Index
Index

Note to the Reader: Throughout this index, page numbers in bold indicate primary discussions of a topic. Italicized page numbers indicate illustrations. Commands and computer entries are indicated with a special font.

Numbers
6to4 mechanisms, 306, 310, 311
32-bit processors, 8–9
64-bit processors, 8–9
128-bit address space, 304

domain-based networks with, 272–274, 273
domains in, 272, 273
Global Catalog database, 276–277
member servers not containing, 275
Rights Management Service for, 247
using Azure Active Directory, 274, 352, 377
ad hoc wireless connections, 289–290
AD RMS (Active Directory Rights Management Service), 247
Add Hardware Wizard, 93–95
Add or Remove Snap-ins dialog box, 379
Add Printer Wizard, 101
Address Resolution Protocol (ARP), 296
ADK (Windows Assessment and Deployment Kit), 335–339
about, 335–336
administrative features of, 53
creating ICD disk image, 53–56, 336–337
event tracing with, 338
installing Windows 10 with, 53–56, 76
VAMT in, 338–339
Windows Performance Toolkit, 338
Administrative Tools, 190, 191
Administrator account, 375, 375, 376, 377

A
access control. See DAC; data security
access point
ad hoc connections without, 289–290
near-field communications vs., 293
network type as, 291, 292
troubleshooting, 294–295
account-lockout policies, 422–424, 423
accounts. See also user accounts
Microsoft, 365–367, 366, 367
Accounts window, 366
ACPI (Advanced Configuration and Power Interface), 14, 210–211
ACT (Application Compatibility Toolkit), 17, 53, 337
action logs, 34
Active Directory
activating systems with, 74–75, 76
adding Windows 10 to domain via, 319
domain controllers for, 275
domain user accounts for, 377

ad hoc wireless connections, 289–290
AD RMS (Active Directory Rights Management Service), 247
Add Hardware Wizard, 93–95
Add or Remove Snap-ins dialog box, 379
Add Printer Wizard, 101
Address Resolution Protocol (ARP), 296
ADK (Windows Assessment and Deployment Kit), 335–339
about, 335–336
administrative features of, 53
creating ICD disk image, 53–56, 336–337
event tracing with, 338
installing Windows 10 with, 53–56, 76
VAMT in, 338–339
Windows Performance Toolkit, 338
Administrative Tools, 190, 191
Administrator account, 375, 375, 376, 377

Account-based networks with, 272–274, 273
domains in, 272, 273
Global Catalog database, 276–277
member servers not containing, 275
Rights Management Service for, 247
using Azure Active Directory, 274, 352, 377
ad hoc wireless connections, 289–290
AD RMS (Active Directory Rights Management Service), 247
Add Hardware Wizard, 93–95
Add or Remove Snap-ins dialog box, 379
Add Printer Wizard, 101
Address Resolution Protocol (ARP), 296
ADK (Windows Assessment and Deployment Kit), 335–339
about, 335–336
administrative features of, 53
creating ICD disk image, 53–56, 336–337
event tracing with, 338
installing Windows 10 with, 53–56, 76
VAMT in, 338–339
Windows Performance Toolkit, 338
Administrative Tools, 190, 191
Administrator account, 375, 375, 376, 377
administrators. See also LGPOs
account type for, 375, 375, 376, 377
activation keys and process
management tools for, 338–339
auditing failed attempts, 426
configuring user account control, 433–435
controlling file access, 247
debugging apps, 338
deploying software, 335–339
group management by, 405–413
helping users personalize desktop, 189
locking out applications, 350–351
managing Windows configurations, 174–175
mandatory profile management, 401
provisioning packages, 336–337
Registry and File Virtualization feature, 435
setting up shared computer activation, 360
solving app compatibility issues, 17, 53, 337
Administrators group, 407
Advanced Boot Options, 458–467
accessing, 459
boot logging, 462–463, 462 illustrated, 458
Startup Settings modes for, 459, 463–464
using Safe Mode, 459–461, 459, 460, 461
Advanced Configuration and Power Interface (ACPI), 14, 210–211
Advanced tab
Internet Options dialog box, 230
Network Adapters Properties dialog box, 279, 280
Properties dialog box, 105–106, 105
alerts, 495
All Apps section (Windows 10 Start menu), 176
Anniversary Edition, 3
Anonymous Logon group, 409
answers to review questions, 502–510
anycast addresses, 306, 308
APIPA (Automatic Private IP Addressing), 297, 314–315
App-V (Application Virtualization), 360–361, 368
Appearance tab (Performance Monitor), 484, 485
Application Compatibility Toolkit (ACT), 17, 53, 337
applications. See also deploying applications; installing applications;
RemoteApp And Desktop Connections
applying NTFS and share permissions to, 258
assigning, 340
Azure, 352–354, 352
compatibility with Windows 10, 17
creating collections of, 355–357, 356
locking out, 350–351
publishing, 340
redirecting calls with Shim Infrastructure, 341–342, 368
Registry and File Virtualization feature for, 435
running Upgrade Analytics for, 341
sideloading, 362, 364–365, 364
virtualization for, 59, 344
Windows 10, 177–179, 177, 178, 179
AppLocker, 350–351
Apps folder, 258
.appx packages, 334–335
background for desktop, 184
Backup and Restore utility, 467–470
backups using, 468–469, 468
choosing from Control Panel, 190, 192, 467, 467
creating system image, 472–473
features of, 192, 457
restoring backup files, 469–470
Backup Operators group, 408
backups. See also Backup and Restore utility
peer-to-peer network, 272
System Image backups, 465–466, 466
tips for making home folder, 404
using wbadmin, 471–472
Balanced power plan, 211, 212
basic disks, 149–151, 150
basic storage, 125–126
battery meter, 215
bcedit utility, 35–36
biometrics for Windows Hello, 391
BIOS compatibility with Windows, 14
BitLocker Drive Encryption, 190, 192
Bluetooth devices. See configuring devices and drivers
boot logging, 462–463, 462
boot partition, 19
booting
accessing Advanced Boot Options, 459
configuring computer for dual-booting, 35–36
Device Guard protection against boot attacks, 392
installing Windows 10 from bootable DVD, 20
protecting against boot attacks, 392
to Safe Mode, 460–461, 460, 461
Secure Boot, 395
from VHD, 69–72

architecture for Windows 10, 8–9
ARP (Address Resolution Protocol), 296
Assessment and Deployment Kit.
See ADK
assigning software applications, 340
audit policies, 425–428, 427
authorization and authentication.
See also groups; LGPOs; user accounts
Credential Guard, 394–395
device health attestation, 395–396
exam objectives, 449–450
logon errors during, 404–405
Microsoft Passports, 390–391
Remote Assistance, 438–442, 439, 441, 442
Remote Desktop, 438, 442–445, 444
review questions and answers,
451–453, 509–510
Secure Channel, 384–385
smart cards and multi-factor, 435
user profiles for, 399–402
video resources, 450
automatic driver installation, 87
Automatic Private IP Addressing (APIPA), 297, 314–315
automatic restarts after failure, 464
AutoPlay, 190, 191, 192
Azure, 351–361
about, 351–354, 351, 352
Active Directory for, 274, 352, 377
device redirection for, 358–360
features of, 129–130, 274
OneDrive vs., 130–131
options and applications of, 351–354, 351, 352
setting up RemoteApp feeds, 357–358, 358
using RemoteApp, 355–360, 356, 358
Broadband Tethering, 447–449, 448, 449

broadcasts
- addresses for, 298
- IPv6 and, 306
- SSID, 289, 292, 292

buttons
- power, 212, 213
- Printer Properties Advanced tab, 105–106, 105

C

cabling, troubleshooting network, 285
caching, transparent, 447
CAs (certificate authorities), 436, 437
Category view of Control Panel, 190
CDFS (Compact Disk File System), 119
CDs. See also DVDs
- CDFS for CDs, 119
- installing hardware drivers from, 92–93, 93, 95
- setting up printers from, 100
central processing units. See CPUs
certificate authorities (CAs), 436, 437
change permission (share), 257, 257
Check Disk utility, 166–167, 166
Check For Updates button, 40, 40, 41, 41
checkpoints for virtual machines, 67–68
child domains, 272, 273
circular logging, 486
clean installs
- exam objectives for, 42
- performing, 20–27
- upgrades vs., 15
- versions requiring, 15, 16
cleanup utility. See Disk Cleanup utility
client machines
- defined, 275
- remote connections to, 443–445, 444
clients
- AD on network, 317–321, 318, 320, 321
- configuring Telnet, 197
- managing security using GPOs and LGPOs, 413–415
- peer-to-peer network computers as, 270
cloud-based storage, 129–133
- Azure, 129–130, 274, 377
- OneDrive, 130–133, 130, 132
collections of applications, 355–357, 356
Color Management, 190, 192
colors for desktop, 185, 185
Command Prompt, 182
command-line utility. See also commands; switches
- creating users via, 386
- Windows Defender mode for, 200
commands
- Compact, 159
- Convert, 121–122
- DISM.exe, 57
dual-booting with bcedit, 35–36
- ipconfig, 315–316
- IPv6, 312–313
- REGEDIT/REGEDIT32, 190
- TCP/IP, 315–317
- WinAppDeployCmd.exe tool, 335
Compact commands, 159
Compact Disk File System (CDFS), 119
Compatibility view for Internet browsers, 223, 224
compressed (zipped) folders, 159–160
compression
- adding/removing for folders, 158–159
- Compact commands for, 159
- configuring NTFS, 123
- supported in NTFS, 157–158
Computer Management utility, 380
Computer Name/Domain Changes dialog box, 318
customers. See also upgrades to Windows 10
BIOS compatibility with Windows, 14
checking for system files on recovery partition, 473
client, 275, 443–445, 444
device drivers needed, 15
dual-boot configurations for, 35–36
GPO and LGPO security basics for, 413–415
hardware requirements for, 12–14
hot swapping, 147
joining domains, 25
language and locale settings for, 19
locales for, 32–33
minimum hardware requirements for, 13
modifying HomeGroup passwords for, 239–240, 240, 241
partitioning disks, 18–19
port numbers for, 277, 325
power plan options for, 209–210, 210, 211–212
preparing to capture image of target, 52
recovery techniques for, 457–458
renaming, 203
selecting compatible hardware for, 14
setting up, 21
shared activation of, 360
sharing resources with non-Windows 10, 242
starting in Safe Mode, 459–461, 459, 460, 461
startup options for, 343
using HomeGroup for non Windows 10, 321
configuring devices and drivers, 79–115
automatic driver installation, 87
device health attestation setup, 395–396
Device Manager for, 80–81, 82–83
Device Stage for, 80–82, 81
exam objectives, 79, 113
installing/updating drivers, 86–95
opening devices and printers, 82
overview, 112–113
Print Management MMC snap-in, 110–112, 111, 112
printers, 99–112
removable storage devices, 96–99
review questions and answers, 114–115, 504
updating drivers, 86, 89
video resources, 113
connections. See Internet connections;
network connections; RemoteApp And Desktop Connections
Connections tab (Internet Options dialog box), 229
Content tab (Internet Options dialog box), 228–229, 229
Control Panel, 189–200
about, 174, 182
adding features from, 343
Category and Large Icons views of, 190
defined, 189
making Registry changes via, 190
Storage Spaces, 161–163, 162, 163
tools of, 190–200
user-account options for, 381
Convert command, 121–122
copied or moved NTFS files, 254
copying user profiles, 402
Cortana, 177
counters
  adding Performance Monitor, 479
  counter logs, 486
  defined, 478
CPUs (central processing units)
  architecture of Windows 10, 8–9
  hardware requirements for, 12
  insufficient processing power, 33
Credential Guard, 394–395
Credential Manager, 190, 192
Current Branch (CB) service option, 38
Current Branch for Business (CBB) service
option, 38
Custom (Advanced) Installs. See clean
installs

D

DAC (Dynamic Access Control), 247–248,
263
Data Collector Sets, 477
data files. See also data security
  compressing, 157–160
  restoring from backup, 469–470
Work Folders for creating access to,
190, 200
data security, 235–267
  configuring NTFS folder and file, 242–254
  exam objectives, 235, 263
HomeGroup networks and, 237–242
NTFS file and folder permissions,
247–254
overview, 236, 263
review questions and answers,
264–266, 506–507
setting up OneDrive for, 258–262
share permissions for, 255–258,
255, 257
video resources, 263

Data tab (Properties dialog box), 483, 483
Date And Time, 190, 193, 193
debugging, 463
default account, 376
default desktop, 175–177, 175, 176, 177
Default Programs utility, 182, 182, 190,
193
deleting
  boot log files manually, 463
  checkpoints and subtrees, 68
  groups, 413
  partitions and volumes, 152–153
  printers, 109–110
  user accounts, 387–389, 388, 405
Dependencies tab (Properties dialog box),
specifying for services, 219
deploying applications, 332–340. See also
ADK; DISM utility
  ACT, 337
  ADK tools for, 335–339
  ETW, 338
  GPO deployments, 339–340
  solving app compatibility before, 17,
  53, 337
  System Center .msi file deployments,
  332–334
  VAMT, 338–339
  Windows Performance Toolkit, 338
Deployment Image Servicing and
Management utility. See DISM utility
desktop, 175–189
  accessories, 180–181, 180, 181
  colors for, 185, 185
  configuring options for, 188–189
  default features of, 175–177, 175, 176,
  177
  Ease of Access tools, 181, 182
  personalization themes for, 187
  personalizing screen for, 184, 184
  picking background for, 184
screen saver options for, 185–186, 186
Settings app, 180, 181
Start screen personalization, 188, 188
user preferences for, 189
Windows 10 applications, 177–179, 178, 179
Windows User’s tools, 183
desktop computers. See computers
desktop virtualization, 58–59, 344
Details tab (Network Adapters Properties dialog box), 281, 282
device drivers, 86–95. See also configuring devices and drivers
cauosing nonreproducible errors, 86
configuring NIC, 280–281, 281
disabling signature enforcement of, 463
enabling/disabling, 90–91
hardware compatibility issues for, 16
requirements for, 15
rolling back, 89–90
troubleshooting errors due to, 86
uninstalling/reinstalling, 91–92
updating, 86, 89
vendor’s installation recommendations for, 92–93
verifying signed, 95–96, 113
viewing details of, 88–89, 88
Device Guard, 391–394
Device Manager MMC. See also
counting devices and drivers
about, 80–81, 193
configuring devices and drivers with, 80–83
Control Panel access for, 190
enabling/disabling devices in, 90–91
I/O device configuration with, 97–98, 98
launching and selecting NIC from, 278–279, 278
right-click menu for, 87
rolling back drivers, 89–90
setting properties from, 84–85, 85
uninstalling/reinstalling drivers in, 91–92
updating drivers, 89
using, 82–84, 83, 84
viewing, 83
viewing driver details with, 88–89, 88
Device Settings tab (Properties dialog box), 106, 106
Device Stage
about, 80–82
illustrated, 81
selecting printer context window from, 108
devices. See also configuring devices and drivers; Devices And Printers; and specific devices
device health attestation, 395–396
device redirection with RemoteApp, 358–360
Devices And Printers. See also configuring devices and drivers
about, 193
adding printer from, 101, 102
Control Panel icon for, 190, 193
illustrated, 81
printer context menu for, 103, 104
Printer window, 108
removing printer from, 109–110
DHCP (Dynamic Host Configuration Protocol)
ipconfig switches for, 316
stateful vs. stateless autoconfiguration, 304–305
using for dynamic IP addresses, 314
DHCP servers, 276
diagnostic loopback address, 299
directory ownership, 252
disabling. See enabling/disabling

Disk Cleanup utility
removing old restore points, 476
using, 164–166, 165
disk images, 49–57. See also DISM utility;
system images
adding features to offline, 72–73
ADK for creating, 53–56, 76
applying Windows 10 to VHD, 71
DISM for, 49, 76
ICD features for, 53–56, 336–337
installing from, 56
manipulating, 56–57
removing SID numbers, 50–51
System Preparation Tool for, 48–52, 76
uses for, 49–50

Disk Management utility, 138–153
about, 138–140, 139
converting basic disk to GPT, 149–151, 150
creating dynamic from basic disk, 149–150, 150, 151
hard drive management with, 140–141, 141
managing local disk properties, 142–147
partitioning newly added disks, 147–149, 148, 149
reassigning drive letters and paths, 151–152, 152
running out of disk space, 155–156
status codes for, 156–157
troubleshooting, 156–157

Disk Optimization utility, 164, 164
disk space
insufficient, 33
reserving for offline files, 208
Diskpart command-line utility, 139, 140

DISM (Deployment Image Servicing and Management) utility
applying Windows 10 to VHD, 71
creating images with, 49, 76
manipulating images, 56–57

Display, 190, 193
distribution server, 20
DNS (Domain Name Service) servers, 275–276, 296
documents
printing status for, 106–107
queueing, 108–109
domain controllers, 275
Domain Name Service (DNS) servers, 275–276, 296
domain user accounts, 377
domain-based networks
Active Directory servers for, 272–274, 273
member servers of, 275
domains. See also domain-based networks
about, 27
Active Directory, 272–274, 273, 377
adding Windows 10 to, 318–319, 318
assigning GPOs by, 339
gaining access with Workplace Join, 378
joining during installation, 25
using GPOs security options for, 413–415
downloading System Center, 333
drive letters
assigning, 148
showing in Computer folder, 245
Driver Rollback utility, 458
driver signing, 95–96, 113
Driver tab (Network Adapters Properties dialog box), 280–281, 281
drivers. See device drivers
drives. See hard disks
dual-boot configurations, 35–36
dual-stack implementations, 306, 310–311
DVD setup screen, 29
DVD-R/W drive hardware requirements, 12
DVDs
clean install from, 21–27
installing hardware drivers from, 92–93, 93, 95
installing Windows 10 from bootable, 20
setting up printers from, 100
upgrades using, 28–32, 29
Dynamic Access Control (DAC), 247–248, 263
dynamic disks
about, 126
creating from basic disk, 149–150, 150, 151
simple volumes, 126, 126, 154
spanned volumes, 127, 127, 154
striped volumes, 127–128, 128, 154
uses for, 118
Dynamic Host Configuration Protocol. See DHCP
dynamic storage. See also dynamic disks
creating extended volumes, 154–155, 155
dynamic disks, 118, 126, 149–150, 150, 151
managing, 153
shrinking volumes, 155
simple volumes, 126, 126, 154
spanned volumes, 127, 127, 154
striped volumes, 127–128, 128, 154
E
early launch of anti-malware protection, 463
Ease of Access Center, 190, 193
Easy Connect option (Remote Assistance), 438–442, 439, 441, 442
Edge, 220
Edit Virtual Hard Disk Wizard, 64
editing
drive letter, 152
inherited permissions, 251
editions. See versions of Windows 10
Education edition, 9
elevating privileges, 433–435
enabling/disabling
additional features for offline images, 72
automatic restarts, 464
boot log files, 462–463, 462
devices in Device Manager, 90–91
driver signature enforcement, 463
ever launch of anti-malware protection, 463
LGPOs, 416
network discovery, 275
Remote Desktop, 445
Secure Boot, 395
SSID broadcasts, 289
System Protection, 464
user accounts, 386–387, 405
WPA/WPA2, 289
encryption
AD RMS, 247
backup of encrypted files, 468
configuring folders for, 123–124, 124
enabling WPA/WPA2, 289
selecting for wireless networks, 292, 293
verifying offline files are encrypted, 208
Enterprise edition, 11–12
enterprise installations, 47–78. See also
System Preparation Tool
activating machines for, 73–75
disk imaging, 49–57
eaxm objectives, 47, 76
overview, 75–76
review questions and answers, 77–78, 503
video resources, 76
working with Hyper-V virtual
machines, 58–73
environments. See managing Windows 10
environments
error logs, 34
ETW (Event Tracing for Windows), 338
Event Viewer
using, 491–495, 492, 493, 494, 495
when to use, 457
Events tab (Network Adapters Properties
dialog box), 281, 282
exam 70-698 preparation, 2
exam objectives
authorization and authentication, 449–450
data security, 235, 263
device and driver configuration, 79, 113
terior installations, 76
installation, 1, 42–43
installing applications, 331, 367–368
managing Windows environments, 173, 231
monitoring and recovery, 455, 496–497
networks, 269, 327, 328
storage configuration, 117, 169, 170
Windows 10 enterprise installations,
47, 76

Export Complete screen, 112
exporting
print server settings to file, 111–112
virtual machines, 69
express installation settings screen, 25
extension header, 303, 305

F
failures
accessing TCP/IP, 34
installation, 34–35
upgrades, 18
FAT32 file systems
about, 118, 120
converting to NTFS, 121–122
features supported by, 119
fault tolerance design, 296
features of Windows 10
about, 3–4
deprecated Microsoft features, 8
modifying for existing Windows disk
images, 72–73
overview, 3–4, 6–7
review questions and answers on,
44–45
File Allocation Table. See FAT32
File Explorer Options, 190, 193, 194
file extensions
associating apps with, 342
showing/hiding, 245
File History, 190, 194, 466
file servers, 247
file systems. See also NTFS
about, 118
cancelling conversions to NTFS, 122
comparing and selecting, 119–121
converting FAT32 to NTFS, 121–122
feature comparison of, 119
files. See also file systems; log files
associating applications with, 342
backing up and restoring, 190, 192,
457, 467, 467–470
boot log, 462–463, 462
checking recovery partition for system, 473
compressing, 157–160
creating access to data, 190, 200
deploying .msi, 333–334
managing offline folders and, 207–208
migrating from XP to Windows 10, 15, 43
NTFS permissions for, 247–254
recovering from OneDrive, 470–471
refreshing or recycling, 476–477
restoring, 469–470
selecting search options for, 236
share permissions for, 255–258, 255, 257
troubleshooting using installation log, 34–35
types of security for, 237
VHDX, 346
filtering firewall rules, 325
firewalls. See also Windows Firewall
collection security rules for, 326–327
monitoring, 327
need for multiple, 270, 327
setting LGO security for, 419
Flash Player, 190, 194
Folder Options dialog box, 242–247
general settings for, 243, 243
opening, 242–243
setting search options for, 246–247, 246
view options for, 243–246, 244
folders. See also Folder Options dialog box; sharing folders
accessing local policies, 425, 425
compressing/uncompressing, 158–159
creating and managing shared, 255–256, 255
encrypting, 123–124, 124
home, 402–403
HomeGroup, 320, 320
managing offline files and, 207–208
NTFS permissions for, 247–254
OneDrive, 260, 261
refreshing or recycling, 476–477
setting properties of, 242–247
share permissions for, 255–258, 255, 257
types of security for, 237
using compressed (zipped), 159–160
where user profiles stored, 401, 402
Fonts, 190, 194
Full Control permission
NTFS, 248–249, 250, 252–253
share, 257, 257

G

General tab
Folder Options dialog box, 242, 243
Internet Options dialog box, 226–227, 226
Network Adapters Properties dialog box, 279, 279
Performance Monitor, 482, 482
General tab (Properties dialog box)
displaying disk properties with, 142
managing service settings on, 218
managing user properties, 396–397, 397
GHz (gigahertz), 9
Global Catalog, 276–277
global unicast address spaces, 308–309
GPMC (Group Policy Management Console) MMC, 414
GPOs (Group Policy Objects)
configuring Device Guard via, 393
configuring startup options with, 343
creating removable-device policies, 153
deploying applications using, 339–340
device redirection using, 359–360
groups vs., 406
security options for, 413–415
GPT (GUID Partition Table), 118, 128
GPT disks, 149–151, 150
Graph tab (Performance Monitor
Properties dialog box), 484, 484
Graph view (Performance Monitor), 480, 480
graphics card memory requirements,
13–14
Group Policy Management Console
(GPMC) MMC, 414
Group Policy Result Tool, 415–416
groups
adding users to existing, 397–398, 398
assigning NTFS permissions for,
252–254
built-in local, 406–409
creating, 410–411, 410
deleting, 413
managing and creating, 405–413
membership of, 411–413, 411, 412
NTFS security descriptors for, 251–252
overview, 374
special, 409–410
Guest account, 376, 408
Guests group, 408
GUID Partition Table (GPT), 118, 128

H

hard disks. See also file systems;
partitions; storage configuration;
VHDS
adding, 147–149, 148

converting basic to dynamic and GPT,
149–151, 150
disk management for, 118
displaying general properties of, 142
hardware requirements for, 12
identifying drive or partition for
installation, 24
installing nonsupported, 34
maintenance tools for, 163–167
managing virtual, 62–64
measurement units for space and
memory, 14
partitioning, 18–19
power plans and turning off, 212
RAID, 160–161
reassigning drive letters and paths,
151–152, 152
recovery drives, 465
running out of space on, 155–156
setting up storage, 125–133
space management options for,
155–156
storage space quotas for, 124–125
troubleshooting, 34, 156–157
viewing local disk properties, 142–147
hardware. See also configuring devices
and drivers; Device Manager; and
specific hardware
adding new hard disks, 147–149, 148
device drivers required, 15
devices drivers required, 15
exam objectives for, 42
installation requirements for Windows,
12–14
legacy, 93–95
not on HCL, 33
secure boot for, 395
selecting from HCL, 14
troubleshooting installation of,
33–34
Windows-compatible BIOS for, 14
Hardware Compatibility List. See HCL

Hardware tab (Properties dialog box), displaying disk properties with, 143–144, 144

HCL (Hardware Compatibility List) about, 14
exam objectives for, 42
NIC not on, 284
using hardware not on, 33
Hello, 391
hexadecimal notation, 306
Hibernate mode, 211, 213
hiding file extensions, 245
High Performance power plan, 211–212
Histogram view (Performance Monitor), 480, 481
Home edition, 10
home folders, 402–404
HomeGroup networks, 237–242
accessing with icon, 190, 194
adding to Start menu, 240, 242
creating, 238, 238
defined, 74, 237
joining and sharing, 319–321, 320, 321
joining existing, 238, 238, 239
modifying HomeGroup passwords, 239–240, 240, 241
passwords for, 239–240, 240, 241, 321
sharing printers with, 237
using HomeGroup for non Windows 10, 321
workgroup vs., 270
HomeGroupUser$ account, 376
host requirements for Windows To Go, 216–217
hot swapping, 147

Hyper-V, 58–73, 343–348
about, 58, 368
advantages of, 344
configuring virtual machines, 64–73
console for managing, 61, 61
creating and changing hard disks for, 64–65
features of, 345–346
Hyper-V Integration Components for virtual machines, 66–67
installing, 59–61, 346–348, 347
managing virtual switches, 62
types of hard disks in, 63
virtualization with, 58–59, 343–348
Hyper-V Manager screen, 61

ICACLS command, 253–254
ICD (Windows Imaging and Configuration Designer), 53–56, 336–337
ICMP (Internet Control Message Protocol), 296
icons on Control Panel, 190
IE11 (Internet Explorer). See also Internet browsers
about, 220
InPrivate Browsing and InPrivate Filtering, 225–226
Protected Mode for, 234
setting properties for, 226–230, 226, 227, 228, 229
IGMP (Internet Group Message Protocol), 296
IKEv2 (Internet Key Exchange version 2), 446
images. See disk images
inbound rules for firewalls, 323, 324, 326
Indexing Options, 190, 195
inheritance and NTFS permissions, 251
Initial User account, 376
input/output device configuration, 96–99
Install Now button, 22
installation, 1–45. See also configuring
devices and drivers; enterprise
installations; installing applications
ADK for, 53–56, 76
clean installs, 15, 16, 20–27, 42
disk image for, 56
dual-boot configurations, 35–36
exam objectives, 1, 42–43
express settings screen, 25
hardware requirements for, 12–14
Hyper-V, 59–61
installing printers, 100–103, 101
network installs, 20
overview, 42
review questions and answers, 44–45, 502
service packs, 40–41
shared network printers, 103
troubleshooting, 33–35
upgrading after, 37–41
upgrades, 15–18, 28–33, 42, 43, 341
vendor recommendations for device, 92–93
video resources, 42
Windows Activation process after,
36–37, 37
installation log files, 34–35
installing applications, 331–371. See also
PnP; Windows Store
adding features from Control Panel,
343
App-V, 360–361
AppLocker, 350–351
Azure, 351–361
configuring UE-V, 348–350
deployment options, 332–340
exam objectives, 331, 367–368
filename-extension association, 342
Hyper-V, 59–60, 343–348, 347
review questions and answers,
369–371, 508–509
setting Microsoft account, 365–367, 366, 367
Shims Infrastructure, 341–342, 368
sideloading apps, 364–365, 364
startup options, 343
Upgrade Analytics tool, 341
video resources, 368
instances, 478–479
Internet browsers, 220–230. See also IE11
about Windows, 220
accessing OneDrive via, 258, 259
Compatibility view settings for, 223,
224
Cortana, 220–221, 221
customizing controls of, 221
pinning sites to Taskbar, 221
searchable Address bar, 222
security and privacy of, 222
using Web Slices, 222–223
Internet connections. See also TCP/IP
Broadband Tethering for, 447–449,
448, 449
creating firewall security rules for,
326–327
viewing for wireless networks, 286–289
Internet Control Message Protocol
(ICMP), 296
Internet Explorer. See IE11
Internet Group Message Protocol (IGMP),
296
Internet Key Exchange version 2 (IKEv2),
446
Internet Options dialog box, 226–230,
226, 227, 228, 229
Internet Options icon, 190
Internet Properties dialog box, 195
Internet Protocol security (IPsec), 305, 419
Intra-Site Automatic Tunnel Addressing Protocol (ISATAP), 306, 311
IP (Internet Protocol), 296. See also IP addresses; TCP/IP
IPsec for, 305, 419
TCP/IP services with, 296
IP addresses. See also IPv4; IPv6
APIPA for assigning, 314–315
assigning static addresses, 313
configuring, 313
DHCP for dynamic, 314
diagnostic loopback address, 299
extension headers, 303, 305
IPv4 vs. IPv6, 297, 303–304
TCP/IP connectivity and, 295–296
ipconfig command, 315–316
IPsec (Internet Protocol security), 305, 419
IPv4
addressing for, 298–302, 298
headers for, 303, 305
IPv6 vs., 297, 303–304
subnet masks for unicast addresses, 300–302
testing configurations for, 315–316
transitions to IPv6, 306
viewing connection details for, 286–287, 287
IPv6, 302–313
9.3.3.2 address shortcuts for, 307
address assignment for, 307–308
address format, 306–307
addressing for, 302–306
dual stack, 306, 310–311
integration/migration, 310
IPv4 vs., 297, 303–304
PNRP’s use of, 438–439, 439
prefixes and well-known addresses for, 310
testin configurations for, 315–316
transitions from IPv4 to, 306
tunneling, 310, 311–312
types of addresses, 308–310
useful commands for, 312–313
viewing connection details for, 286–287, 287
iris scans, 391
ISATAP (Intra-Site Automatic Tunnel Addressing Protocol), 306, 311

K
Kernel Debugger, 463
Keyboard icon, 190, 195
KMS (Key Management Service), 47, 75, 76

L
L2TP (Layer 2 Tunneling Protocol), 446
language and locale settings, 19, 32–33
Language icon, 190, 195
Laplink utility, 16
laptops. See also computers; power plans
hibernation mode for, 211
power plan options for, 209–210, 210, 211–212
Large Icons view of Control Panel, 190
Layer 2 Tunneling Protocol (L2TP), 446
layers of OSI model, 285
legacy computers
HomeGroup for non Windows 10, 321
using legacy hardware, 93–95
LGPOs (Local Group Policy Objects)
accessing, 418
account policies for, 419–420
assigning user rights, 428–432, 432
audit policies for, 425–428, 427
devices, 425–428, 427
device management, 425–428, 427
device policy, 425–428, 427
device policies, 425–428, 427
devices, 425–428, 427
local security policies for, 418–419
managing and applying, 416–418, 417
password policies, 420–422, 420
security options for, 413–415
setting account-lockout policies, 422–424, 423
license terms, 23
linear logging, 486
link-local address spaces, 309
List Folder Contents permission (NTFS), 249, 250, 252–253
LOB (Line of Business) applications, 364–365
Local Computer Policy snap-in
adding, 417
using local policies, 425, 425
Local Group Policy Objects. See LGPOs
local groups
creating, 410–411, 411
default, built-in, 406–409
local logon permissions, 405
local policies, 425, 425
Local Security Policies, 418–419
local user accounts
creating, 385–386, 385
defined, 377
Local Users and Groups MMC
accessing via Computer Management utility, 380
adding Local Computer Policy snap-in to, 417
adding snap-in for, 378–380, 379, 380
assigning home folders with, 403
changing user’s password, 390
creating users via, 385–386
renaming user accounts, 389–390
locale settings, 19, 32–33
log files
action, 34
counter, 486
debugging apps with ETW, 338
displaying, 457
enabling boot, 462–463
error, 34
Event Viewer, 457, 493, 494
saving and analyzing performance, 485–486
troubleshooting with installation, 34–35
Log On tab (Properties dialog box), specifying logon account for services, 218
logging. See also log files
boot, 462–463, 462
circular, 486
linear, 486
logging in
audit-policy options for, 426
authentication errors when, 404–405
OneDrive, 260–262, 260–262
with picture, 391
specifying logon account for services, 218
starting up in Safe Mode, 459–461, 459, 460, 461
using logon scripts, 402
logging off, 378
logical drive, defined, 18
Long-Term Servicing Branch (LTSB)
service option, 38
low-resolution video, enabling, 463

M

MAC address filter, creating, 289
Mail, 190, 196
MakeAppx.exe tool, 334
malicious code, Device Guard protection against, 392
malware, Device Guard protection against, 392
Manage Wi-Fi Settings screen, 448, 449
managing user properties, 396–404
managing Windows 10 environments, 173–233. See also mobility options
Control Panel for, 189–200
exam objectives, 173, 231
Internet browsers, 220–230
MMC, 200
mobility options, 207–217
overview, 230
PowerShell commands for, 205–206
review questions and answers, 232–233, 505–506
setting desktop options, 175–189
using Settings window, 204–205, 204
using System icon, 201–204
video resources, 230–231
Windows 10 services, 217–220
mandatory profiles, 401
Maps, 178, 179
MDOP (Microsoft Desktop Optimization Pack), 349, 350
media errors, troubleshooting, 33
Member Of tab (Properties dialog box), adding users to existing groups, 397–398, 398
member servers, defined, 275
memory
adjusting settings for virtual, 204
graphics card requirements for, 14
hardware requirements for, 12
insufficient, 33
measurement units for, 14
troubleshooting installation problems for, 33
memory cards, configuring as input/output device, 96–99
Microsoft accounts, 365–367, 366, 367
Microsoft Passports, 390–391
Microsoft Application Compatibility Toolkit (ACT), 17, 53
Microsoft Application Virtualization (App-V), 360–361, 368
Microsoft Azure. See Azure
Microsoft Desktop Optimization Pack (MDOP), 349, 350
Microsoft Edge, 220
Microsoft Internet Explorer. See IE11
Microsoft Management Console. See MMC
Microsoft OneDrive. See OneDrive
Microsoft Passports, 390–391
Microsoft System Center about, 332–334
managing Device Guard via, 393
Microsoft System Center 2012 R2
Configuration Manager
advantages of, 332–333
setting up device health attestation, 395–396
Microsoft Windows 10. See Windows 10
migrating
files from XP to Windows 10, 15, 43
printer, 111–112, 111, 112
MLGPOs (Multiple Local Group Policy Objects), 415
MMC (Microsoft Management Console) about, 134–135, 135
adding snap-ins, 136, 137, 138, 138
configuring modes for, 136
customizing console window with, 200
Device Manager, 278–279, 279
Local Users and Groups snap-in, 378–380, 379, 380
Performance Monitor, 477, 478
mobile devices. See computers
Mobility edition, 3
Mobility Enterprise edition, 3
mobility options, 207–217
about, 207
battery meter, 215
command-line configuration for power plans, 214
configuring power plans and power button, 211–213
customizing power policies, 209–210, 209, 210
managing power states with ACPI, 14, 210–211
offline files and synchronization options, 207–208
Windows To Go configuration for, 215–217
Modify permission (NTFS), 249, 250, 252–253
monitoring and recovery. See also Performance Monitor
Advanced Boot Options, 458–467
Backup and Restore utility, 190, 192, 457, 467–470
Event Viewer, 491–495, 492, 493, 494, 495
exam objectives, 455, 496–497
monitoring firewalls, 327
overview, 456, 496
recovering files from OneDrive, 470
Recycle Bin, 476–477
Reliability Monitor, 487
review questions and answers, 498–500, 510
Startup Repair tool, 467
system image recovery, 465–466, 466
System Protection feature, 474–476
System Restore utility, 458, 464–466, 464, 465
Task Manager, 487–491, 488, 489, 490, 491
tasks for, 456
tools in Windows Performance Toolkit, 338
Wbadmin backups and restores, 471–472
Windows 10 recovery techniques, 457–458
mounting offline images for maintenance, 72
Mouse, 190, 196
moving, virtual machines, 69
MpCmdRun.exe utility, 200
MSRA command-line switches, 439–440
multi-factor authentication, 435
multicast addresses
IPv4, 299
IPv6, 306, 308, 309
Multiple Local Group Policy Objects (MLGPOs), 415

N
Native Boot, defined, 70
Near Field Proximity (NFP), 293
NET USER /? command-line utility, 386
NetBT (NetBIOS over TCP/IP), 297
netsh command, 316
network adapters. See NICs
Network and Sharing Center, 190, 196
wireless NIC configurations via, 285–286, 286
network connections
ad hoc, 289–290
checking speed of, 208, 287
configuring automatic Wi-Fi, 292
connecting and syncing Wi-Fi devices, 293, 294
setting up VPN, 446–447
viewing details of Internet, 286–289
network discovery, defined, 275
network protocols. See TCP/IP
networks, 269–330. See also HomeGroup
networks; NIC; TCP/IP
9.3.3.2 address shortcuts for IPv6, 307
about Windows-based, 236–237, 270,
327
activating systems with Active
Directory, 74–75, 76
checking connection speed of, 208
clean installs over, 20
configuring VPNs, 445–447
creating home folders residing on, 404
device health attestation for, 395–396
enabling VLAN, 62
exam objectives, 269, 327, 328
failure to access TCP/IP resources for,
34
installing shared network printers, 103
managing virtual, 61–62
perimeter firewalls for, 270, 327
review questions and answers,
329–330, 507–508
Safe Mode with, 463
sharing for, 254–255
terms and roles of Microsoft, 275–277
troubleshooting cabling for, 285
types of Windows, 74
video resources, 328
viewing real-time traffic on, 287–288
Windows Firewall configuration for,
322–327
New Group dialog box, 410
New Simple Volume Wizard, 148, 149
New User dialog box, 385–386, 385
options in, 382
NFP (Near Field Proximity), 293
NICs (network interface cards), 277–295
configuring, 84–85, 85, 278–284,
278–284
drivers for, 86
hardware requirements for, 12
overview of, 277–278
selecting from Device Manager,
278–279, 278
troubleshooting, 284–285, 294–295
updating, 281, 284
wireless, 284–289, 294–295
nodes, defined, 270
NTFS. See also NTFS permissions
about, 118, 120–121
cancelling conversions to, 122
compression support in, 157–158
designing access control goals,
247–248
configuring, 122–125, 124, 125
determining for copied or moved files,
254
inheritance of, 251
managing, 250–251
share vs., 258
security descriptors for, 251–252
NTFS permissions
applying to applications, 258
assigning, 252–254
determining for copied or moved files,
254
NTFS Security tab (Properties dialog box),
123, 250

O
octets, 299–300
Office Deployment Tool, 360
offline images, 72–73
OneDrive, 130–133, 258–262
Azure vs., 130–131
configuring, 131–133, 133, 471
features of, 130–131, 130, 258, 259
logging into, 260–262, 260–262
recovering files from, 470–471
syncing files from, 262, 262
Open Systems Interconnection (OSI)
model, 277, 285
opening
devices and printers, 82
Folder Options dialog box, 242–243
MMC, 135
System Restore, 465
operating system. See Windows 10
Optimize Drives window, 164
organizational units (OUs), 339
OSI (Open Systems Interconnection)
model, 277, 285
OUs (organizational units), 339

packages
assigning to users, 340
deploying .msi files, 333–334
making .appx, 334–335

partitions
basic storage configuration for,
125–126
boot, 19
computer manufacturer’s recovery, 473
converting FAT32 file system to NTFS,
121–122
creating for newly added disks,
147–149, 148, 149
deleting, 152–153
identifying for installation, 24
security descriptors for NTFS, 
251–252
setting up, 18–19
system, 19

passwords
Active Directory domain, 272
authentication errors entering, 405
changing user’s, 390
entering PIN, 367
HomeGroup, 239–240, 240, 241, 321
new user options for, 382
Power Options settings for, 209
setting LGPO policies for, 420–422,
420
setting on PC account screen, 26
Patch Tuesdays, 37–38
paths
creating for home folders, 403
folder display options for, 244
UNC, 403
pausing printing, 108–109
PC account screen, 26
Peer Name Resolution Protocol (PNRP), 
438
peer-to-peer networks
overview of, 270–272, 271
types of Windows, 74, 270
Performance Monitor, 477–486
about, 477–478
choosing what to monitor, 478–479
data views in, 479–481
managing properties for, 482–485
saving and analyzing data, 485–486
uses for, 486
viewing data from, 479–481
performance objects, defined, 478
permissions. See also specific permissions
errors with local logon, 405
NTFS file and folder, 247–254
NTFS vs. share, 258
privileges vs., 428
share, 255–256, 257
Personal Identity Verification (PIV)
standard, 435
Personalization, 190, 196
personalizing desktop
  integrating Microsoft accounts with corporate accounts, 365–367, 366, 367
  screen, 184, 184
  Start screen, 188, 188
themes, 187
Phone And Modem, 190, 196
physical smart cards, 436
PIN
  entering, 367
  rules for, 391
ping command, 316
PIV (Personal Identity Verification) standard, 435
PnP (Plug and Play)
  automatic driver installation with, 86–87
  hardware configuration with, 80
  troubleshooting hardware not, 33–34
PNRP (Peer Name Resolution Protocol), 438
Point-to-Point Tunneling Protocol (PPTP), 446
Policies tab (Disk Device Properties screen), 98
port numbers, 277, 325
post-installation configuration. See managing Windows 10 environments
power button, 212, 213
Power Management tab (Network Adapters Properties dialog box), 283, 284
Power Options icon, 190, 196
power plans
  advanced setting for, 213
  battery meter, 215
  command-line switches for setting, 214
  custom desktop and laptop, 209–212, 209, 210
  options for advanced, 213
  power button, 212, 213
  setting up hibernation, 211, 213
Power Saver power plan, 211, 212
Power Users group, 408
Powercfg.exe switches, 214
PowerShell commands
  configuring storage with, 167–169
  Device Guard, 393–394
  executing remotely, 348
  list of, 205–206, 512–517
PPTP (Point-to-Point Tunneling Protocol), 446
prefix notation, 307
presentation virtualization, 58, 344
Previous Versions tab (Properties dialog box), 146
Print Management tools, 110–112, 111, 112
printers, 99–112. See also configuring devices and drivers; Devices And Printers
  adding from Devices And Printers window, 101, 102
  configuring properties for, 103–106, 105, 106
  deleting, 109–110
  drivers for, 99
  installation for shared network, 103
  installing, 100–103, 101
  migrating, 111–112, 111, 112
  opening, 82
  pausing, 108–109
  print device vs., 99
  printers vs., 99
  queuing documents, 106–109, 106, 107, 108
  See What’s Printing display for, 107
privacy – Quota tab (Properties dialog box)

setting properties of, 106
sharing with HomeGroup, 237
spooling print jobs to, 99–100
viewing printer context window for, 108
privacy
defining IE11 options for, 227–228, 228
InPrivate Browsing and InPrivate Filtering (IE11), 225–226
Internet browsers, 222
Protected Mode for IE11, 224
using Web Slices, 222–223
Privacy tab (Internet Options dialog box), 227–228, 228
privileges
assigning user rights, 428–432, 432
elevating user, 433–434
for executables, 434–435
product key
changing, 36, 37
managing activation keys and processes, 338–339
troubleshooting incorrect, 34
Professional edition, 10–11
Profile tab (Properties dialog box)
configuring user profiles, 399–402, 399
setting up home folders, 402–404
using logon scripts, 402
profiles
copying user, 402
mandatory, 401
roaming, 401
setting up local user, 399–400
super-mandatory, 401–402
Programs And Features icon, 190, 196–197, 197
Programs tab (Internet Options dialog box), 230
Properties dialog box
accessing group’s properties, 411–412, 411, 412
configuring advanced device properties, 85
Driver tab of, 88
inbound rule’s, 323, 324
IPv4, 298
managing local disks with, 142–147
managing user properties, 396–404
modifying IE11 properties, 226–230, 226, 227, 228, 229
navigating from Device Manager to, 84–85
NIC, 84–85, 85, 278–284
NTFS Security tab, 123, 242–247
services, 218, 218
setting Internet properties, 195
Sharing tab for folders, 255–256, 255
tabs for most printers, 104–106, 105, 106
tabs of Performance Monitor, 482–485
Volumes tab, 141
wireless network settings from, 290–293, 291, 292, 293
Protected Mode for IE11, 224
protocols. See also IP; TCP/IP
defined, 327
IP6 tunneling, 310, 311–312
tunneling, 446
used for Secure Channel, 384–385
provisioning packages, 336–337
publishing applications, 340

Q
queuing print documents, 106–109, 106, 107, 108
Quota tab (Properties dialog box), 146, 147
radio frequency (RF) troubleshooting, 294–295

RAID (Redundant Array of Independent Disks), 160–161

Read & Execute permission (NTFS), 249, 250, 252–253

Read permission
   NTFS, 249, 250, 252–253
   share, 257, 257

Ready To Install screen, 30

Real-Time Protection mode (Windows Defender), 199

reassigning drive letters and paths, 151–152, 152

recovery
   exam objectives, 455, 496–497
   launching WinRE, 464
   recovering OneDrive files, 470–471
   review questions and answers, 498–500, 510
   system image recovery, 465–466, 466
   system restore procedures, 464–466, 464, 465
   techniques for, 457–458

recovery drives, 465

Recovery icon, 190, 197

Recovery screen, 461

Recovery tab (Properties dialog box), 219

Recycle Bin, 476–477

Redundant Array of Independent Disks (RAID), 160–161

REGEDIT command, 190

Region icon, 190, 198

Registry, 189, 190

Registry and File Virtualization feature, 435

Reliability Monitor, 487

Remote Assistance
   defined, 438
   Easy Connect method for, 438–442, 439, 441, 442

Remote Desktop
   about, 438, 442–443
   connection options for, 443–445, 444
   enabling/disabling, 445
   uses for, 443

RemoteApp And Desktop Connections
   Control Panel icon for, 190
   device redirection for, 358–360
   setting up RemoteApp feeds, 357–358, 358
   using, 198, 355–357, 356

remotely managing accounts, 437–445
   about, 437–438
   executing PowerShell commands remotely, 348
   Remote Assistance, 438–442, 439, 441, 442
   Remote Desktop, 438, 442–445, 444

removable storage devices. See also USB devices
   configuring USBs, 96–99
   policies for, 153

removing
   printers, 109–110
   restore points, 476
   snap-ins, 137

renaming
   computer, 203
   reassigning drive letters and paths, 151–152, 152
   user accounts, 237, 254, 389–390

Report view (Performance Monitor), 480, 481
Resources tab (Network Adapters Properties dialog box), 283, 283
restore points
creating and using, 464, 465, 474–475
deleting, 476
restoring, 475
restoring data. See also Backup and Restore utility; System Restore
creating and using restore points, 464, 465
restoring files from backup, 469–470
restoring restore points, 475
restoring system image, 473
WBadmin for, 471–472
Resultant Set of Policy (RSoP), 415
review questions and answers
authorization and authentication, 451–453, 509–510
data security, 264–266, 506–507
device and driver configuration, 114–115, 504
enterprise installations, 77–78, 503
installation, 44–45, 502
installing applications, 369–371, 508–509
monitoring and recovery, 498–500, 510
networks, 329–330, 507–508
storage configuration, 171–172, 505
Windows 10 environments, 232–233, 505–506
RF (radio frequency) troubleshooting, 294–295
roaming profiles, 401. See also UE-V
rolling back drivers, 89–90, 281
routers, 295

S
Safe Mode
starting in, 459–461, 459, 460, 461
when to use, 457
SAM (Security Account Management) database, 74
saving
changed features for offline images, 73
log files, 485–486
Scanning Option mode (Windows Defender), 200
Schannel, 384–385
schemas for Active Directory, 273–274
scripts, user account logon, 402
Search tab (Folder Options dialog box), 246–247, 246
searches
browser’s Address bar Internet, 222
file, 236
options for Folder Options dialog box, 246–247, 246
Secure Boot, 395
Secure Channel, 384–385
Secure Socket Tunneling Protocol (SSTP), 446
security. See also data security
account-lockout policies, 422–424, 423
advantages of AD domain, 272
configuring NTFS folder and file, 242–254
Credential Guard, 394–395
DAC policies, 247
defining IE11 options for, 227, 227
Device Guard for, 391–394
elements of wireless network, 289–293, 291, 292, 293
GPO and LGPO options for, 413–415
Security Account Management (SAM) database – simple volumes

HomeGroup network, 237–242
Internet browsers, 222
IPsec, 305, 419
managing peer-to-peer network, 271–272
NTFS, 122–123
NTFS file and folder permissions, 247–254
password and username, 383–384
removing SID numbers, 50–51
Secure Channel connections, 384–385
setting folder properties, 242–247
troubleshooting wireless, 295
Security Account Management (SAM) database, 74
Security And Maintenance icon, 190, 198
security descriptors for NTFS, 251–252
security identifier numbers. See SID numbers
Security tab
displaying volume’s disk properties on, 144, 145
Internet Options dialog box, 227, 227
See What’s Printing display window, 107
Select Users dialog box, 412
server virtualization, 58, 344
servers. See also Windows Server 2012 R2
applying DAC to, 247
defined, 275
DHCP, 276
DNS, 275–276, 296
installing Hyper-V, 59–61
member servers, 275
peer-to-peer network computers
as, 270
standalone, 275
virtualization with Hyper-V, 344
service pack installation, 40–41
service set identifier. See SSID
services, 217–220
configuring, 219–220
options for managing, 217
setting properties for, 218–219, 218
Settings window, 204–205,
204, 366
shadow copies, 474
share permissions
applying to applications, 258
configuring, 256–257, 257
creating and managing shared folders,
255–256, 255
NTFS vs., 258
shared computer activation, 360
shared virtual hard disks, 346
sharing folders
about network sharing, 254–255
NTFS permissions for, 250–254
NTFS vs. share permissions for, 258
share permissions, 255–256, 257
using networks and shared resources,
236–237
sharing resources with non-Windows 10
computers, 242
Sharing tab (Properties dialog box), 144,
145
Sharing Wizard, 246, 255
Shims Infrastructure, 341–342, 368
showing file extensions, 245
SID (security identifier) numbers
assigning, 237, 254
removing, 50–51
user account, 384
sideloaded
defined, 362
steps for, 364–365, 364
Sigverif.exe, 95, 96
simple volumes, 126, 126, 154
sites. See websites
SkyDrive. See OneDrive
Sleep mode, 210, 212
smart cards, 435–437
snap-ins. See also MMC
  adding in MMC, 136, 137, 138, 138
  advantages of, 134–135
  Disk Management utility, 133, 138–153
  Print Management, 110–112, 111, 112
Snipping Tool, 180
Sound, 190, 198
Source tab (Performance Monitor), 482, 483
spanned volumes, 127, 127, 154
special groups, 409–410
special permissions (NTFS), 250
Speech Recognition, 190, 198
spooling print jobs, 99–100
SSID (service set identifier)
  about, 291
  disabling broadcast of, 289
  network connections if not broadcasting, 292, 292
  troubleshooting, 295
  viewing, 286, 287
SSTP (Secure Socket Tunneling Protocol), 446
standalone servers, 275
standard user accounts. See user accounts
Start menu
  adding HomeGroup to, 240, 242
  All Apps section, 176
  configuring startup options for, 343
Start screen, 188, 188
Startup Repair tool, 457, 467
Startup Settings screen, 459, 463–464
static TCP/IP addresses, 313
status codes for Disk Management utility, 156–157
Sticky Notes, 180
stopping NTFS partition conversions, 122
storage configuration, 153–156, 155. See also Disk Management utility
  basic storage, 125–126
  cloud-based storage, 129–133
  data compression, 157–160
  dynamic storage, 126–128, 126, 127
exam objectives, 117, 169, 170
file-system configuration, 118–125
GUID disk-partitioning,
  118, 128
managing storage, 153–156
PowerShell, 167–169
RAID, 160–161
review questions and answers, 171–172, 505
setting storage space quotas, 124–125
setting up disk storage, 125–133
Storage Spaces, 161–163, 162, 163
tools for disk maintenance, 163–167
troubleshooting Disk Management, 156–157
using Disk Management utility, 133, 138–153
video resources, 169
Storage Spaces
  about, 161–163, 163, 198–199
  creating storage pool, 162–163
  icon for, 162, 190
striped volumes, 127–128, 128, 154
subnet masks
- defined, 300
- IPv4, 300–302
- IPv6 and, 307
- subscriptions, 495
- super-mandatory profiles, 401–402

switches
- gpresult, 415
- Hyper-V, 62
- icd.exe, 55
- ipconfig, 316
- MSRA command-line, 439–440
- Powercfg.exe, 214
- System Preparation Tool, 50
- Wbadmin, 471–472
- WinAppDeployCmd.exe tool, 335

Sync Center, 190, 199, 208

syncing
- configuring, 207–208
- connected Wi-Fi devices, 293, 294
- files from OneDrive, 262, 266
- Sysprep.exe. See System Preparation Tool

System icon
- features accessed via, 199, 201–204
- illustrated, 190

system images
- backups from, 465–466, 466
- creating, 472–473
- restoring, 473

system partition, 19

System Preparation Tool, 48–52
- about, 48–51, 76
- advantages of, 52
- disadvantages of, 52
- preparing to use, 52
- removing SID numbers, 50–51
- switches for, 50

System Protection
- cleaning up old restore points, 476
- creating and using restore points, 464, 465, 474–475
- enabling/disabling, 464
- restoring restore points, 475

System Restore
- about, 464
- enabling System Protection, 464
- opening, 465
- procedures for, 464–466, 464, 465
- when to use, 458

T

tablets. See computers

Task Manager
- about, 183
- accessing, 487
- tabs of, 487–491, 488, 489, 490, 491

Taskbar
- configuring, 190, 199
- pinning Internet sites to, 221

Taskbar And Navigation icon, 190, 199

TCP (Transmission Control Protocol), 296

TCP/IP (Transmission Control Protocol/Internet Protocol), 295–321. See also IPv4; IPv6
- about, 295–296
- APIPA for assigning IP addresses, 314–315
- assigning static addresses, 313
- benefits and features of, 296–297
- commands for, 316–317
- failure to access, 34
- IP6 addressing, 313
- IPv4 addressing, 298–302, 298
- testing IP configurations, 315–316
- troubleshooting, 317
- using DHCP for dynamic IP addresses, 314
Telnet, 197
templates, quota, 124
Teredo, 306, 310, 311–312, 438, 439
testing IP configurations, 315–316
This PC shortcut, 183
threats, Device Guard protection
against, 392
tools. See Control Panel; MMC; and
specific tools
Tools tab (Properties dialog box), 143
TPM (Trusted Platform Module)
technology, 436–437
tracert command, 316
Transmission Control Protocol (TCP),
296
Transmission Control Protocol/Internet
Protocol. See TCP/IP
transparent caching, 447
Troubleshoot screen, 461
troubleshooting, 199. See also Advanced
Boot Options; services
Control Panel icon for, 190, 199
device installation, 83–84
disabling Secure Boot, 395
Disk Management, 156–157
failed upgrades, 18
following vendor’s install
recommendations, 92–93
installation, 33–35
network cabling, 285
NIC, 284–285
non-compatible Windows To Go USB
drives, 216
nonreproducible device driver
errors, 86
status codes for Disk Management,
156–157
TCP/IP, 317
wireless networks and cards,
294–295
Trusted Platform Module (TPM)
technology, 436–437
trusts, 273
tunneling
defined, 445
IPv6 tunneling, 310, 311–312
protocols for, 446
turning on/off. See enabling/disabling

UDP (User Datagram Protocol), 296
UE-V (User Experience Virtualization),
348–350
unattended installations. See enterprise
installations; System Preparation
Tool
uncompressing folders, 158–159
unicast addresses
defined, 299
IPv4 subnet masks and, 300–302
IPv6, 306, 308–309
uninstalling/reinstalling device drivers,
91–92, 281
unsigned drivers, 96, 113
updates, 37–41
device drivers, 86, 89
exam objectives for, 42, 43
installing service packs, 40–41
NIC drivers, 281, 284
servicing options for, 38
using Windows Update, 39–40, 40
Windows Store updates, 41, 41
Upgrade Analytics tool, 341
upgrades to Windows 10
analyzing applications before, 341
checklist for, 17–18
clean installs vs., 15
exam objectives for, 42, 43
managing failed upgrades, 18
steps for, 28–33
using USB, 28
Windows 7 and 8 options for, 15–16, 43
USB devices. See also configuring devices and drivers
clean install from, 20, 42
compatible with Windows To Go, 215
configuring as input/output device, 96–99, 97
configuring for Windows To Go, 217
configuring redirection for, 359–360
upgrades from, 28
User Account Control (UAC)
about, 433
Control Panel options for, 381
elevating user privileges, 433–434
enabling elevated privileges for executables, 434–435
screen for, 29
user accounts, 373–396. See also usernames
adding to groups, 406, 412
auditing failed resource access from, 425–428, 427
changing passwords, 390
Control Panel options for, 381
creating, 381–383
deleting, 387–389, 388, 405
disabling, 386–387, 405
domain, 377
elevating user privileges, 433–434
exam objectives for, 449–450
features of, 375, 375
icon and tasks for, 190, 199
local, 377, 385–386, 385
logging off, 378
logon scripts for, 402
managing properties of, 396–404, 397
NTFS permissions for, 252–254
NTFS security descriptors for, 251–252
overview, 374–375
packets assigned to, 340
personalizing desktop and screen savers for, 189
Remote Assistance for, 438–442, 439, 441, 442
remote management of, 437–445
renaming, 237, 254, 389–390
restricting removal of hardware by, 153
setting up profile path, 399–400
SIDs for, 384
smart cards, 435–437
storage space quotas for, 124, 125
troubleshooting authentication of, 404–405
types of, 375
user rights assigned to, 428–432, 432
workgroup, 277–278, 377–378
User Datagram Protocol (UDP), 296
User Experience Virtualization (UE-V), 348–350
user interface. See managing Windows 10 environments
usernames. See also user accounts
Active Directory domain, 272
authentication errors entering, 405
rules and conventions for, 383–384
setting on PC account screen, 26
user account options for, 382
Users group, 409
users. See user accounts
V

VAMT (Volume Activation Management Tool), 338–339
variable length subnet masking (VLSM), 307
verifying signed device drivers, 95–96, 113
versions of Windows 10
  business experiences in, 4–6
  Education, 9
  Enterprise, 11–12
  feature overview, 3–4, 6–7
  Home, 10
  overview, 2–3
  Professional, 10–11
  Windows 7 and 8 upgrade options to, 15–16
VHDs (virtual hard disks)
  about, 62
  applying Windows 10 image to, 71
  booting from, 69–72
  changing, 64
  creating, 63
  exporting data for, 69
  Native Boot of MBR partitioned, 70–71
  shared, 346
  types of, 63
video adapters, 12
video driver upgrades, 16
video resources
  authorization and authentication, 450
  configuring devices and drivers, 113
  data security, 263
  device and driver configuration, 113
  enterprise installations, 76
  installation, 42
  installing applications, 368
  networks, 328
  storage configuration, 169
  Windows 10 environments, 230–231
  View tab (Folder Options dialog box), 243–246, 244
viewing
  Device Manager, 83
  folders, 243–246, 244
  general disk properties with, 142
virtual hard disks. See VHDs
virtual LANs (VLANs), 62
virtual machines, 64–73. See also
  Hyper-V; VHDs
  creating and managing, 64–66
  enabling VLANs, 62
  installing Hyper-V Integration
    Components for, 66–67
    managing checkpoints, 67–68
    moving, 69
    types of virtualization, 58–59
virtual memory, 203
virtual networks. See networks
virtual private networks (VPNs), 445–447
virtual smart cards, 436–437
virtualization. See also virtual machines
  Credential Guard protection and, 395
  types of, 58–59
VLANs (virtual LANs), 62
VLSM (variable length subnet masking), 307
Volume Activation Management Tool
  (VAMT), 338–339
volumes
  creating, 148–149
  deleting, 152–153
  extending and shrinking, 154–155, 155
  simple, 126, 126, 154
Volumes tab (Properties dialog box) – Windows 10 Education

spanned, 127, 127, 154
striped, 127–128, 128, 154
viewing properties of, 141, 141
Volumes tab (Properties dialog box), 141
VPNs (virtual private networks), 445–447

W
WBadmin command utility, 471–472
Web Slices, 222–223
websites
pinning to Taskbar, 221
working with Web Slices, 222–223
Welcome screen
customizing, 50
illustrated, 31
OneDrive, 130
WFAS (Windows Firewall with Advanced Security). See Windows Firewall
Wi-Fi. See also wireless NICs
configuring wireless NIC for, 285–286, 286
connecting if SSID not broadcasting, 292, 292
device syncing with, 293, 294
setting properties for, 290–293, 291, 292, 293
troubleshooting, 294–295
viewing Internet connections for, 286–289, 287, 288
Wi-Fi Properties dialog box
Networking tab, 288
setting wireless properties from, 290–293, 291, 292, 293
Wi-Fi Status dialog box, 291
WinAppDeployCmd.exe tool, 334–335
Windows 7 and 8 upgrade
exam objectives for, 43
options for, 15–16, 43
steps for, 28–32
Windows 10. See also managing Windows 10 environments; upgrades to Windows 10
application compatibility with, 17
architecture for, 8–9
basic storage for, 125–126
business experiences for, 4–6
checklist for upgrading, 17–18
configuring on networks, 317–321, 318, 320, 321
deploying and configuring with ICD, 53–56, 336–337
deprecated features, 8
device drivers required, 15
Device Guard protection for, 391–394
DHCP with, 314
enabling/disabling network discovery, 275
feature overview, 3–4, 6–7
IoT Core operating system, 3
recovery techniques for, 457–458
returning from Advanced Boot options to, 464
screen after installation, 32
screen for, 27
static TCP/IP addresses for, 313
updating, 37–41
upgrade options for, 15–16
user accounts for, 374–377, 376
versions of, 2–3
XP file migration to, 15, 43
Windows 10 Application Deployment tool, 334–335
Windows 10 Education, 9
Windows Activation, 36–37, 37
Windows Assessment and Deployment Kit. See ADK
Windows Defender modes, 190, 199–200
Windows Firewall, 322–327
  about, 270, 322, 322
  Advanced Security for, 322–323, 323
  connection security rules, 326–327
  icon and purpose of, 190, 200
  inbound/outbound rules for, 323, 324, 325–326, 325
  monitoring, 327
  scenarios using, 327
Windows Hello, 391
Windows Imaging and Configuration Designer (ICD), 53–56, 336–337
Windows Performance Analyzer (WPA), 338
Windows Performance Recorder (WPR), 338
Windows Performance Toolkit, 338
Windows Remote Assistance Toolkit, 338
Windows Remote Assistance screens, 440–442, 441, 442
Windows Server 2012 R2
  connecting to domain, 318–319, 318
  domain controllers for, 275
  GPO deployments using, 339–340
  installing Hyper-V in, 59–60, 346–348
  RemoteApp connection feeds for, 357–358, 358
  setting up Active Directory with, 274
Windows Server Update Services (WSUS), 39
Windows Store, 361–367
  application installs using Office 365 and, 362–363, 363
  installing applications from, 361–362
  overview, 332
  sideloading applications, 362, 364–365, 364
  updates for, 41, 41
Windows Store for Business, 362
Windows To Go
  about, 190, 200, 215
  configuring USB drive for, 217
  host requirements for, 216–217
Windows Update utility, 37–41
  about, 37
  Check For Updates option, 40, 40
  configuring, 39
  illustrated, 37
  update service options in, 37–38
Windows User’s tools, 183
Windows Vista migrations, 15
Windows XP migrations, 15, 43
WinRE (Windows 10 Recovery Environment), 464
wireless networks. See Wi-Fi
wireless NICs (network interface cards)
  configuring from Network and Sharing Center, 285–286, 286
  troubleshooting, 294–295
  viewing network connection details, 286–289, 287, 288
wireless routers, 295
Work Folders, 190, 200
Workgroup networks
  defined, 74, 237
  as peer-to-peer network, 270–272, 271
workgroup user accounts, 277–278, 377–378
Workplace Join, 378
WPA (Windows Performance Analyzer), 338
WPA/WPA2
  enabling/disabling, 289
  selecting security type for, 292, 293
WPR (Windows Performance Recorder), 338

Write permission (NTFS), 249, 250, 252–253
WSUS (Windows Server Update Services), 39

Z
zipped folders, 159–160