delete>.

View a Group's ID Number

The file server uses the group ID to keep track of the group. The group ID cannot be changed or deleted.

Procedure

1 Enter SYSCON and choose "Group Information" from the "Available Topics" window.

2 Choose the group whose ID want to view.

3 Choose "Other Information" from the "Group Information" menu to view the ID number.

Assign or Modify a Group as Trustee of a Directory

Procedure

1 Enter SYSCON and choose "Group Information" from the "Available Topics" menu.

2 Choose the group in which you want to assign or modify trustee rights.

The "Group Information" menu appears.

3 Choose "Trustee Directory Assignments." The group's trustee directory assignments are listed.

4. To assign or modify group trustee rights in a particular directory, do one of the following:

   - *Assign group trustee rights.* Press <Insert>. In the "Directory In Which Trustee Should be Added" entry box, enter the directory path.

     If you do not know the directory path, press <Insert> to see a list of available file servers. Choose the appropriate file server. You next see a list of available volumes. Choose the appropriate volume. Repeat these steps to continue choosing directories until you have specified the full directory path.

     Press <Esc> and then <Enter>.

     NOTE: If you specify a nonexistent directory, you are asked if you want to create that directory.

   - *Modify group trustee rights in a directory.* In the "Trustee Assignments" list, choose the directory in which you want to modify the group's trustee rights. The "Trustee Rights Granted" list appears.

     Highlight a trustee right you want to delete, or use the Mark key (<F5> or <F6>) to highlight multiple rights. Press <Delete>.

     Highlight a trustee right you want to insert, or use the Mark key (<F5> or <F6>) to highlight multiple rights. Press <Insert>.

     Press <Enter> and then <Esc> to return to the "Trustee Directory Assignments" list.

Delete a Group as Trustee of a Directory

You may need to delete a group's directory trustee rights at some point. Note, however, that deleting a group's trustee *rights* is not the same as deleting the group's trustee *assignment*.

A group that does not have a trustee assignment in a directory inherits the same rights it had in the directory's parent directory.

A group that has a trustee assignment but no trustee rights does not inherit any rights.

Procedure

1. Enter SYSCON and choose "Group Information" from the "Available Topics" window.
2. Choose the group you want to remove as a trustee of the directory.

3. Choose “Trustee Directory Assignments.”
4. Highlight the directory from which you want to delete the group as a trustee, or use the Mark key (<F5> or <F6>) to highlight more than one directory. Press <Delete>.

Assign or Modify Group File Trustee Rights

Procedure

1. Enter SYSCON and choose “Group Information” from the “Available Topics” menu.
2. Choose the group in which you want to assign or modify trustee rights.
3. Choose “Trustee File Assignments” from the “Group Information” window.
4. To assign or modify group trustee rights in a file, do one of the following:
   - *Assign group file trustee rights.* Press <Insert>. Enter the directory path to the file in the “Select the Directory To Select A File From” window.

     If you don’t know the directory path, press <Insert> and choose the file server, volume, and network directory where the file is found.

     When you enter the directory information, the window changes to read “Select a file for Which to Edit Trustees.”

     Enter the filename, or press <Insert> to see a list of files available in the path you specified. Choose the file for which you want to see group trustee rights.

     After you enter the filename or choose a file from the list, you return to the “Trustee File Assignments” window, which shows the directory path to the file you chose, and the trustee rights the group has been given in that file.

     Press <Insert> to see the “Trustee File Rights Not Granted” list. Choose the file rights you want to assign and press <Enter>.
   - *Modify the “Trustee File Assignments” list.* You can delete a file by highlighting it, pressing <Delete>, and choosing “Yes.”

     Insert files by following instructions above for assigning group file trustee rights. Press <Enter> and then <Esc> to return to the “Trustee File Assignments” list.

Supervisor Options

Use “Supervisor Options” to complete the following tasks:

Task	Page
Set up and change default account balances and restrictions	“Set Up and Change Default Account Balances and Restrictions” on page 360
Assign time restrictions to all users	“Assign Time Restrictions to All Users” on page 362
Create or modify the system’s AUTOEXEC file	“Create or Modify the System’s AUTOEXEC File” on page 362
Assign or delete a group or user as a console operator	“Assign or Delete a Group or User as a Console Operator” on page 364
Activate intruder detection feature	“Activate Intruder Detection Feature” on page 365
Create or modify the system login script	“Create or Modify the System Login Script” on page 366
View and erase the error log	“View and Erase the Error Log” on page 367
Assign and modify system workgroup managers	“Assign and Modify System Workgroup Managers” on page 367

Set Up and Change Default Account Balances and Restrictions

You can set up default account balances and restrictions that apply to all users created after the restrictions have been set up.

NetWare v3.12 includes a supervisor option under “Default Account Balance/Restrictions” that allows you to specify whether you want to create users’ home directories at the same time that you create the users.

To allow home directories to be created when you create the users, complete the following steps.

Procedure

1. Enter SYSCON and choose “Supervisor Options” from the “Available Topics” menu.
2. Choose “Default Account Balance/Restrictions.”

   The “Default Account Balance/Restrictions” menu appears.

3. Choose “Create home directory for user.”
4. Change the response to “Yes” by typing “Y” and pressing <Enter>.

   Later, when you create a user, you will be prompted for the user’s home directory at the same time.

   If you do not want to create home directories when you create the users, leave the default response as “No.”

If you create a user before setting up the default restrictions, the restrictions do not apply to that user. Follow the steps below to set or change default account balances and restrictions.

Procedure

1. Enter SYSCON and choose “Supervisor Options” from the “Available Topics” menu.
2. Choose “Default Account Balance/Restrictions.”

   The “Default Account Balance/Restriction” menu appears.

   The system default is set so accounts have no expiration date, no connection limitations, and no password restrictions.
3. Change the “Default Account Balance/Restrictions” menu by choosing the restrictions that you want to apply to all users.

   NOTE: You can set up a default account balance only if you have already installed the accounting option.
4. To set or change a default account balance, highlight “Account Balance” and enter the account balance you want users to be given when their accounts are created.

   After you enter the account balance, you have the option of allowing credit. If you do not want to allow credit, leave the default response to “Allow Unlimited Credit” at “No” and the default response to “Low Balance Limit” at “0.”

   If you want to allow unlimited credit, highlight “Allow Unlimited Credit” and change the response to “Yes” by typing “Y” and pressing <Enter>.

   If you want to allow only some credit, leave the “Allow Unlimited Credit” response at “No” and highlight “Low Balance Limit.” Enter the amount of credit you want each user to be given.

   Enter a negative number to indicate that a user can receive services that are being charged for after his or her account balance has been used up.

For example, -20 indicates that the user can receive services for 20 charges after the account balance is at zero.

A positive number indicates that the user must always have some portion of the balance remaining. For example, 10 indicates that when the user's account drops to 10, the user can no longer receive services that are charged for.

Press <Esc> twice to return to the "Available Topics" menu.

Assign Time Restrictions to All Users

Use SYSCON's "Supervisor Options" to change the default time restriction that is assigned to new user accounts.

To assign time restrictions to all users, complete the following steps.

Procedure

1. Enter SYSCON and choose "Supervisor Options" from the "Available Topics" menu.
2. Choose "Default Time Restrictions."

   The "Default Time Restrictions" box lists the time in a week in half-hour increments. The time listed in the lower right-hand corner indicates which half-hour block the cursor is on.
3. To assign time restrictions to users, do one of the following.
   - *Restrict time to users.* Use the Mark key (<F5>) to mark the block of time during which you *do not* want to allow users to log in. Press <Delete>.
   - *Restore time restricted.* Use the Mark key (<F5>) to mark the block of time during which you do want to allow users to log in. Press <Insert>.

Create or Modify the System's AUTOEXEC File

You can create or modify the system's AUTOEXEC file to store console commands you want executed each time the file server comes up.

You can save any console command except DOWN in the AUTOEXEC file. For example, you might want to include the MONITOR command to automatically start the monitoring function.

The AUTOEXEC.NCF file is a batch file (similar to a DOS batch file) that executes after the NetWare operating system is booted and STARTUP.NCF is executed. The file is kept in the SYS:SYSTEM directory, and you can create it with SYSCON or with a text editor.

The AUTOEXEC.NCF file contains commands and naming information to boot the file server. More specifically, it provides information to do the following:

- Assign the file server name
- Set the internal network number
- Load and set LAN drivers
- Bind the communication protocol to the LAN drivers
- Load any other loadable modules
- Execute console commands

You can also add commands to load modules or change commands that control the server's initial settings, such as spooler mappings. For example:

```
S 0 PRINTQ_0S 1 PRINTQ_1S 2 PRINTQ_2
```

Procedure

1. Enter SYSCON and choose "Supervisor Options" from the "Available Topics" menu.
2. Choose "Edit System AUTOEXEC File" from the "Supervisor Options" menu.
3. At the "System AUTOEXEC File" entry box, type a list of spooler mappings (see example above) that you want executed each time the file server comes up. Use the following format:

   S[POOL] ***nn*** **[TO] [QUEUE]** ***name*** <Enter>
4. List any additional console commands that you want executed each time the file server comes up.
5. If you want to delete console commands from the AUTOEXEC file, use the <Backspace> or <Delete> key. Press <Esc> and then <Enter> to save the changes.

Sample AUTOEXEC.NCF File

```
file server name PD3CPU
ipx internal net 1986
load NE1000 port = 300 int = 3
bind IPX to NE1000 net = 1989
set allow unencrypted passwords = on
S[POOL] 0 [TO] [PRINTQ_0] name
```

For further explanation on AUTOEXEC.NCF files, see "INSTALL" in *System Administration*.

Assign or Delete a Group or User as a Console Operator

You can specify which groups or users are console operators. Console operators can access FCONSOLE (file server console) from workstations they are logged in to.

Procedure

1. Enter SYSCON and choose "Supervisor Options" from the "Available Topics" menu.
2. Choose "File Server Console Operators" from the "Supervisor Options" menu to display groups or users that are console operators.
3. Add or delete console operators:
   - *Add console operators.* Press <Insert>. In the "Other Users and Groups" list, choose the user or group you want to be a console operator. Use the Mark key (<F5> or <F6>) to choose more than one user or group.
   - *Delete console operators.* Highlight the user or group you want to delete from the "File Server Console Operator" list. To delete more than one user or group, highlight them with the Mark key (<F5> or <F6>) and press <Enter>. Choose "Yes" in the confirmation window.

Activate Intruder Detection Feature

The intruder detection and lockout feature allows you to set conditions for recognizing an intruder. Once these conditions have been met, you can prevent unauthorized attempts to log in to the file server.

Procedure

1. Enter SYSCON and choose “Supervisor Options” from the “Available Topics” menu.
2. Choose “Intruder Detection/Lockout.”

   The default for intruder detection is set to “No.”
3. To activate intruder detection, change the “Detect Intruders” response to “Yes” by typing “Y” and pressing <Enter>.

   To deactivate intruder detection, type “N” and press <Enter>.

   - *Why use intruder detection?* If the intruder lockout is set to detect intruders, each user account makes a record of any attempt to log in with an incorrect password more than the number of times allowed. In addition, you can specify how many unsuccessful attempts can be made before the account locks automatically and how long the account remains locked before allowing a user to log in again.

   When you activate intruder detection, the “Intruder Detection Threshold” system default appears. The “Incorrect Login Attempts” is set to seven. This means the file server allows seven incorrect login attempts before assuming an intruder is trying to break into the account. After seven attempts, the file server locks the account.
4. To change the “Intruder Detection Threshold,” highlight “7”, type in the new number, and press <Enter>.

   The “Bad Login Count Retention Time” is set for 30 minutes. This means that the file server keeps track of incorrect logins for 30 minutes past the time the last incorrect login was detected.

   When a user successfully logs in to an account or when the “Bad Login Count Retention Time” has passed, the file server resets the number of incorrect logins.
5. To change the “Bad Login Count Retention Time,” position the cursor on the days, hours, or minutes option, type the new numbers, and press <Enter>.

You can also activate the lockout security feature, which allows you to lock an account after an intruder is detected (after the specified number of "Incorrect Login Attempts"). When you activate the "Intruder Detection" option, the "Lock Account After Detection" option is set to "Yes."

6 If you do not want to use the lockout feature, change the response to "No."

The amount of time the account remains locked after an intruder is detected is specified in the "Length of Account Lockout" option. The default is 15 minutes.

To change the amount of time, move the cursor to the days, hours, or minutes options, type in the new numbers, and press <Enter>.

7 After you have finished, press <Esc> to save the changes and return to the "Supervisor Options" menu.

Create or Modify the System Login Script

Procedure

1 Enter SYSCON and choose "Supervisor Options" from the "Available Topics" menu.

2 Choose "System Login Script."

If a system login script already exists, it appears; otherwise, the screen is blank.

Include any of the commands explained in Chapter 4 of *Installation and Upgrade* in your login script. This script is executed for users when they log in. You can include commands similar to the following:

```
MAP INS S1:=SYS:PUBLIC
MAP INS S2:=SYS:PUBLIC/WORDPROC
COMSPEC=S3:COMMAND.COM
```

The first command enables users to access the NetWare utilities.

The second command enables users to access a word processing program.

The third command ensures that the COMMAND.COM file will reload properly into each workstation when an application is exited.

3 To exit the system login script, press <Esc>.

Confirm changes you made in the login script.

View and Erase the Error Log

As supervisor, you can view any errors recorded in the file server's system error log. You can also erase the error log after you have finished viewing the errors.

Procedure

1 Enter SYSCON and choose "Supervisor Options" from the "Available Topics" window.

2 To view or erase the error log, complete one of the following:

- *View the error log.* Choose "View File Server Error Log" from the "Supervisor Options" window. The "File Server Error Log" screen lists any error messages recorded since the error log was last cleared. It specifies the date and time of the error and identifies the nature of the error.

  Use the arrow keys to scroll to additional error messages. If no file server messages have been recorded, you see the following message:

  ```
  There Are No Errors Recorded In The File Server Error
    Log.
  ```

  An explanation of error messages can be found in *System Messages*.

- *Erase the error log.* Press <Esc> at the "Available Topics" window. Choose "Yes" at the "Clear Error Log" confirmation box.

  If you want to keep the log, choose "No."

Assign and Modify System Workgroup Managers

Procedure

1 Enter SYSCON and choose "Supervisor Options" from the "Available Topics" window.

2 Choose “Workgroup Managers.”

A list of workgroup managers appears. To assign or modify the list of workgroup managers, do one of the following:

- *Assign a system workgroup manager.* Press <Insert> to see a list of potential workgroup managers. Choose one manager, or use the Mark key (<F5> or <F6>) to choose multiple managers.
- *Modify a system workgroup manager.* Highlight a workgroup manager or use the Mark key (<F5> or <F6>) to highlight multiple managers. Press <Delete>.

User Information

Use the “User Information” option to complete the following tasks:

Task	Page
Create, rename, or delete users	“Create, Rename, or Delete Users” on page 369
Set a user’s account balance	“Set a User’s Account Balance” on page 370
Set a user’s account restrictions	“Set a User’s Account Restrictions” on page 371
Assign or change a user’s password	“Assign or Change a User’s Password” on page 375
Assign or change a user’s full name	“Assign or Change a User’s Full Name” on page 376
Add or delete a user in a group	“Add or Delete a User in a Group” on page 376
Create or modify a users’s login script	“Create or Modify a User’s Login Script” on page 377
Copy one user’s login script to another user	“Copy One User’s Login Script to Another User” on page 377
View and modify managed users and groups	“View and Modify Managed Users and Groups” on page 378
View and modify list of managers	“View and Modify List of Managers” on page 378
View a user’s login information, including user ID	“View a User’s Login Information, Including User ID” on page 379

Task	Page
Assign or delete a user's security equivalence	"Assign or Delete a User's Security Equivalence" on page 379
Assign station restrictions	"Assign Station Restrictions" on page 380
Assign time restrictions to individual users	"Assign Time Restrictions to Individual Users" on page 381
Assign or modify a user as trustee of a directory	"Assign or Modify a User as Trustee of a Directory" on page 382
Assign or modify user trustee rights in a file	"Assign or Modify User Trustee Rights in a File" on page 383
Limit disk space for individual users	"Limit Disk Space for Individual Users" on page 385

Create, Rename, or Delete Users

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" menu.

   The names of the users on the current file server appear.

2. To create, rename, or delete a user, complete one of the following.

   - *Create a user.* Press <Insert>. The "User Name" entry box appears. Enter the new user's name. The username can be up to 47 characters long.

     If you set the system default to create users' home directories automatically (see "Set Up and Change Default Account Balances and Restrictions" on page 360), you will be prompted for the user's home directory.

     You can accept the default directory that is shown, or you can specify a different directory. If you choose a directory that doesn't exist, it is created for you.

   - *Rename a user.* Highlight the user you want to rename and press the Modify key (<F3>). Backspace to delete the old username in the "Rename User To" entry box, and enter the new username.

- *Delete a user*: Highlight the user you want to delete, or use the Mark key (<F5> or <F6>) to highlight multiple users. Press <Delete>.

Set a User's Account Balance

Assign user account balances to determine how much of a given service each person can use. You can also assign a credit limit indicating how much credit the user can draw from.

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" window.

   The "User Names" list appears.

2. Choose the user whose account balance you want to set.

   The "User Information" list for that user appears.

3. Choose "Account Balance."

   The "Account Balance For User *USERNAME*" window appears.

4. In the first field, you can set the account balance to any number from -99999999 to 99999999.

   The default account balance is 0.

5. In the second field, you can allow unlimited credit by choosing "Yes."

   If you choose "Yes," you cannot set the low balance limit in the third field.

6. If you do not allow unlimited credit in the second field, move to the third field and set the low balance limit.

   Again, this limit can be any number from -99999999 to 99999999. The default is 0.

7. Press <Esc> to save the changes and exit SYSCON.

Set a User's Account Restrictions

If accounting is installed, you can set a user's account restrictions depending on the user's needs. You can disable a user's account temporarily without deleting it altogether. No one can log in to a disabled account.

For example, you might have an account set up for a consultant who needs to access it once a month for three months. You do not want anyone else using the account while the consultant is away, but you do not want to delete the account. In this case, you might want to disable the account by going through the following steps.

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" menu.
2. Choose the name of the user whose account you want to enable or disable.
3. Choose "Account Restrictions" from the "User Information" menu.
4. In the first field of the "Account Restrictions" window, type "Y" to disable the account or "N" to enable the account.
5. Press <Esc> to save the change and exit.

Set an Expiration Date on a User's Account

You can set up a temporary account. On a specified date, the account is automatically disabled and no one can log in to that account until the restriction is removed or the expiration date is changed.

For example, you can set the last day of a semester as the expiration date for accounts used by students. After that day, they can no longer log in to their accounts.

To set up the expiration date restriction, complete the following steps.

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" menu.
2. Choose the user whose account you want to place an expiration date on.
3. Choose "Account Restrictions" from the "User Information" menu.

4. In the “Account Restrictions” list, choose “Account Has Expiration Date.” Change the response to “Yes” by typing “Y” and pressing <Enter>.

   The “Date Account Expires” option appears. The default is set to the first day of the next month.

5. You can change this date by typing in a new date.

   Use the following format: month-day-year (11-25-93; November 25, 1993; or Nov 25, 1993).

   Press <Enter> and then <Esc> to save the changes and return to the “User Information” menu.

   On the specified expiration date, the account is disabled.

Remove an Expiration Date Restriction

To remove an expiration date restriction after the account has been disabled, complete the following steps.

Procedure

1. Enter SYSCON and choose “User Information” from the “Available Topics” menu.
2. Choose the user whose account you want modify.
3. Choose “Account Restrictions” from the “User Information” menu.
4. In the “Account Restrictions” list, choose “Account Disabled” and change the response to “No” by typing “N” and pressing <Enter>.
5. Choose “Account Has Expiration Date,” type “N” and press <Enter>.

Limit the Number of Workstations a User Can Be Logged In To

To limit the number of workstations a user can be logged in to, complete the following steps.

Procedure

1. Enter SYSCON and choose “User Information” from the “Available Topics” menu.
2. Choose the user you want to place the restriction on.
3. Choose “Account Restrictions” from the “User Information” menu.

4. In the “Account Restrictions” list, choose “Limit Concurrent Connections” and change the response to “Yes” by typing “Y” and pressing <Enter>.

   The default is set so the user can log in from only one workstation at a time.

5. To change the number of workstations a user can log in from, choose “Maximum Connections.”

   Type in the desired number of workstations (from 1 to 1000, inclusive).

   Press <Enter> and <Esc> to save the change and to return to the “User Information” menu.

   For example, you may want a user to log out of the workstation in one office before going to another office to log in to another workstation. This option also prevents anyone from logging in with the password of a user already logged in at another location.

Set Password Restrictions

You can allow users to change their passwords. You can also require a password, designate a minimum password length, force periodic password changes, designate how often the password must be changed, limit grace logins, and require unique passwords.

To assign password restrictions, complete the following steps.

Procedure

1. Enter SYSCON and choose “User Information” from the “Available Topics” menu to display the users on the current file server.
2. Choose the user you want to assign restrictions to.
3. In the “User Information” menu, choose “Account Restrictions.”

   You can choose from the following options:

   - *Allow user to change password.* You can decide whether or not a user is allowed to change the password of the account. The default is “Yes.” If “Allow User to Change Password” is set to “No,” the user is also unable to change the account’s login script using SYSCON.

For example, on accounts that many users share, such as the GUEST account, you do not want one user changing the password and locking out other users. If the option is set to "No," the user cannot change the password or edit the account's login script using SYSCON.

To specify whether a user can change the password, choose "Allow User to Change Password" and change the response to "No" by typing "N."

- *Require password.* You can require a user to have a password. A password must be required in order to use the Minimum Password Length and Force Periodic Password Changes options. The default is "No."

  To require a password, choose "Require Password" and change the response to "Yes" by typing "Y."

- *Minimum password length.* If you require a password, the system automatically sets the minimum password length to five characters.

  To change the minimum password length, select "Minimum Password Length" and type the new number. Passwords can be up to 128 characters long. Then press <Enter>.

- *Force periodic password changes.* If you require a password and allow users to change their passwords, the system forces periodic password changes every 40 days. The screen also lists the date the password expires. You can change the number of days between forced changes or you can decide not to require password changes.

  Choose "Force Periodic Changes." If you decide not to require password changes, type "N" for "No."

  If you require password changes, you can change the number of days between changes by choosing "Days Between Forced Changes" and entering the new number. The new "Date Password Expires" is shown.

- *Limit grace logins.* If you require passwords and allow users to change them, you can also limit the number of times users can log in with an expired password. The system automatically allows users to log in with an expired password six times.

  If you want to allow users to log in an unlimited number of times with an expired password, then change the "Limit Grace Logins" response to "No" by typing "N."

If you decide to limit grace logins, you can change the number of times users can log in with an expired password. Choose "Grace Logins" and enter a new number. The number of "Remaining Grace Logins" appears on the screen.

- *Require unique passwords.* If you require passwords, you can also require users to use a new password each time they change their password. The default is set so that unique passwords are not required. If you require unique passwords, the system remembers eight previous passwords. A user must keep a new password for at least one day before it is remembered by the system.

  To require unique passwords, choose "Require Unique Passwords" and change the response to "Yes" by typing "Y."

4. Press <Esc> twice to save your changes and return to the "User Information" menu.

Assign or Change a User's Password

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" menu.
2. Choose the user you want to assign a password to.

   The "User Information" menu appears.
3. Choose "Change Password."

   The "Enter New Password" box appears.
4. To assign or change a user's password, do one of the following:

   - *Assign a new password.* If a user has not been assigned a password, enter one in the "Change Password" box.

     Confirm the password by entering it again in the "Retype New Password" box.

   - *Change a user's password.* You can't see the user's old password. Just enter the new password.

     Confirm the new password by entering it again in the "Retype New Password" box.

Assign or Change a User's Full Name

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" menu.

   The "User Names" list appears.

2. Choose the user whose full name you want to assign.

   The "User Information" menu appears.

3. Choose "Full Name."

   The "Full Name" entry box appears.

4. To assign or change the full name, do one of the following.

   - *Assign a user's full name.* If the user has not been assigned a full name, enter the full name.
   - *Change the user's full name.* Use the Backspace key to delete the old name. Enter the new name.

Add or Delete a User in a Group

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" menu.

   The names of the users on the current file server appear.

2. Choose the user you want to add to or delete from a group.

   The "User Information" menu appears.

3. Choose "Groups Belonged To."

4. To add a user to or delete a user from a group, do one of the following:

   - *Add a user to a group.* Press <Insert> to see a list of groups the user does not belong to.

     Choose the group you want to add the user to, or use the Mark key (<F5> or <F6>) to choose multiple groups.

- *Delete a user from a group.* Highlight a single user, or use the Mark key (<F5> or <F6>) to highlight a user in several groups. Press <Delete>.

  In the "Delete User From Group" confirmation box, choose "Yes."

Create or Modify a User's Login Script

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" menu.
2. Choose the user you want to assign a login script to.

   The "User Information" menu appears.
3. Choose "Login Script."

   If the "Login Script Does Not Exist" box appears, create a login script.
4. To create or modify a user's login script, do one of the following:
   - *Create a user's login script.* Press <Enter> and type in the information you want to include in the user's login script. (See Chapter 4 of *Installation and Upgrade* for an explanation of login script commands.)
   - *Modify an existing login script.* If a user already has a login script, type in any additional commands. Use <Backspace> or <Delete> to delete login script commands.

Copy One User's Login Script to Another User

You can assign another user's login script to a user who does not already have a login script.

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" menu.
2. Choose the user you want to create a login script for.

   The "User Information" menu appears.
3. Choose "Login Script."

   The "Login Script Does Not Exist" box appears.

4 Use <Backspace> to delete the username listed. Enter the name of the user whose login script you want to copy.

If you don't know the name, you can press <Insert> and choose a username from the list.

View and Modify Managed Users and Groups

Procedure

1 Enter SYSCON and choose "User Information" from the "Available Topics" menu.

2 Choose the user you want to view information about.

3 Choose "Managed Users And Groups" from the "User Information" window.

4 Modify managed users and groups by completing one of the following:

- *Add managed users and groups.* Press <Insert> to see the "Other Users And Groups" window. Choose a user or group to add to those already managed, or use the Mark key (<F5> or <F6>) to add several.
- *Delete managed users and groups.* Highlight a user or group and press <Delete>. The "Revoke Rights To Manage This User" window appears. Choose "Yes." Use the Mark key (<F5> or <F6>) to highlight and revoke rights to manage several users and groups.

View and Modify List of Managers

Procedure

1 Enter SYSCON and choose "User Information" from the "Available Options" menu.

2 Choose the user for whom you want to modify managers, and then choose "Managers" from the "User Information" list.

3 To modify managers, do one of the following:

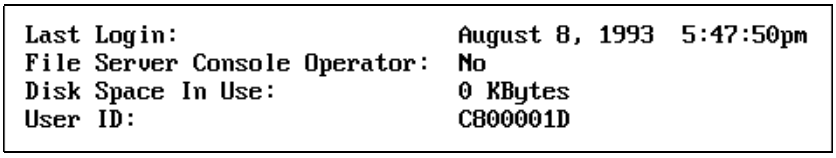
- *Add a manager.* Press <Insert> and choose a user or group from the "Other Users And Groups" list.
- *Delete a manager.* Highlight a manager, or use the Mark key (<F5> or <F6>) to highlight multiple managers. Press <Delete>.

View a User's Login Information, Including User ID

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Options" menu.
2. Choose the user whose information you want to view.
3. Choose "Other Information" from the "User Information" list.
4. View the following information about the user:

Figure 39 User login information



Assign or Delete a User's Security Equivalence

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" menu.

   The names of the users on the current file server appear.
2. Choose the user whose security equivalences you want to assign.

   The "User Information" menu appears.
3. Choose "Security Equivalences."

   The user's security equivalences appear.
4. To assign or delete a user's security equivalence, complete one of the following:

   - *Assign a user's security equivalence.* Press <Insert> to display the "Other Users And Groups" list.

     Choose the user or group that you want to make the user equivalent to. Use the Mark key (<F5> or <F6>) to choose more than one user or group.

- *Delete a user's security equivalence.* Highlight the user or group that you no longer want the user to be security equivalent to. Use the Mark key (<F5> or <F6>) to highlight more than one user or group. Press <Delete>.

Assign Station Restrictions

You can restrict the physical locations that a user can log in from. The default is set so there are no station restrictions.

For example, you might want users to log in only from the workstation in their own office. Or you may want to allow user SUPERVISOR to log in from a workstation regular users do not have physical access to.

To restrict the workstations users can log in from, you need a list of network and node addresses for each workstation. You should have received the "NetWare Fileserver LAN Worksheet" with these addresses from the installer. If you did not, you can find the address of a workstation by logging in at that workstation and typing "USERLIST /A" at the DOS prompt. You can print this list using CAPTURE.

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" menu.

   The users on the current file server appear.

2. Choose the user you want to assign station restrictions to.

   The "User Information" menu appears.

3. Choose "Station Restrictions." If the "Allowed Login Addresses" box is empty, the user can log in from any location.

4. To restrict the workstations a user can log in from, press <Insert>.

   The "Network Address" box appears.

5. Type the network address (in hexadecimal notation) of the workstation the user can log in from and press <Enter>.

When you see the “Allow Login From All Nodes” confirmation box, do one of the following:

- *Choose “Yes.”* This lets the user log in from any node address on the network.

  The restriction for all nodes on the specified network are listed in the “Allowed Login Addresses” box.

- *Choose “No.”* This restricts the user to one or to a few node addresses on the network. In the “Node Address” box, enter the address of the appropriate workstation (in hexadecimal notation).

  The network and node addresses of the specified workstation are listed in the “Allowed Login Addresses” box.

  NOTE: The “Allow Login From All Nodes” confirmation box appears only the first time a new network address is entered.

6. To restrict the user to multiple node addresses on the same network, specify each node individually by repeating Steps 4 and 5.
7. To delete a station restriction, highlight the address of the station in the “Allowed Login Addresses” list. Press <Delete> and choose “Yes” in the confirmation box.
8. Press <Esc> to return to the “User Information” menu.

If a user with a station restriction tries to log in from an unauthorized station, that user is denied access.

Assign Time Restrictions to Individual Users

You can restrict the hours during which users can log in. The default is set for no time restrictions.

For example, you might want to restrict users to log in during normal working hours only.

Procedure

1. Enter SYSCON and choose “User Information” from the “Available Topics” menu.

   The names of the users on the current file server appear.

2 Choose the user you want to assign time restrictions to, or use the Mark key (<F5> or <F6>) to choose multiple users.

   The "User Information" menu appears.

3 Choose "Time Restrictions."

   The "Allowed Login Times For User" box lists the time in a week in half-hour increments. The time listed in the lower right-hand corner indicates which half-hour block the cursor is on. The asterisks indicate available login times.

4 To assign or delete time restrictions, complete one of the following:

   - *Assign time restrictions.* Using the Mark key (<F5> or <F6>), mark the block of time during which you do not want to allow users to log in. Then press <Delete>. You can also delete blocks individually.
   - *Delete time restrictions.* Using the Mark key (<F5> or <F6>), mark the block of time during which you do want to allow users to log in. Then press <Insert>. You can also insert blocks individually.

5 Press <Esc> to return to the "User Information" menu.

Assign or Modify a User as Trustee of a Directory

Deleting a user's trustee *rights* is not the same as deleting the user's trustee *assignment*. Users who do not have specific trustee assignments in a directory inherit the same rights they had in the directory's parent directory.

Users who have a trustee assignment, but no trustee rights, do not inherit any rights.

Procedure

1 Enter SYSCON and choose "User Information" from the "Available Topics" menu.

2 Choose the user whose trustee rights you want to assign or modify.

   The "User Information" menu appears.

3 Choose "Trustee Directory Assignments."

   The user's trustee directory assignments are listed.

4 To assign or modify user trustee rights in a particular directory, do one of the following:

- *Assign user as a trustee.* Press <Insert>. In the "Directory In Which Trustee Should be Added" entry box, enter the directory path.

  If you do not know the directory path, press <Insert> to see a list of available file servers. Choose the appropriate file server. You next see a list of available volumes. Choose the appropriate volume.

  Repeat these steps to continue choosing directories until you have specified the full directory path.

  Press <Esc> and then <Enter>.

  NOTE: If you specify a nonexistent directory, you are asked if you want to create that directory.

- *Delete user as a trustee.* Highlight the directory from which you want to remove the user as a trustee and press <Delete>.

  Choose "Yes" in the "Remove Trustee From Directory" confirmation box.

- *Modify a user's trustee rights.* In the "Trustee Directory Assignments" list, choose the directory in which you want to modify the user's trustee rights. The "Trustee Rights Granted" list appears.

  Press <F3>. Highlight the right you want to modify in the specified directory, or use the Mark key (<F5> or <F6>) to highlight multiple rights.

  To revoke rights, press <Delete> and choose "Yes" in the "Revoke All Marked Trustee Rights" confirmation box.

  To grant rights, press <Enter> and then <Insert> to see the "Trustee Rights Not Granted" list. Choose the right or rights you want to grant the user in the specified directory.

  Press <Enter> and <Esc> to save the changes and exit SYSCON.

Assign or Modify User Trustee Rights in a File

Procedure

1 Enter SYSCON and choose "User Information" from the "Available Topics" menu.

2 Choose the user whose trustee rights you want to assign or modify.

3. Choose “Trustee File Assignments” from the “User Information” window.

4. To assign or modify user trustee rights in a particular file, do one of the following:

   - *Assign user trustee rights.* Press <Insert>. In the “Select the Directory To Select A File From” window, enter the directory path.

     If you do not know the directory path, press <Insert> to see a list of available file servers. Choose the appropriate file server.

     You next see a list of available volumes. Choose the appropriate volume.

     Repeat these steps to continue choosing directories until you have specified the full directory path.

     Press <Esc> and then <Enter>.

     When you enter the directory information, the window changes to read “Select a file for Which to Edit Trustees.”

     Enter the filename, or press <Insert> to see a list of files available in the path you specified. Enter the name of the file for which you want to see user trustee file assignments.

     Once you have entered the filename, you return to the “Trustee File Assignments” window, which shows the directory path to the file you chose and the trustee assignments the user has been given in that file.

     Press <Insert> to see the “Trustee Rights Not Granted” list. Choose a right to grant, or use the Mark key (<F5> or <F6>) to choose multiple rights. Press <Enter> to assign the selected rights in the file. Press <Esc> to exit.

   - *Delete a user as trustee of a file.* In the “Trustee File Assignments” list, highlight the file from which you want to delete the user as a trustee, or use the Mark key (<F5> or <F6>) to highlight more than one directory.

     Press <Delete> and select “Yes” in the “Remove Trustee From File” confirmation box. Press <Enter> and then <Esc> to return to the “Trustee File Assignments” list.

   - *Modify user trustee rights in a file.* In the “Trustee File Assignments” list, choose the file in which you want to modify a user’s trustee rights. The “Trustee Rights Granted” list appears.

To delete trustee rights in a file, highlight the filename and press <Delete>. Choose "Yes" from the "Revoke Trustee Right" window.

To insert trustee rights in a file, press <Insert> to see the "Trustee Rights Not Granted" list. Choose the right you want to add, or use the Mark key (<F5> or <F6>) to add multiple rights. Press <Enter> to complete the addition and press <Esc> to exit SYSCON.

Limit Disk Space for Individual Users

You may want to limit the disk space for one or two users. Or, you may want to limit the disk space for all users, assigning each a different amount of space.

NOTE: If you want to limit the disk space for all users, but assign each user the same amount of space, set the system defaults as explained under "Set Up and Change Default Account Balances and Restrictions" on page 360.

Procedure

1. Enter SYSCON and choose "User Information" from the "Available Topics" menu.
2. Choose the user whose disk space you want to limit.
3. Choose "Volume Restrictions" from the "User Information" menu.
4. Choose the volume on which you want to limit disk space.
5. The "User Disk Volume Restrictions" box appears.

   ```
   Limit Volume Space? No

   Volume Space Limit 0 KBytes

   Volume Space In Use 0 KBytes
   ```

6. In the "Limit Volume Space?" field, change the default to "Yes" by typing "Y" or "Yes."
7. Enter the volume space limit in kilobytes. The default is 0.

   NOTE: If a user tries to use more disk space than assigned, an error message appears indicating insufficient disk space.

8. Press <Esc> to exit SYSCON.

SYSTIME

Why Use SYSTIME?

Use SYSTIME to view the date and time set on any file server on your network or internetwork.

When you view this information for a file server, SYSTIME also synchronizes the date and time set on your workstation with the settings on that file server.

Command Format

SYSTIME [*fileserver*]

If you want to view the date and time on a file server other than your default file server, replace *fileserver* with the name of that file server.

View the Date and Time Set on a File Server

You must be attached to another file server before you can use SYSTIME to view the date and time of that file server and synchronize the date and time set on your workstation with the date and time on that file server.

View Settings on Default File Server

Suppose you want to see the date and time set on your default file server. Type

SYSTIME <Enter>

You see a message similar to the following.

```
Current System Time: Monday July 17, 1990 8:37 am
```

View Settings on Another File Server

Suppose you want to view the date and time on file server SALES. Type

SYSTIME SALES <Enter>

Information similar to the following appears:

```
Current System Time: Monday July 17, 1993 8:32 am
```

TIME

Why Use TIME?

Use TIME to display the date and time kept by the file server's clock.

Command Format

```
TIME
```

For a complete explanation of "TIME," see *System Administration*.

TLI

Why Use TLI?

Use TLI if you have a loadable module that requires TLI communication services.

STREAMS and CLIB must be loaded before TLI can be loaded. You also need to load one or more protocol NLMs (SPXS, IPXS).

Command Format

LOAD [*path*]TLI

Command Parameters

Replace *path* with a full directory path to the directory containing the module; begin with a DOS drive letter or a NetWare volume name.

If no path is specified, the operating system assumes that the loadable module is located in the SYS:SYSTEM directory.

Additional Information

Load the following modules in the order listed before loading TLI.

STREAMS
CLIB

After loading TLI, load the protocol module(s).

For a complete explanation of "TLI," see *System Administration*.

TLIST

Why Use TLIST?

Use TLIST to view the trustee list of a directory or a file.

Command Format

TLIST [*path* [USERS | GROUPS]]

Replace *path* with a directory path leading to the directory or the file whose trustee list you want to view.

To view only the user trustees of a directory, include USERS in your command.

To view only the group trustees of a directory, include GROUPS in your command.

If you don't specify USERS or GROUPS in your command, both are be displayed.

TLIST supports wildcard characters.

Periods (..) can be used with TLIST to display the trustee lists of the directory above the current directory.

Use /C after the command to allow continuous scrolling. If /C is not used, TLIST pauses after every screen of information.

Additional Information

You must be attached to a file server before you can view the trustee list of a directory or its files on that server. (See "ATTACH" on page 45.)

You must have the Access Control right in a directory to view the trustee list of that directory or its files.

View the Trustee List of Your Default Directory

View Trustee List

To view the trustee list of your default directory, type

TLIST <Enter>

You see information similar to the following:

```
User Trustees:
MICHIKO [ RWCEMFA ]
GEORGE [ R F ]

Group Trustees:
CLERKS [ R F ]
```

This screen display lists the users and groups who are trustees of your default directory and their trustee rights.

View User or Group Trustees

To view only the user trustees of your default directory, include a period (.) and USERS in the command. The period represents your default directory. Type

TLIST . USERS <Enter>

You see information similar to the following:

```
User Trustees:
MICHIKO [ RWCEMFA ]
GEORGE [ R F ]
```

To view only the group trustees of your default directory, include a period (.) and GROUPS in the command. Type

TLIST . GROUPS <Enter>

You see information similar to the following:

```
Group Trustees:
CLERKS [ R F ]
```

View the Trustee List of Any Directory

View Trustee List

Suppose you want to view the trustee list of the DATA directory, which is not your default directory. Also suppose drive G: is mapped to the DATA directory as follows:

Drive G: = RECORDS/SYS: DATA

To view the trustee list of the DATA directory, type

TLIST G: <Enter>

You see information similar to the following:

```
User Trustees:
MICHIKO [ RWCEMFA ]
GEORGE [ R F ]
    _____
Group Trustees:
CLERKS [ R F ]
```

View User or Group Trustees

To view only the user trustees in the DATA directory, type

TLIST G: USERS <Enter>

You see information similar to the following:

```
User Trustees:
MICHIKO [ RWCEMFA ]
GEORGE [ R F ]
```

To view only the group trustees in the DATA directory, type

TLIST G: GROUPS <Enter>

You see information similar to the following:

```
Group Trustees:
EDITORS [ R F ]
```

View the Trustee List of a File in Your Default Directory

To view the trustee list of a file in your default directory, include the filename in the command. Suppose you want to view the trustee list of the file JEFFREY. Type

TLIST JEFFREY <Enter>

You see information similar to the following:

```
User Trustees:
MICHIKO [ RWCEMFA ]
GEORGE [ R F ]

Group Trustees:
CLERKS [ R F ]
```

View the Trustee List of a File in Any Directory

Suppose you want to view the trustee list of the DISK file in the DATA directory. Assume that drive G: is mapped to the DATA directory as follows:

Drive G:=RECORD/SYS: DATA

To view the trustee list of a file in any directory, specify the filename in the directory path. Type

TLIST G:DISK <Enter>

Viewing the Trustee Lists of Files and Directories

View Trustee List of Default Directory

To view the trustee list of all files and directories in your default directory, include a wildcard character in the command. Type

TLIST * <Enter>

To view the trustee list of all files with the extension .EXE in your default directory, type

TLIST *.EXE <Enter>

View Trustee List of Any Directory

To view the trustee list of all files with the extension .EXE in any directory, type the directory path and the extension.

Suppose you want to view the trustee list of all files with the extension .EXE in the PROGRAMS directory. Type

TLIST RECORD/SYS:PROGRAMS*.EXE <Enter>

To view the trustee list of all directories that begin with the letter J in your default directory, type

TLIST J* <Enter>

TRACK OFF

Why Use TRACK OFF?

Use TRACK OFF to prevent the file server from displaying network advertising packets that are received or sent on the Router Tracking Screen.

This command turns off the Router Tracking Screen.

Command Format

```
TRACK OFF
```

For a complete explanation of "TRACK OFF," see *System Administration*.

TRACK ON

Why Use TRACK ON?

Use TRACK ON to create a new Router Tracking Screen (if the screen did not already exist) and make it the active screen.

This command also signals the router to display all server and network advertising packets that are received or sent.

Command Format

```
TRACK ON
```

For a complete explanation of "TRACK ON," see *System Administration*.

UNBIND

Why Use UNBIND

Use UNBIND to remove a communication protocol from the LAN driver of a network board or to change the network number.

Command Format

UNBIND *protocol* [FROM] *LAN_driver* [*driver_parameter...*]

Command Options

Replace *protocol* with IPX.

If you have bound protocols other than IPX, replace *protocol* with the name of the protocol you want to unbind.

Replace *LAN_driver* with one of the following or the name of a third-party driver:

NE2
NE1000
RXNET
NE2-32
NE2000
TOKEN

Use *driver_parameter* only when you have more than one network board of the same type in your file server. The operating system must be told which board to unbind the communication protocol from.

For a complete explanation of "UNBIND," see *System Administration*.

UNLOAD

Why Use UNLOAD?

Use UNLOAD to unlink a loadable module from the operating system and to return the allocated memory to caching.

Use UNLOAD to upgrade or change LAN and disk drivers by unlinking the old driver so that a new driver can be loaded.

Command Format

UNLOAD ***loadable_module***

For a complete explanation of "UNLOAD," see *System Administration*.

UPS

Why Use UPS?

Use UPS when attaching an Uninterruptible Power Supply to your file server.

UPS is the software link between the file server and the power supply.

NOTE: The UPS hardware loadable module must be loaded before UPS will be activated.

Command Format

LOAD *path* UPS [*type I/O port discharge recharge*]

For a complete explanation of "UPS," see *System Administration*.

UPS STATUS

Why Use UPS STATUS?

Use UPS STATUS any time to check the uninterruptible power supply attached to the file server.

NOTE: If the UPS module has not been loaded, executing UPS STATUS gives the error "??? Unknown Command???"

Command Format

```
UPS STATUS
```

For a complete explanation of "UPS STATUS," see *System Administration*.

UPS TIME

Why Use UPS TIME?

Use UPS TIME to change the amount of time you want to allow the network to function on battery power and the time you estimate it will take the battery to fully charge.

This command is only valid if the UPS loadable module has been loaded.

Command Format

```
UPS TIME [discharge recharge]
```

For a complete explanation of "UPS TIME," see *System Administration*.

USERDEF

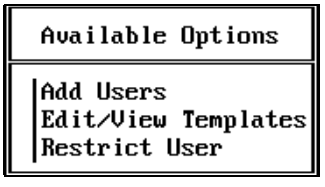
Why Use USERDEF?

A supervisor (or supervisor equivalent) can use USERDEF to complete the following tasks:

- Create multiple users
- Provide simple login scripts
- Set up home directories
- Set up minimal login/password security
- Assign account and disk space restrictions
- Set up print job configurations

The tasks you can perform with USERDEF are organized according to the topics in the "Available Options" menu.

Figure 40 USERDEF Available Options menu



Task	Page
Add Users	
Create multiple users	"Create Multiple Users" on page 403
Edit Template	
Create a custom template for USERDEF	"Create a Custom Template for USERDEF" on page 404
Restrict User	
Restrict disk space for existing users	"Restrict Disk Space for Existing Users" on page 410

Additional Information

Before you run USERDEF, you must complete some preliminary steps, depending on whether you use the default template or a custom template.

Default template. If you use the default template, you must complete the following:

- Install the accounting option in SYSCON (if you will use the accounting feature).
- Copy print device definitions for your printers with PRINTDEF.
- Create the print job configurations in PRINTCON for user SUPERVISOR so that the configurations can be copied for new users.

Custom template. If you use a custom template, you must complete the following:

- Install the accounting option in SYSCON (if you will use the accounting feature).
- Create additional user groups in SYSCON (if you need groups other than EVERYONE).
- Create application directories (if you are not putting program files in SYS:PUBLIC).
- Create a parent directory for users' home directories (if you don't want them directly in the SYS volume).
- Copy print device definitions for your printers with PRINTDEF.
- Create the print job configurations in PRINTCON for user SUPERVISOR so that the configurations can be copied for new users.

  NOTE: You must have DOS loaded on your file server to use USERDEF. If you have not loaded DOS, USERDEF prompts you to insert the DOS diskettes and uploads DOS to your file server.

  If you are uploading DOS v3.30 from 3.5-inch diskettes, the STARTUP and OPERATING files are combined on a single diskette. In this case, just press <Esc> when you are prompted to insert the OPERATING diskette. You do not need to remove the diskette and reinsert it.

Create Multiple Users

Procedure

1. Enter USERDEF and choose "Add Users" from the "Available Options" menu.
2. Choose either "Default" or a custom template from the "Templates" menu.

   A list of users appears.
3. Press <Insert> and type the full name of the user you want to create. Press <Enter>.
4. Accept or edit the user's login name.
5. Repeat Steps 3 and 4 for each user.

   NOTE: If you make a mistake and need to delete usernames you have added to the list, you can delete them as long as they are designated as "new" in the right column. Mark the ones you want to delete with the Mark key (<F5>) and then press <Delete>.

   USERDEF will *not* allow you to delete usernames that have already been created on the file server (usernames not designated as "new" in the right column). Existing users can be deleted only with SYSCON.
6. Review your current list of users and then press <Esc>.
7. Choose "Yes" in the "Create New Users Using Template" menu.
8. Accept the suggested password for each username less than five characters long and press <Enter>.

   NOTE: For all usernames five characters or more in length, the initial password is the username. Accepting the suggested password for usernames less than five characters long makes it easier to tell your users what their *initial* password is. This initial password is used only the *first* time users log in. At that time, they must set their own passwords.

   After the suggested password has been specified for each new user, USERDEF creates the new users. USERDEF formulates a .USR file that is automatically processed by the MAKEUSER utility. You are asked to wait while the file is scanned and processed.

   Any errors encountered during the processing will be indicated on the "MakeUser Results" screen that appears when the processing is complete.
9. Review the "MakeUser Results" screen and then press <Esc>.

Create a Custom Template for USERDEF

To create a custom template for creating users, you must edit the template's account parameters, add to the basic login script, or both.

Edit the Template's Account Parameters

Procedure

1. Enter USERDEF and choose "Edit Template" from the "Available Options" menu.

   NOTE: You cannot edit the Default Template Login script or the parameters screen.

2. Press <Insert> and type the name of the template you want to create.

   The name of the template should indicate the type of user it is intended for. If you were creating a template specifically for clerks, for example, name the template "CLERK."

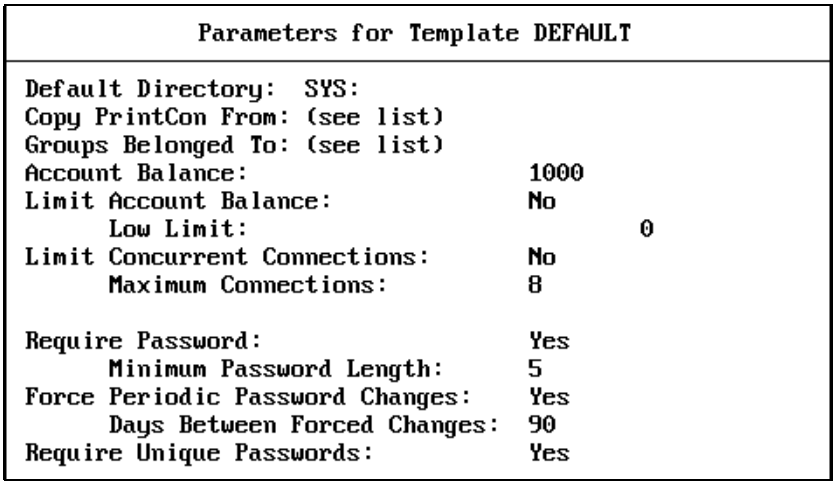
3. Press <Enter>.

4. Choose "Edit Parameters" in the "Template" menu.

   A parameters window for the new template appears. The listed parameters initially display the same settings as the default template.

Use the Up and Down arrow keys to move through the parameters. Each parameter is discussed in detail as follows:

Figure 41 User template parameters



When you have finished specifying all the parameters of your custom template, press <Esc>. Choose "Yes" in the "Save Changes" confirmation box to confirm your custom settings.

Default Directory

The "Default Directory" is the parent directory of the users' home directories. The default setting is the SYS: volume.

Unless you change the default directory parameter, users' home directories are created as directories in SYS: (SYS:LARRY, SYS:DEANN, and so on).

To eliminate the automatic creation of a home directory, the supervisor should leave the "Default Directory" option blank.

If you want to create the users' home directories as *subdirectories* of another directory (such as SYS:HOME), you must have created the parent directory and you must change the default directory parameter.

To change the "Default Directory," complete the following steps.

Procedure

1. Choose the "Default Directory" field.
2. Type the name of the parent directory in the space following SYS: in the highlighted box. Then press <Enter>.

   Users' home directories will now be created as subdirectories of the new default directory.

Copy PrintCon From

This field allows you to specify where you want to copy the print job configurations from. To copy print job configurations from SUPERVISOR, complete the following steps.

Procedure

1. Choose "Copy PrintCon From" and press <Enter>.

   The "PrintCon Users" list appears.

   If you created the print job configuration for user SUPERVISOR before running USERDEF, SUPERVISOR appears on the list of currently existing PRINTCON users.
2. Choose "SUPERVISOR."

   PRINTCON users appear in the list and SUPERVISOR is highlighted as the user PRINTCON was copied from.

Groups Belonged To

This field allows you to specify the groups you want to assign your users to.

Procedure

1. Choose "Groups Belonged To" and press <Enter>.

   The "Groups Belonged To" list appears, containing the system-created group EVERYONE.
2. To view a list of other groups, press <Insert>.

   The "Groups Not Belonged To" list appears, displaying the names of the groups.
3. Choose the group you want to assign new users to.

   The group name now appears in the "Groups Belonged To" list.

4 Press <Esc>.

5 Repeat Steps 1 through 4 above for every group you want to add users to.

Account Balance

This option allows you to assign user account balances.

As network supervisor, you can assign users account balances to regulate how much of a given service they can use. The balance is lowered each time the user is charged for a service. The default setting for "Account Balance" is 1,000 charges.

Procedure

1 Choose the "Account Balance" field.

2 To increase or decrease the amount of the balance, type in the new amount. Then press <Enter>.

Limit Account Balance

The default setting for "Limit Account Balance" is "No" (no limits). Even after the account balance is depleted, users can operate their accounts on unlimited "credit."

Procedure

1 To limit users' credit, change the setting to "Yes" by typing "Y" and pressing <Enter>.

2 Specify how low the account balance can go by setting the "Low Limit" parameter.

The default setting is 0. If you want to change the setting, type in a new amount and press <Enter>.

Type a positive number to indicate that the user must always have a balance remaining. For example, 10 indicates that when the user's account drops to 10, the user no longer receives services.

Type a negative number to indicate that a user can still receive services after the account balance has been depleted. For example, -20 indicates that the user can receive services for 20 charges after the user's account balance reaches to zero.

Limit Concurrent Connections

The default setting of the “Limit Concurrent Connections” parameter is no limitations.

Procedure

1. Choose the “Limit Concurrent Connections” field.
2. To limit the number of concurrent connections a user can have, type “Y” for “Yes” and press <Enter>.
3. The maximum number of concurrent connections is eight.

   If you want to allow fewer connections, type a new number and press <Enter>.

Require Password

The default setting for “Require Password” is “Yes.”

If you do not want to require a password, type “N” for “No” and press <Enter>.

Procedure

1. To require passwords to be a certain length, choose “Minimum Password Length.”

   The default setting requires a password of at least five characters.
2. To change the minimum number of characters, type the new minimum number in the field and press <Enter>.

Force Periodic Password Changes

The default setting requires passwords to be changed at fixed intervals.

You can change the setting to “No” by typing “N” and pressing <Enter>.

If you want users to change their passwords periodically, you can specify the interval. The default setting for the “Days Between Forced Changes” parameter is 90. (When users log in after 90 days, they receive a message that their passwords have expired and that they must enter new passwords.)

Procedure

1. Choose “Days Between Forced Changes.”
2. To increase or decrease the number of days, type the new number in the response field and press <Enter>.

Require Unique Password

A unique password is one the user has not used before on the file server.

The default setting is “Yes.”

If you do not want to require unique passwords, choose “Require Unique Passwords,” type “N” for “No,” and press <Enter>.

Edit the Basic Login Script

The basic login script in the default template is intended as a starting point. *Do not* change the drive mappings and COMSPEC command in the basic login script. They give users access to their home directories, the DOS directories, and the commands and utilities in SYS:PUBLIC.

You can, however, add additional mappings. You should add a search drive mapping to any application subdirectory you may have created.

For a list of other login script commands and explanations of what they do and how to use them, see Chapter 4 of *Installation and Upgrade*.

To edit the basic login script, complete the following steps.

Procedure

1. Enter USERDEF and choose “Edit Template” from the “Available Options” menu.
2. Choose the template you want to edit.
3. Choose “Edit Login Script” from the “Template” menu and press <Enter>.

   A window appears displaying the login script from the default template.
4. Add a search drive mapping to each application subdirectory you created.

   For example, if you created SYS:PUBLIC/WP for a word processing application, type (on the line following the last search drive mapping)

   ```
   MAP INS S3:=SYS:PUBLIC/WP
   ```

Do not use the same search drive number for more than one subdirectory.

5 Choose and enter any additional commands appropriate to your situation. Then press <Esc>.

The “Save Changes” confirmation box appears. Press <Enter> to confirm the additions you have made to the login script. You are returned to the “Template” menu.

6 When you have completed your custom template, press <Esc>.

Press <Enter> in the “Save Changes to Template” confirmation box to save your login script additions.

7 Press <Esc> until you return to the “Available Options” menu.

To create users with the custom template, go to “Create Multiple Users” on page 403.

Restrict Disk Space for Existing Users

You can use this USERDEF option to restrict disk space at the volume level for existing users.

Procedure

1 Enter USERDEF and choose “Restrict User” from the “Available Options” window.

2 Choose the user whose disk space you want to restrict.

If you have more than one volume, choose the appropriate volume from the “Volumes” window.

The “Limit Space” field is highlighted in the “User Disk Space Limitation Information” window.

3 Type “Y” for “Yes” and press <Enter>.

The “Available Kilobytes” field is highlighted.

4 Type the maximum disk space you want to allow.

5 Press <Esc> to save your changes.

USERLIST

Why Use USERLIST?

Use USERLIST to accomplish the following tasks:

- View a list of current users for a given file server.
- View each user's connection number.
- View login time.
- View network address and node address.
- View the type of object that is attached to the server.

Command Format

USERLIST [*fileserver/*][*name*] [/A | /O] [/C]

Replace *fileserver/* with the name of a file server if you want to view the list of users for a file server other than your default file server. The slash (/) indicates a file server rather than a username.

Replace *name* with the name of a user whose connection number and login time you want to view.

Command Options

/Address

Include this option to view not only the connection number and login time of one or more users, but also the network address and the node address of each user.

/Object

Include this option to view the object type attached at that connection.

/Continuous

Include this option if you want the list of users to scroll down without stopping.

Additional Information

You must be attached to a file server before you can view the list of users for that file server. (See “ATTACH” on page 45.)

An asterisk (*) appears next to your username in the list of current users.

View a List of Users on a File Server

View Default Server

To list the users for your default file server, type

USERLIST <Enter>

You see information similar to the following.

Figure 42 User information for default server

```
User Information for Server PRUFROCK
Connection   User Name   Login Time
----------   ---------   --------------------
   1         JOIE        7-17-1990 8:03 am
   2         *CORRINE    7-17-1990 8:30 am
   3         PAULO       7-17-1990 7:59 am
   4         GUY         7-17-1990 9:30 am
```

View Additional Servers

You want to list the users for file server RECORDS, which is not your default file server. Type

USERLIST RECORDS/ <Enter>

You see information similar to the following:

Figure 43 User information for another server

```
User Information for Server RECORDS
Connection   User Name   Login Time
----------   ---------   --------------------
   1         LUPE        7-17-1990 7:31 am
   2         *LINDA      7-17-1990 7:30 am
   3         MARC        7-17-1990 8:51 am
   4         JILLIAN     7-17-1990 7:30 am
```

View Users' Network and Node Addresses

To see the network and node addresses of each user on a file server, include "/A" in your command.

To see the network and node addresses of each user on a file server other than your default server, also include the name of the server in the command.

View Addresses

To see the network and node addresses of all users on file server RECORDS. If RECORDS is your default file server, type

USERLIST /A <Enter>

If RECORDS is not your default file server, type

USERLIST RECORDS/ /A <Enter>

You see information similar to the following:

Figure 44 Network and node address information

```
User Information for Server RECORDS
Connection UserName  Network Node Address Login Time
---------- --------- ------- ------------ ---------------
   1       JIM       CED88   2608C234732  7-17-1990 8:03
   2       LANE      CED88   2608C374892  7-17-1990 8:30
   3       NATE      CED87   2608C857593  7-17-1990 7:59
   4       *JULIE    CED87   2608C448928  7-17-1990 9:30
```

The network address identifies each user's network, and the node address identifies the address set on each user's network board.

View Information about a Single User

To view information about a single user, include the username in the command.

View User Information on Default File Server

To view information about user ELENA on your default file server, type

USERLIST ELENA <Enter>

You see information similar to the following:

Figure 45 Information about a single user

```
Connection     User Name     Login Time
----------     ---------     --------------------
     1         ELENA         7-17-1993 8:03 am
```

View User Information with Network and Node Address

You want to see the network address and the node address for user ELENA. Include "/A" in the command:

USERLIST ELENA /A <Enter>

You see information similar to the following:

Figure 46 Network and node information for a single user

```
Connection User Name Network Node Address     Login Time
---------- --------- ------------ ----------- --------------
1          ELENA     CED88     2608C234732 7-17-1993 8:03 am
```

VERSION (Command Line Utility)

Why Use VERSION?

Use VERSION to view the version of a NetWare utility or NLM on your file server. This utility displays the copyright notice and a checksum.

Command Format

VERSION [*path*] *filename*

Replace *path* with the directory path leading to the utility whose version you want to view.

Replace *filename* with the name of the utility whose version you want to view.

VERSION supports wildcard characters.

View a Utility in Your Default Directory

Type

VERSION USERLIST <Enter>

You see information similar to the following:

```
USERLIST.EXE: NetWare UserList, Version 2.10
```

View a Utility in Any Directory

Suppose you want to view the version of a utility located in directory MINE mapped to drive G:. Type

VERSION G:MINE/USERLIST <Enter>

You see information similar to the following:

```
USERLIST.EXE: NetWare UserList, Version 2.10
```

View a Group of Utilities

To view all .EXE files in your current directory, replace filename with an asterisk (*). Type

VERSION *.EXE <Enter>

You see a list of all the files with the .EXE extension.

VERSION (Console Command)

Why Use VERSION?

Use VERSION to display the file server's version information and copyright notice.

Command Format

```
VERSION
```

For a complete explanation of "VERSION," see *System Administration*.

VOLINFO

Why Use VOLINFO?

Use VOLINFO to view information about each volume on your file server.

When you enter VOLINFO, you see the “View Volume Information” window and an “Available Options” menu from which to choose tasks.

Figure 47 View Volume Information window

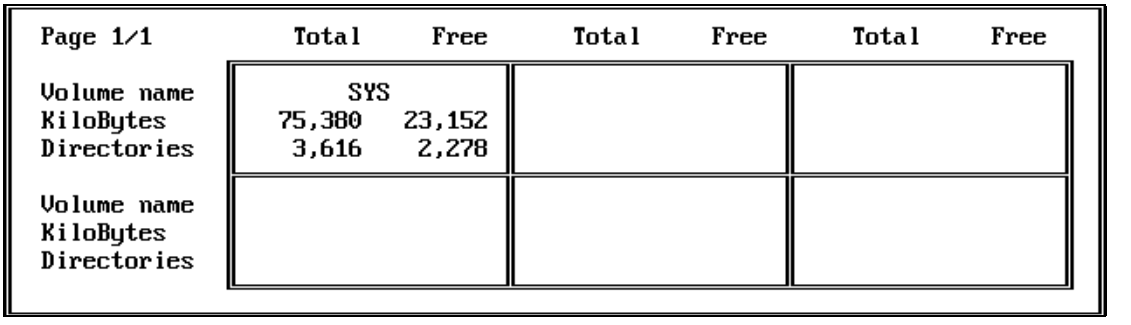
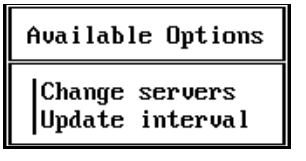


Figure 48 Available Options Menu

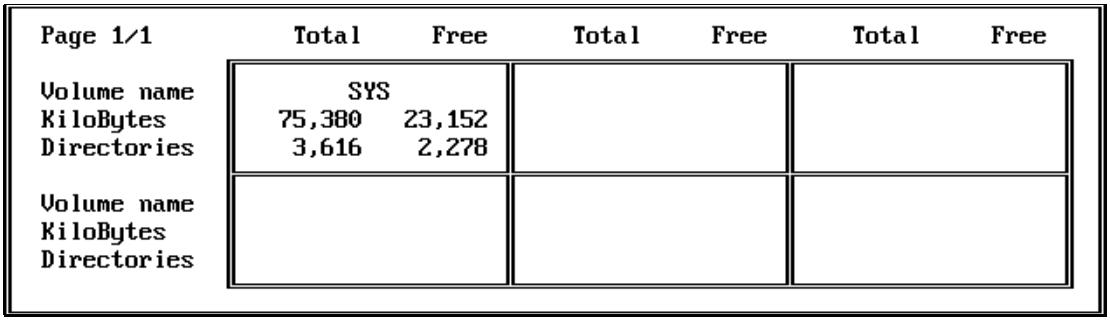


The tasks in VOLINFO are organized according to the “View Volume Information” window and the “Available Options” menu.

Task	Page
View Volume Information	
View volume information	“View Volume Information” on page 420
Change Servers	

Task	Page
View information about another server	“View Information about Another Server” on page 421
Attach to another file server	“Attach to Another File Server” on page 421
Next Page	
View additional volume information	“View Additional Volume Information” on page 422
Previous Page	
View additional volume information	“View Additional Volume Information” on page 422
Update Intervals	
Adjust elapsed time between updates	“Adjust Elapsed Time between Updates” on page 422

Figure 49 View Volume Information window



Additional Information

A volume is the physical portion of the hard disk that stores information on a file server.

A volume is also the highest level in the hierarchical directory structure (a NetWare volume is at the same level as a DOS root directory).

Network security does not affect the information you can see or the tasks you can perform in VOLINFO.

VOLINFO displays information for up to 32 volumes, in six screens containing up to six volumes each.

If you have more than six volumes, the menu shown on page 1 of the "View Volume Information" window includes the entries "Next Page" and "Previous Page" since only six volumes fit on each screen.

View Volume Information

Page

Refers to the page number (1 to 6) of the "View Volume Information" window. Each window can display information for as many as six volumes.

Volume Name

Identifies the volume you are viewing.

KiloBytes

Refers to the storage capacity of the volume. Total KiloBytes reflects the total volume capacity. Free KiloBytes reflects the amount of unused disk space on the volume.

MegaBytes

Refers to the volume's storage capacity. VOLINFO defaults to megabytes if your file server has more than one gigabyte of disk storage space.

Use the toggle key (<F2>) to view volume storage in both kilobytes and megabytes.

Directories

Refers to the number of directory entries allocated for the volume. Each DOS file, subdirectory, and trustee list on the volume uses one directory entry. Each Macintosh file uses two directory entries.

"Total" refers to the number of directory entries that NetWare v3.*x* has allocated to the volume. "Free" lists the number of available directory entries.

The information in each box is updated at intervals varying from 1 to 3,600 seconds. Any user can enter the amount of time between updates or use the default setting of 5 seconds.

When the “Free” figures in the “KiloBytes” or “Directories” columns increase or decrease, Up and Down arrows appear. The arrows reflect changes that occurred during the previous update. The figures flash if the amount of disk space reaches the minimum or maximum level.

View Information about Another Server

To view volume information about another file server to which you are attached, complete these steps.

Procedure

1. Enter VOLINFO and choose “Change Servers” from the “Available Options” menu.
2. Choose the file server you want to view information about.

   You see the main VOLINFO screen which contains information for the file server you chose.

Attach to Another File Server

Use VOLINFO to view volume information about file servers to which you are not attached.

Procedure

1. Enter VOLINFO and choose “Change Servers” from the “Available Options” menu.
2. Press <Insert> to view a list of the file servers your file server recognizes.

   The “Other File Servers” window appears.
3. Choose the file server to which you want to attach.

   The “New User Name” entry box is displayed.
4. Enter your username.

   If the username you enter has a password, enter it in the “Password” entry box. The file server and your username appear in the “File Server/User Name” list.
5. Choose the newly added file server.

View Additional Volume Information

If you have six or fewer volumes on your file server (or file servers), this option will not appear.

If you have more than six volumes to view, the additional volumes are shown on other screens.

View Next Page

Choose “Next Page” from the “Available Options” menu to view volume information for volumes that do not appear on the current screen.

For example, suppose you have 17 volumes on your file server and you want to view information about volume 9. Choose “Next Page” in the “Available Options” menu. The next page displays the information for volume 9.

View Previous Page

When you choose “Next Page,” you see “Previous Page” when you access the succeeding screens. To return to a previous page, choose “Previous Page.”

Adjust Elapsed Time between Updates

You can increase or decrease the amount of time that elapses between volume information updates. The default interval is five seconds.

Procedure

1. Enter VOLINFO and choose “Update Interval” from the “Available Options” menu.

   The “Volume Update Interval” window is displayed.

2. To increase or decrease the elapsed time, delete the previous update interval and enter the new update interval.

   The interval can be between one second and one hour (3,600 seconds).

VOLUMES

Why Use VOLUMES?

Use VOLUMES to display a list of volumes currently mounted on the file server.

Command Format

```
VOLUMES
```

For a complete explanation of "VOLUMES," see *System Administration*.

VREPAIR

Why Use VREPAIR?

Use VREPAIR to correct minor hard disk problems on a volume without destroying its data.

Minor problems can occur if the *primary* File Allocation Table (FAT) or Directory Table becomes corrupted.

VREPAIR compares the primary tables with their *mirrored* counterparts, checks both sets of tables for errors, and uses the most correct table entry as the *corrected* entry. VREPAIR then writes the corrected entry to both the primary and mirrored tables.

VREPAIR may have to delete some corrupted files or tables in the process.

Use VREPAIR if

- A hardware failure has either prevented a volume from mounting or caused a disk read error;
- A power failure has corrupted a volume;
- The file server console displays a mirroring error when the server boots.

VREPAIR can run on a bad volume while other file server volumes are functioning.

After VREPAIR is completed, you can mount the volume in most cases.

Command Format

LOAD [*path*] VREPAIR

For a complete explanation of "VREPAIR," see *System Administration*.

WHOAMI

Why Use WHOAMI?

Use WHOAMI to view the following information about the file servers to which you are attached:

- Your username on each file server
- The names of file servers you are attached to
- The software version each file server is running
- Your login date and time for each server
- The groups you belong to on each server
- Your rights on each server
- Your security equivalences on each server

Command Format

WHOAMI [*fileserver*] [*option...*]

Replace *fileserver* with the name of the file server you want to specify.

Command Options

Replace *option* with one or more of the following options:

/Security

Use this option to view your security equivalences on each file server you specify.

/Groups

Use this option to view your membership in groups on each file server you specify.

/Rights

Use this option to view your effective rights on each file server to which you are attached.

/Object

Use this option to view object supervisor information as well as the users and groups being supervised.

/Workgroup

Use this option to view workgroup manager information.

/SYstem

Use this option to view general system information.

/All

Use this option to view all the information available with the other options: your group memberships, your security equivalences, your effective rights, object supervisor, workgroup manager, and general system information.

/Continuous

Use this option to allow continuous scrolling of files. If /C is not used, WHOAMI pauses after every screen of information.

View Who You Are on Your Network or Internetwork

Type

WHOAMI <Enter>

Information similar to the following is displayed:

```
You are user LANE attached to server MKTG, connection
  1
Server MKTG is running NetWare 386 V3.11.
Login time: Wednesday August 15, 1990 8:03 am

You are user GUEST attached to server ACCT,
  connection 7
Server ACCT is running NetWare 386 V3.11.
Login time: Wednesday August 15, 1990 9:34 am
```

The previous screen display indicates that you are attached to both file servers MKTG and ACCT. Your username on server MKTG is LANE, and your username on ACCT is GUEST.

View Who You Are on a Particular File Server

To view who you are on a particular file server, include the name of the file server in the command. To see network information about yourself on server MKTG, type

WHOAMI MKTG <Enter>

Information similar to the following is displayed:

```
You are user DEANN attached to server MKTG,
  connection 1
Server MKTG is running NetWare 386 V3.11.
Login time: Wednesday August 22, 1990 8:03 am
```

View Your Group Memberships

To view your membership in groups on a file server, include the /Group option in the command.

Membership on MKTG

To view which groups you belong to on server MKTG, type

WHOAMI MKTG /G <Enter>

Information similar to the following is displayed:

```
You are user DEANN attached to server MKTG,
  connection 1
Server MKTG is running NetWare 386 V3.11.
Login time: Wednesday August 22, 1990 8:03 am
You are a member of the following groups:
    EVERYONE
    CLERKS
```

Membership on the Network

To view all the groups you belong to on all file servers you are attached to, type

WHOAMI /G <Enter>

Information similar to the following is displayed:

```
You are user LANE attached to server MKTG, connection
  1
Server MKTG is running NetWare 386 V3.11.
Login time: Wednesday August 15, 1990 8:03 am
You are a member of the following groups:
    EVERYONE
    CLERKS

You are user GUEST attached to server ACCT,
  connection 7
Server ACCT is running NetWare 386 V3.11.
Login time: Wednesday August 15, 1990 9:34 am
You are a member of the following groups:
    EVERYONE
```

View Your Security Equivalences

To view your security equivalences on a file server, include the */S*ecurity option in the WHOAMI command.

View Groups on a File Server

To see which groups you are security equivalent to on server MKTG, type

WHOAMI MKTG /S <Enter>

Information similar to the following is displayed:

```
You are user DEANN attached to server MKTG,
  connection 1
Server MKTG is running NetWare 386 V3.11.
Login time: Wednesday August 15, 1990 8:03 am
You are security equivalent to the following:
    EVERYONE (Group)
    CLERKS (Group)
```

View Groups on All File Servers

To view your security equivalences on all file servers to which you are attached, type

WHOAMI /S <Enter>

Information similar to the following is displayed:

```
You are user LANE attached to server MKTG, connection
  1
Server MKTG is running NetWare 386 V3.11.
Login time: Wednesday August 22, 1990 8:03 am
You are security equivalent to the following:
    EVERYONE (Group)
    CLERKS (Group)

You are user GUEST attached to server ACCT,
  connection 7
Server ACCT is running NetWare 386 V3.11
Login time: Wednesday August 22, 1990 9:34 am
You are security equivalent to the following:
    EVERYONE (Group)
```

View Your Effective Rights

To view your effective rights on a file server, include the */R*ights option in the WHOAMI command.

View Rights on a Server

Your username is LANE and you are attached to file servers COUNT and MKTG. To view your effective rights on COUNT, type

WHOAMI COUNT /R <Enter>

The following information is displayed:

```
You are user LANE attached to server COUNT,
  connection 1
Server COUNT is running NetWare 386 V3.11.
Login time: Wednesday August 29, 1990 8:03 am
Your effective rights are:
[ R F ]
```

View Effective Rights on All Servers

To view your effective rights as user LANE on file servers COUNT and MKTG, type

WHOAMI /R <Enter>

The following information is displayed:

```
You are user LANE attached to server COUNT,
  connection 1
Server COUNT is running NetWare 386 V3.11.
Login time: Wednesday August 29, 1990 8:03 am
Your effective rights are:
[ R F ]

You are user LANE attached to server MKTG, connection
  7
Server MKTG is running NetWare 386 V3.11
Login time: Wednesday August 29, 1990 9:34 am
Your effective rights are:
[ R ]
```

View Your Group Memberships, Security Equivalences, and Effective Rights

To view your group memberships, security equivalences, and effective rights on a file server, include either the */A*ll option or the */G*, */S*, and */R* options in the command.

View Groups on All Attached File Servers

To view the groups you belong to and your security equivalences on all attached file servers, type

WHOAMI /G /S <Enter>

or

WHOAMI /A <Enter>

To cancel the command and return to your DOS prompt, press <Ctrl><Break>.

View Groups on a Specific File Server

To view the groups you belong to and your security equivalences on file server MKTG, type

WHOAMI MKTG /G /S <Enter>

or

WHOAMI MKTG /A <Enter>

To cancel the command and return to your DOS prompt, press <Ctrl><Break>.

Information similar to the following is displayed:

```
You are user LANE attached to server MKTG, connection
  1
Server MKTG is running NetWare 386 V3.11.
Login time: Wednesday August 29, 1990 8:05 am
You are security equivalent to the following:
    EVERYONE (Group)
You are a member of the following groups:
    EVERYONE
    [SRWCEMFA] SYS:
```

View Security Equivalence and Effective Rights

To see your security equivalences and your effective rights in directories on file server MKTG, type

WHOAMI MKTG /S /R <Enter>

The following information is displayed:

```
You are user LANE attached to server MKTG, connection
  1
Server MKTG is running NetWare 386 V3.11.
Login time: Wednesday August 29, 1990 8:05 am
You are security equivalent to the following:
    EVERYONE (Group)
    [SRWCEMFA]
    [ RWC ]
    [S ]
```

WSUPDATE

Why Use WSUPDATE?

Use WSUPDATE to update workstation copies of the NetWare shell program or other files from the file server.

WSUPDATE compares the date and time of the source file with the date and time of the destination file. If the source file is more current than the destination file, the utility updates the destination file.

WSUPDATE can be used to update files on any drive from more recent files on another drive. For example, if you have an internal document that you want all users to have current copies of, you can use WSUPDATE to ensure that users have current copies.

Command Format

WSUPDATE [*source path*] [*destination drive:destination filename*] */option*

Replace *source path* with a full directory path (including the filename) to the current file.

Replace *destination drive* with a specific drive (A:, B:, C: etc.) or one of the following:

- ALL: to search all valid drives for the workstation.
- ALL_LOCAL: to search all valid local drives for the workstation.

Replace *destination filename* with the name of the file to be updated.

Replace */option* with any of the following options:

/F=<*path*><*filename*>	Add this option if the commands are going to come from a file. Type commands into this file as if you were typing them from the command line. Each command is interpreted separately. If errors are found in one command, the program will display and log an error and then continue on to the next command line. This must be the only parameter on the command line.
You can replace /option with one of the following:	

/I	This is a default option. The /I option forces the utility to prompt you for an action each time it finds an outdated file. You can copy the new file over the old file. Rename the old file and then copy a new file. You will be prompted for a file name for the renamed file. Ignore the new copy and leave the old file intact.
/C	Add this option to automatically copy a new file over an existing one. (This option is not recommended since there is no backup file in case you want to undo the copy.)
/R	Rename the old file (with an .OLD extension) and then copy the new file. If you do not enter any of the above options, /I is the default option.
/S	Add this option if you want the program to search for the outdated files in all subdirectories of the specified destination drives.
/L=<*path*><*filename*>	Add this option if you want a Log File to be created. The messages are added to whatever is already in the file. You must have Read and Write rights to this file.
/N	Add this option if you want to create the file and path if they don't already exist. Include a full destination path. Don't use this option with /S, ALL:, or ALL_LOCAL: options.
/V[=<drive letter>]	Add this option if you want to update the CONFIG.SYS file. Lastdrive= will be updated to Lastdrive=Z, or added if it doesn't exist. The old CONFIG.SYS file will be renamed CONFIG.311. If your CONFIG.SYS file is not at the root of drive C:, add the drive letter where the file is located.

The following is a sample log file:

```
SHIRLEY 11/26/1990 11:21:29
Network: [FADE2220] Node: [ 1B30D6F7]Rename a file
    From path C:\UTIL
    to path C:\UTIL
    STUFF to STUFF.OLD
Copy a file
    From path SERVER1\SYS:USERS\SHIRLEY\DIR1
    to path C:\UTIL
    STUFF to STUFF
Rename a file
    From path C:\DIR1
```

```
    to path C:\DIR1
    STUFF to STUFF.OLD
Copy a file
    From path SERVER1\SYS:USERS\SHIRLEY\DIR1
    to path C:\DIR1
    STUFF to STUFF
Rename a file
    From path C:\TEMP
    to path C:\TEMP
    STUFF to STUFF.OLD
Copy a file
    From path SERVER1\SYS:USERS\SHIRLEY\DIR1
    to path C:\TEMP
    STUFF to STUFF
Source File: SERVER1\SYS:USERS\SHIRLEY\DIR1
Destination File: C:STUFF
Copies Found: 3
Copies Outdated:3
Copies Updated: 3
```

/O	Add this option if you want to update read-only files. Often, shell files have the read-only attribute set. If this is the case, add this option so that these files will be updated. The read-only attribute will be restored after the copy if performed.

Additional Information

Use the EXTERNAL PROGRAM EXECUTION (#) with WSUPDATE.EXE in a login script if you want the LOGIN utility to execute a command to update workstation files.

WSUPDATE will always start the search from the root directory, and will search the subdirectories if the /S option is used.

We recommend that the WSUPDATE command be added to the system login script.

Add the #WSUPDATE command to a login script after copying the updated files to a common directory (such as PUBLIC).

The following restrictions apply:

- The command statement must appear on its own line.
- The command should appear after MAP assignments, since the program will execute in the environment of drive mappings, default drives, and search drives set up previously in the login script.

Update All Shell Files on the Network

Suppose a supervisor wants all of the shell files for each workstation on the network to be checked weekly to make sure all users have the most current version.

To automate this process, complete the following steps.

Procedure

1. Copy the new workstation shell files into a common directory (such as PUBLIC).
2. Create a file containing all of the update paths (destination and source) like the one shown below.

   For this example, the file is named WSUPDATE.CFG and enter these #WSUPDATE commands into the file:

   F:NET3.COM C:NET3.COM

   F:IPX.COM C:IPX.COM
3. Enter the following command to the login script.

   You are replacing the destination and source paths with the name of the file containing all of the paths.

   ```
   If Day_Of_Week = 2, run #WSUPDATE /F=WSUPDATE.CFG
   ```