Index

Numerics

802.11 standards, 14
802.11a standard, 221
802.11n draft products, 222
comparing, 221–222

A

access points
adding to hotspot, 178
configuring for ZoneCD advanced free access hotspot solution, 84–87
network and power connection options, 189–190
preinstallation site survey, 179–184, 187
purchasing, 192
access restrictions, configuring on wireless routers, 57
accessing
preferred network list, 205
shared folders, 212
web-based configuration utility on wireless routers, 53
acquiring signage, 135–136
active scanning, 224
adding
ad-hoc networks to preferred network list, 207–208
preferred network to preferred network list, 207–208
shared printers to computer, 215
ad-hoc networks, adding to preferred network list, 208–209
advanced options (preferred network list), 210
advertising, 137
attracting users to hotspot, 19–20
signage, 135–136
revenue, generating, 20–21
selling, 25
submitting hotspots to online directories, 137–141
aircraft, onboard Wi-Fi access, 10
airports, Wi-Fi access, 9
antennas
directional, 229
high-gain, 171
installing, 175
purchasing, 174–175
omnidirectional, 229
AP isolation, configuring on wireless routers, 55
APs, 223
beacons, 223–224
configuring, 194
installing, 194
radio cells, 227
attenuation, 231–233
attracting users to hotspot, 19–20
signage, 135–136

B

backup files, configuring on wireless routers, 61
bandwidth restrictions, denying hotspot access to freeloaders, 145–146
bandwidth throttling, 73
beacons, 223–224
blocked services, configuring on wireless routers, 58–59
blocking freeloader user accounts, 148
Boingo Wireless hotspot network
commission structure, 22
Hot Spot in a Box, configuring, 107–110, 114
revenue, estimating, 23

boot process, ZoneCD advanced free access hotspot solution, 89–97
broadband Internet connections, 6
businesses providing Wi-Fi access, 8

C

channels, 226–228
cities providing Wi-Fi access, 11
Closed mode, ZoneCD advanced free access hotspot solution, 68–70, 98–102
commission structure, Boingo, 22
companies providing Wi-Fi access, 10
comparing 802.11 standards, 221–222
configuring, 55
APs, 194
free or paid access and private network hotspot solution features, 127
wireless routers
access restrictions, 57
AP isolation, 55
backup files, 61
blocked services, 58–59
DHCP user limit, 54
remote management, 59
VPN passthrough, 56
ZoneCD advanced free access hotspot solution
access points, 84–87
boot process, 89–97
Closed mode, 98–102
Open mode, 97–98
connecting to wireless networks via Wireless Zero Configuration tool, 202
connection issues, troubleshooting, 166, 168
connection sequence for wireless clients, 225
creating private networks, 26
customers. *See* freeloaders

D

Dansguardian, 72
data rates, 221
denying hotspot access to freeloaders
with open/closed times, 143–144
with bandwidth restrictions, 145–146
with usage limits, 143
DHCP (Dynamic Host Configuration Protocol), 87
user limit, configuring on wireless routers, 54–55
directional antennas, 229
displaying user session details, 147–149
D-Link Airspot Wireless G Hotspot Gateway, 117

E

emphasizing usage terms to users, 146
enabling
shared folders, 211–212
shared printers, 214–215
Wireless Zero Configuration tool, 199–201
network adapter, 197–198
Entertainment Center Extenders, 27
estimating
fees for independent fee-based hotspots, 24
operating costs of hotspot hosting, 29–31
revenue
from Boingo, 23
indirect, 21–22
Ethernet cable, purchasing, 193
expanding wireless coverage
with additional access points, 178, 192–194
network and power connection options, 189–190
preinstallation site survey, 179–184, 187
with high-gain antennas, 171, 174–175
with wireless repeaters, 175–177

F

fee-based hotspots, 6
fees for independent fee-based hotspots, estimating, 24

file sharing
enabling, 211–212
shared folders, accessing, 212
free access hotspot solution
setting up, 51–52
wireless router, configuring, 53
free or paid access and private network hotspot solution, 117
features, configuring, 127
free access options, 118
installing, 127, 130
paid access options, 119–120
required devices, 120
hotspot gateway setup, 122–124
RADIUS server setup, 126
ticket printer setup, 125
setting up, 118
verifying proper operation, 130
freeloaders
denying access to hotspots
with open/closed times, 143–144
with bandwidth restrictions, 145–146
with usage limits, 143
user accounts, blocking, 148
frequent disconnections, troubleshooting, 164–165

G-H

gateways, installing, 128
general troubleshooting resources, 168
generating revenue, 20–21

high-gain antennas, 171, 229
installing, 175
purchasing, 174–175
HomePlug-certified devices, 190
Hot Spot in a Box, configuring, 107–110, 114
hotels, wireless access, 8
hotspot gateways
as hotspot solution component, 120
configuring, 122, 124
hotspots
intangible costs of hosting, 30
owner responsibilities
content filtering, 156–158
enable VPN passthrough, 155
inform users of risk, 151–153
isolate clients, 155–156
provide safety tips, 154
secure user information, 158
user responsibilities, securing user information, 158–160
hotspot solutions, free or paid access and private network, 117
features, configuring, 127
free access options, 118
installing, 127, 130
paid access options, 119–120
required devices, 120–126
setting up, 118
household appliances, RF interference, 231

I

independent hotspots, 6
fee-based, pricing, 24
indirect revenue, estimating, 21–22
installing
APs, 194
free or paid access and private network hotspot solution, 127, 130
high-gain antennas, 175
wireless routers
as Boingo Wireless Hot Spot, 114
ZoneCD
preinstallation procedures, 76–83
advanced free access hotspot solution, 88
intangible costs of hotspot hosting, 30
integrated mapping feature (online directories), 139
interference, troubleshooting, 164
intermittent disconnections, troubleshooting, 164–165

J-K-L

JiWire, 141

Linksys Wireless-G Broadband Router, 52
LiveCD, 65
locating hotspots
online directories, 12
Wi-Fi finders, 13–14
locations of typical hotspots, 7

M

MAC layer operation
beacons, 223–224
connection sequence, 225
traffic reception and broadcasting, 225
wireless client scannning, 224–225
media adapters, 27
mesh networking, 10
metropolitan Wi-Fi networks, 12
MIMO (Multiple Input Multiple Output), 222
monitoring Wi-Fi hotspots, 147
municipal networks, 10

N

NetStumbler, 228
network adapter
connection status, checking
via status window, 204–205
via system tray, 203
enabling/disabling
via Start menu, 197–198
via system tray, 198
nonoverlapping channels, 226–228

O

omnidirectional antennas, 229
online directories
integrated mapping feature, 139
JiWire, 141
locating hotspots, 12
submitting hotspot, 137–141
Open mode, 67–68
ZoneCD advanced free access hotspot solution, 97–98
open/closed times, denying hotspot access to freeloaders, 143–144
operating costs, estimating, 29–31
operating systems, updating Windows XP, 197

P

passive scanning, 225
peer-to-peer networks. adding to preferred network list, 208–209
performance issues, troubleshooting, 165–166
placement of gateway installation, selecting, 128
PoE (power over Ethernet), 193–194
poor performance, troubleshooting, 165–166
power line devices, purchasing, 192
preferred network list
accessing, 205
advanced options, 210
preferred network, adding, 207–208
preferred order, changing, 206
preinstallation procedures
for ZoneCD installation, 76–83
site surveys, conducting, 179–184, 187
presentation players, 28
preventing RF interference from household appliances, 231
printers, sharing, 214–215

private networks, creating, 26
probe requests, 224
PSPF (Publicly Secure Packet Forwarding), 55
Public IP discussion forum, 103–104
purchasing
APs, 192
Ethernet cable, 193
high-gain antennas, 174–175
PoE, 193–194
power line devices, 192
wireless repeaters, 177

R

radio cells, 227
RADIUS servers
as hotspot solution component, 122
configuring, 126
remote management, configuring on wireless routers, 59
reordering preferred network list, 206
responsibilities of hotspot owner
content filtering, 156–158
enable VPN passthrough, 155
inform users of risk, 151–153
isolate clients, 155–156
provide safety tips, 154
secure user information, 158
responsibilities of hotspot user, 158–160
restoring active hotspot in network list, 164
revenue
Boingo commission structure, 22
estimating, 21–22
generating, 20–21
via selling advertisements, 25
RF interference, 231
RF propagation, 229
RF space, 226–228
RSS (Rich Site Summary) feed, 74

S

security, SSL encryption, 27
selling advertising, 25
services offered by Public IP, 70–76
bandwidth throttling, 73
user classes, 73
setting up
Boingo Wireless Hot Spot in a Box, 107–110, 114
free access hotspot solution, 51–52
wireless router, configuring, 53
shared folders
accessing, 212
enabling, 211–212
shared printers, 214
adding to computer, 215
sign advertisements, acquiring, 135–136
simple free access hotspot solution
setting up, 51–52
wireless router, configuring, 53
solid cable, 191
SSID (service set identifier), broadcasting, 223
SSL encryption, 27
Start menu (Windows XP), enabling/disabling network adapter, 197–198
starting/stopping Wireless Zero Configuration tool, 201
status window, network adapter connection status, checking, 204–205
stranded cable, 191
submitting hotspot to online directories, 137–141
system tray (Windows XP)
checking network adapter connection status, 203
enabling/disabling network adapter, 198

T

ticket printers
as hotspot solution component, 121
configuring, 125
ticket system (ZoneCD), 74
time as intangible cost of hotspot hosting, 30
traffic flow in wireless networks, 225
troubleshooting
connection issues, 166–168
interference, 164
intermittent disconnections, 164–165
poor performance, 165–166
resources, 168
unlisted hotspot in wireless network list, 163–164
typical hotspot users, 7

U

unlisted hotspots in wireless network list, troubleshooting, 163–164
updating Windows XP, 197
usage limits, denying hotspot access to freeloaders, 143
usage terms, emphasizing to users, 146
user classes (ZoneCD), 73
user session details, viewing, 147–149

V

verifying free or paid access and private network hotspot solution configuration, 130
verifying ZoneCD configuration, 102
video cameras, 28
viewing user session details, 147, 149
VPN passthrough, configuring on wireless routers, 56

W-X-Y

Wayport, 6
web-based configuration utility, accessing, 53
web-based configuration utility access server, 60–61
Wi-Fi Alliance, 14
Wi-Fi finders, 13–14
Wi-Fi hot zones, 10
Windows XP
updating, 197
Wireless Zero Configuration tool
enabling/disabling, 199–201
network adapter, enabling/disabling, 197–198
starting/stopping, 201
wireless networks, connecting to, 202
wireless client scanning, 224–225
Wireless Media Players, 27
wireless network configuration, 15
wireless repeaters, 175–176
purchasing, 177
wireless routers, 16
access restrictions, configuring, 57
AP isolation, configuring, 55
backup configuration, 61
blocked services, configuring, 58–59
DHCP user limit, 55
configuring, 54–55
remote management, configuring, 59
VPN passthrough, configuring, 56
web-based configuration utility, accessing, 53
web-based configuration utility access servers, 60–61
Wireless Zero Configuration tool
enabling/disabling, 199–201
starting/stopping, 201
wireless networks, connecting to, 202

Z

ZoneCD
advanced free access hotspot solution, 65–104
access points, configuring, 84–87
Closed mode configuration, 98–102
configuring, 89–97
Open mode configuration, 97–98
physical installation, performing, 88
Closed mode, 68–70
Open mode, 67–68
preinstallation procedures, 76–83
Public IP discussion forum, 103–104
services offered, 70–76
user classes, 73
ticket system, 74