

Index

A

- accelerators, WebSphere Commerce Suite, 188
- access control lists (ACL), 96
- ACORD, 200
- Active Directory, 248
- address resolution protocol (ARP) table, 72, **72**
- Adobe Acrobat PDF files, 208, 209, 211-212
- Advanced Function Printing (AFP), 208-209
- Advanced interactive Executive (AIX) (*See also* portable applications solutions environment), 12, 37, 38, 40, 42, 78, 91, 136
- aliases, DNS, 83-84
- All Zone Transfer (AXFR), DNS, 90
- Apache HTTP server (*See also* HTTP server; servers), 38, 143, 158-163, 279
 - Apache Software Foundation support for, 159
 - bugs and code fixes for, 161
 - clones and, 267-268
 - cluster hash table (CHT) and, 264-265, 268
 - common gateway interface (CGI) and, 161, 218-219
 - configuration of, directory-based, 163
 - cookie support in, 162
 - denial of service (DoS) attacks and, 108
 - differences and benefits of, over Original HTTP server, 160-163
 - enhancements to, 163
 - file system support in, 152, 162
 - high availability and, 263-266, **263**
 - history of Apache and, 160
 - IBM's selection of, reasons for, 159-160
 - Liveliness Monitor in, 264, 268
 - logging in, 162
 - logical partitioning (LPAR) and, 263-266
 - Lotus Domino and, 162
 - market status of, 159-160, **159**
 - multithreading and, 161
 - Net.Data and, 161
 - peer model for, 264-265, **265**
 - primary/backup model for, 264
 - replication in, 265-266, **266**
 - request processing in, 142
 - ReWrite Engine in, 162-163
 - searching and crawling in, 164-167, **165, 166, 167**
 - secure sockets layer (SSL) and, 113-115, 161
 - server side includes (SSI) in, 162
 - TCP/IP binding in, 163
 - triggered cache manager and, 269
 - UNIX and, 161
 - user extensibility in, 162
 - virtual hosting in, 163
 - WEBDAV support in, 162
 - WebSphere Application Server and, 162, 171, 178
 - Welcome or Index page support for, 163
- Apache Software Foundation (*See also* Apache HTTP server; Jakarta Tomcat), 17, 113, 159, 161, 163, 169, 175-176
- Apple, Apache HTTP server, 168
- applet client for WebSphere Application Server, 183
- application development, 4, 213
- Application Development ToolSet (ADTS), 229, 230

Note: boldface numbers indicate illustrations

- application servers, 3, 17, 171-172, **172**
- Ariba, 197
- artificial intelligence, 248
- AS/400, 4
- ASF Jakarta Tomcat (*See* Jakarta Tomcat)
- Assembler language, 215, 222
- asynchronous DSL (ADSL), 23
- asynchronous I/O completion port APIs, 66-67
- asynchronous transfer mode (ATM), 24
- AT&T, 78
- auditing and LDAP server, 99
- authentication, 109-110, 116-117
 - FTP and, 130
 - HTTP servers and, 146-148
 - LDAP server and, 96-97, 98, 100-101, **100, 101**
 - Lightweight Third Party Authentication (LTPA) in, 175
- authorities, 110
- AUTOCODER, 222

- B**
- backbone providers, 21
- backward support/compatibility of OS/400/iSeries, 35, 217
- bandwidth, 21, 55
- basic authentication, HTTP servers, 146-148
- BEA Systems, 17, 250
- bean deployment tools, WebSphere Application Server, 185
- bean scripting framework (BSF) for WebSphere Application Server, 183
- Behlendorf, Brian, 163
- Berkeley Internet Name Domain (*See* BIND and DNS)
- Berners-Lee, Tim, 143
- billing systems, 243
- BIND and DNS, 77-79, 88, 89-90, 91
- binding, 215
 - Apache HTTP server and, 163
- bootstrap protocol (BOOTP), 132
- branch instructions, 249
- browsers, 280
 - automatic detection of, in HTTP server, 149-150
 - HTTP servers and, 138-139, **139**, 149-150
 - pervasive computing and, 275
- buffer, TCP/IP, 76
- Bug Busters Software Engineering Inc., 136
- business objects, Java, 251-253, **252**
- Business Partners, IBM, 217
- business-to-business (B2B), 6-7, 18, 137, 187, 244
 - Connect and, 196, 200-201, **201**
 - WebSphere Commerce Suite and, 190-191
- business-to-consumer applications, WebSphere Commerce Suite, 188-189

- C**
- C and C++, 35, 206, 215, 218, 220, 221, 230, 231, 249, 275
- cache memory, 9, 10
 - HTTP servers and, 157
 - triggered cache manager and, 269
- call center support, WebSphere Commerce Suite, 191
- capacity of database, 44
- Capacity on Demand feature, 10
- catalog-based e-Business (e-Commerce), 243-244
- Center for Information Technology, 31
- CERFNET, 78
- CERT, 88, 106
- certificate authorities (CAs), 114-115
- CGIDEV, 219
- challenge handshake authentication protocol (CHAP), 54
- change logs, LDAP server, 98
- chat, 136
- circuitless interfaces (*See* virtual IP address)
- Citrix MetaFrame, 13
- classes of IP addresses, 29-30
- Client Access Express AFP Print Drivers, 211
- Client Access Express, 131-132
- client-side tools, WebSphere Development Tools, 231-236
- clients, WebSphere Application Server, 182
- clock setting, simple network time protocol (SNTP), 133-134
- clustering, 5, 11, 36, 44, 179, 266
 - switched disks cluster availability in, 270
- ClusterProven Domino, 270
- CNAMEs or aliases in DNS, 83-84, 83
- COBOL, 35, 206, 215, 217-222, 227, 229-231, 249, 251, 275
- CODE/400, 231
- collaboration using Lotus Domino, 204-205
- Commerce Analyzer, 190, 191
- Commerce Suite (*See* WebSphere Commerce Suite)
- common gateway interface (CGI), 17, 137, 218-219, 263
 - Apache HTTP server and, 161
 - CGIDEV for, 219
 - Connect and, 199
 - database access and, 45
 - HTTP servers and, 141-142, **141, 142**, 148
 - Java vs., 226
- communications termination device for Internet connectivity, 26
- CommuniGate Professional (Stalker Software) email software, 124-126
- compact XML (cXML), Connect, 197
- Compaq, 78
- compilers,
 - C language, 221
 - WebSphere Development Tools and, 230
- completion ports, asynchronous I/O, 66-67
- complex instruction set computing (CISC), 11, 34
- Computer Emergency Response Team Coordination Center (CERT), 104
- conditional forwarding and DNS, 89

Note: boldface numbers indicate illustrations

- Connect, 171, 195-202, 280
 - business-to-business communication and, 196, 200-201, **201**
 - common gateway interface (CGI) and, 199
 - compact XML (cXML) and, 197
 - electronic data interchange (EDI) and, 195-196, 200
 - e-Marketplace applications and, 197-200, **198**
 - flows in, 201
 - HTML forms and, 196
 - HTTP server and, 199
 - sell side solution using, 197-200
 - simple object access protocol (SOAP) and, 199, 200, 202
 - WebSphere Commerce Suite and, 191
 - XML and XML Extender in, 195, 199, 200, 202
 - XSLT and, 199
- connection pooling, 184-185
- console, WebSphere Application Server, 184
- Content Manager OnDemand, 209-210
- contexts, 177
- controller, 225
- cookie support in Apache HTTP server, 162
- CORBA, 170
- Corel, 39
- cost of e-Business, reducing operating costs, 242-244
- cost of iSeries servers, 4-5
- cost of server farms, 3-5
- Coulthard, Phil, 233
- crackers, 106-107
- crawler, 156, 164-167, **165, 166, 167**
- credit card transactions, 192-193
- Cryptographic Coprocessor, 116-117
- customer service, 245
- customer support from IBM, 74-75, 133, 216-217
- Customer Technology Center (CTC), 133
- customizing HTTP servers, 151
- cyber terrorists, 104
- CyberKit, 24

- D**
- DASD, high availability, 270
- data hiding, 252
- Data Mirror, 260, 265
- database, 41-47
 - administration and maintenance in, 46
 - AIX and, 42
 - capacity of, 44
 - connection pooling in, 184-185
 - connectivity for, 42
 - data replication in, 44
 - Database Navigator, 46
 - DataJoiner for, 44
 - DataPropagator Relational for, 44
 - Distributed relational database architecture (DRDA) and, 42-44, **43, 45**
 - enhancements to, 45
 - foreign connections to, DataJoiner for, 44
 - high speed link (HSL) to, 44
 - Java database connectivity (JDBC) and, 44, 45, 173-174
 - open database connectivity (ODBC) and, 44, 45
 - Quality of Service (QoS) and, 43
 - Query Management Facility for, 45
 - remote journaling in, 44
 - search engine for, 47
 - SQL/SQL Procedure Language for, 41, 45
 - TCP/IP connections and, 43
 - unlimited access to, 45
 - virtual private networks (VPNs) and, 43
 - WebSphere Application Server and, 184-185
 - XML and text extenders for, 46-47
- Database Navigator, 46
- DataJoiner, 44
- DataMirror, 36
- DataPropagator Relational for database access, 44
- DB2 UDB (*See* database)
- debugging, 75-76
 - Delete Trace (DLTTRC) in, 75
 - End Trace (ENDTRC) in, 75
 - Print Trace (PRTTRC) in, 75
 - Start Trace (STRTRC) in, 75
 - Trace Job (TRCJOB) in, 75
 - WebSphere Application Server and, 185
- dedicated leased lines (T1, fractional T1), 23-24
- Delete Trace (DLTTRC), 75
- demilitarized zone (DMZ), 27-29
- denial of service (DoS) attacks, 104, 108, 158
- Denoncourt, Don, 176
- Department of Defense, cyber terrorists, 104
- diagnostic tools, 75-76
- dial up Internet connectivity, 22, 54-55, **54**
- Differentiated Services (DiffServ), 65-66
- Digital Certificate Manager (DCM), 113-115, **114**
- digital certificates, virtual private networks (VPNs), 62
- Digital Equipment Corporation, 78
- digital subscriber line (DSL), 22-23
- digitally signed software, 115-116
- Directory Access Protocol (DAP), 93
- directory information tree (DIT), LDAP server, 95, **95**
- disk capacity of iSeries, 10-11
- disk management in iSeries, 10
- diskless servers, 40
- distinguished name (DN), LDAP server, 95
- Distributed relational database architecture (DRDA), 42-44, **43, 45**
- document type definition (DTD), XML, 195
- domain and domain names, 24-26, 79-88
- domain name server/system (DNS), 26, 57, 67, 77-92, 107, 248
 - BIND and, 77-79, 88-91
 - CNAMEs or aliases in, 83-84

Note: boldface numbers indicate illustrations

- domain name server/system (DNS), *continued*
 - conditional forwarding and, 89
 - configuration of, 91-92, **91**
 - DNS
 - domains and domain names in, 79-88
 - dynamic host configuration protocol (DHCP) and, 89, 92
 - email and MX record in, 88
 - host and server defined for, 81
 - hosting your own server for, 87-88
 - HOSTS files vs., 77
 - Internet Corporation for Assigned Names and Numbers (ICANN) and, 78
 - interoperability in, 90-91
 - iSeries server for, 88-92
 - LDAP server and, 95-96
 - multiple server instances on one machine and, 89
 - Notify function in, 90
 - NSLOOKUP search for, 81-87
 - portable applications solutions environment (PASE) and, 78-79, 88
 - recursive queries in, 85
 - registration of domain names in, 80-81
 - resolving names/addresses, 84-87, **85**
 - secure dynamic updates and, 89-90
 - split, 89
 - time to live (TTL) settings in, 87
 - Transaction Signatures (TSIGs) and, 90
 - WHOIS search for, 81-87
 - Windows 2000 interoperability and, 91
 - Zone Transfer (XFR and AXFR) in, 90
 - Domino (*See* Lotus Domino)
 - downtime, 4
 - local partitioning (LPAR) and, 36-37
 - dual homed servers, 56
 - dynamic host configuration protocol (DHCP), 54, 77-92, 248
 - BOOTP vs., 132
 - DNS and, 92
 - dynamic Web site pages, 16
- E**
- e-Business, 5-6, 15-19, 238, 241-248, 257
 - application development for, 6
 - billing systems in, 243
 - business-to-business (B2B) in, 18, 244
 - catalog-based (E-Commerce) in, 243-244
 - communications termination device for, 26
 - cost of, reducing operating costs in, 242-244
 - customer service in, 245
 - domain and domain names for, 24-26
 - domain name server (DNS) for, 26
 - email in, 18, 31
 - environment for, 21-31
 - e-Output for, 19
 - file transfer protocol (FTP) in, 18
 - firewalls for, 29-31
 - Information Technology (IT) department and, 241-242, 246-247
 - infrastructure management in, 248
 - internal or corporate-based Web sites in, 245-246
 - Internet connectivity and, 21-24
 - IP addresses for, 24
 - legacy applications and, 5-6
 - Lotus Domino and, 206
 - marketing and, 244-245
 - on-site equipment for, 26-29, **27**
 - pervasive computing uses and, 274-275
 - routers for, 26
 - specialization of programmers/designers for, 247-248
 - Telnet, 19
 - terminal emulation and, 19
 - Web services and, 244
 - Web site design and, 15-18, 243
 - WebSphere Commerce Suite and, 243
 - XML and, 244
 - Echo (*See* PING)
 - e-Commerce, 243-244
 - Edge Server, 264
 - electronic data interchange (EDI), 6, 195-196, 200
 - electronic software distribution, 115-116
 - eLiza, 248, 270-271
 - email, 10, 18, 119-127
 - CommuniGate Professional (Stalker Software) for, 124-126
 - DNS and, 88
 - HTTP server and, 125-126
 - Internet Mail Access Protocol (IMAP) in, 124
 - LDAP server and, 123-124
 - legal implications and issues in, 120
 - Lotus Domino server for, 123-124, 205
 - Mail Server Framework (MSF) and, 121
 - Microsoft Outlook and, 123
 - MX record and DNS, 88
 - Office Vision/400 and, 121, 126-127
 - POP3 server for, 122-126
 - post office protocol (POP3) in, 120-126, **121**
 - Realtime Blackhole List (RBL) and, 122
 - relay protection in, 122
 - security for, 31
 - simple mail transfer protocol (SMTP) in, 120-121, **121**, 124-126
 - SMTP server for, 121-122, 124-126
 - spam and junk email in, 119, 122
 - e-Marketplace, 7, 197-200, **198**
 - encryption, 18, 109-110, 116-117, 130
 - END TCP/IP Server (ENDTCPSVR) command, 101
 - End Trace (ENDTRC), 75
 - enterprise applications in WebSphere Application Server, 182

Note: boldface numbers indicate illustrations

Enterprise JavaBeans (EJBs), 169, 170, 226, 233, 237
 Lotus Domino and, 203
 WebSphere Application Server and, 175, 178-179, 183
 WebSphere Commerce Suite and, 187

e-Output, 19

Ericsson, 276

error message customization, in HTTP servers, 153

Ethernet, 55

event notification in LDAP server, 99

exit programs, Telnet, 131

expert systems, 248

eXport Ventures Corporation, 133

extensible markup language (*See XML*)

extensible stylesheet language transformations (*See XSLT*)

Extreme Support Personalized (ESP), 75

F

failover, 267

fiber optic Internet connectivity, 23
 5250, 216, 280
 emulation, Jacada for GUI, 136
 emulation, Webulator for, 135
 interactive tax on, 220-221
 terminal emulation and, 19
 WebFacing in, 232

file system support
 Apache HTTP server and, 162
 HTTP servers and support, 152

file transfer protocol (FTP), 18, 35, 129-130
 QUOTE command and, 130
 secure sockets layer (SSL) and, 130
 security of, 130
 trivial, 134
 virtual private networks (VPNs) and, 63

filtering, IP, 64, 67

firewalls, 27-31, 57, 104, 117-118, 262
 demilitarized zone (DMZ) in, 27-29

flooding, 108

flows, Connect, 201

fonts, AFP font collection, 210

foreign languages, multicultural support, WebSphere
 Commerce Suite, 189-190

4758 PCI Cryptographic Coprocessor, 116-117

future developments, 279-281

G

gateway-to-dynamic IP user VPN, 59-62

gateway-to-gateway VPN, 59-62, **60**

gateway-to-host VPN, 59-62, **60**

Generic Security Services (GSS), 117

GET method, 141-142, 218

graphical user interfaces (GUIs), 136

H

hackers, 104, 106

Haley, Bob, 78

hardware of iSeries, 9-11

Hewlett Packard, 38, 78, 91

hiding data, 252

high availability, 3, 257, 259-271
 Apache HTTP servers and, 263-266, **263**
 clones and, 267-268
 cluster hash table (CHT) and, 264-265, 268
 clustering and, 266
 ClusterProven Domino and, 270
 DASD and, 270
 eLiza and, 270-271
 environment and configuration for, 261
 failover and, 267
 High Availability Business Partner (HABP) in, 259-260
 high speed link (HSL) and, 270
 HTTP servers and, 261, 263-266, **263**
 independent auxiliary storage pool (IASP), 270
 LDAP server and, 97
 Liveliness Monitor in, 264, 268
 load balancing and, 267
 local partitioning (LPAR) and 36-37
 logical partitioning (LPAR) and, 261
 multiple sites for, 261
 Network Dispatcher and, 264
 peer model for, 264-265, **265**
 primary/backup model for, 264
 replication in, 265-266, **266**
 risk assessment for, 260-261, 260
 single site, multiple machines for, 261, 262-263, **262**
 switched disks cluster availability in, 270
 triggered cache manager and, 269
 WebSphere Application server and, 261, 266-269, **267**,
268

High Availability Business Partner (HABP), 259-260

high speed link (HSL), 4-5, 11, 44m 270

Host On Demand, 135, 220

Host Print Transform (HPT), 131, 209

Host Publisher, 135

host-to-host VPN, 59-62, **61**

hosting, virtual, 151

HOSTS files vs. DNS, 77

HTTP servers, 248

HTTP server (*See also Apache HTTP server*), 35, 137-168,
138, **139**, 270, 280
 authentication in, 146-148
 automatic browser detection in, 149-150
 browser/server communication in, 138-139, **139**
 business-to-business (B2B), 18
 CGIDEV for, 219
 clones and, 267-268
 cluster hash table (CHT) and, 264-265, 268

- HTTP server (*See also* Apache HTTP server), *continued*
 common gateway interface (CGI) and, 17, 141-142, **141**,
142, 148, 218-219, 263
 Connect and, 199
 customization using Server APIs, 151
 denial of service (DoS) attacks and, 108, 158
 Differentiated Services (DiffServ) and, 65-66
 Digital Certificate Manager (DCM) and, 113-115, **114**
 email and, 125-126
 error message customization in, 153
 features of, 144
 file system support in, 152
 GET method for, 141-142, 218
 high availability and, 261, 263-266, **263**
 HTML-based administration in, 145
 IP-based virtual hosting in, 151
 Java and, 224-226, **225**
 LDAP server and, 96, 147
 Liveliness Monitor in, 264, 268
 logging and Log Analyzer in, 152
 logical partitioning (LPAR) and, 263-266
 Lotus Domino and, 137-138, **138**, 155, **156**, 203, 204,
 205, 206
 metafile support in, 150
 multithreading and, 161
 name-based virtual hosting in, 151-152
 Net.Data support in, 148
 operation of, 138-139
 Original vs. Apache, 143
 passwords and user IDs in, 147
 peer model for, 264-265, **265**
 performance and caching options for, 157, **157**
 persistent CGI support in, vs. stateless CGI, 148-149
 platform for Internet content selection (PICS) support in,
 153
 POST method in, 142-143, **143**, 218
 primary/backup model for, 264
 proxy and reverse proxy support in, 153-155, **154**, **155**
 replication in, 265-266, **266**
 request processing in, 139-143, **140**, **141**, **143**
 search engine for, 156
 secure sockets layer (SSL) and, 146, 161
 server side includes (SSI) and, 149
 setup wizard for, 145
 simple network management protocol (SNMP) and, 158
 Start TCP/IP Server (STRTCPSVR) command for, 158
 statistics on, 157
 STDIN in, 142-143, 219
 STDOUT in, 141, 142, 219
 TCP/IP and, 139
 thread safe processing and, 140
 trace facilities for, 158
 triggered cache manager and, 269
 URL redirection in, 150
 user directories in, 152-153
 user profiles for, 147
 validation lists in, 147
 virtual hosting and, 151
 WebSphere Application Server and, 138, 156, **156**, 178
 Welcome or Index page support for, 145-146, **146**
 well-known ports for, 153
 Work with Active Jobs (WRKACTJOB) command for,
 158
 HTTPd (*See also* Apache HTTP server), 160
 hypertext markup language (HTML), 15
 Connect and, 196
 WebSphere Transcoding Publisher, 276
- I**
 I/Net Inc., 135
 I/O management on iSeries, 10
 asynchronous I/O completion port APIs in, 66-67
 IANA, 30
 IBM customer support, 74-75, 133, 216-217
 IBM Toolbox for Java, 250
 ICMP PING attacks, 108
 IFS RootQOPNSYS, 152
 IGNITEe/400 group, 8
 IKE digital certificates, virtual private networks (VPNs), 62
 ILE APIs and LDAP server, 99
 Incremental Zone Transfer (IXFR), DNS, 90
 independent auxiliary storage pool (IASP), 270
 Index page, Web site, 145-146, **146**, 163
 industrial spies, 105
 InfoPrint Designer, 210
 Information Technology (IT) department, e-Business, 4,
 241-242, 246-247
 Informix, 42
 infrastructure management, 248
 inheritance, 251
 Integrated Development Environment (IDE), 233
 Integrated Language Environment (ILE), 215
 Integrated Services, TCP/IP, 65-66
 intelligent cache, 10
 interactive tax on iSeries machines, 217, 220-221
 internal or corporate-based Web sites, 17, 245-246
 International Organization for Standardization (ISO), 93
 Internet Architecture Board (IAB), 51
 Internet common messaging protocol (ICMP), 63
 Internet connectivity, 21-24, 52-53
 asynchronous transfer mode (ATM) and, 24
 backbone providers and, 21
 bandwidth and, 21
 challenge handshake authentication protocol (CHAP)
 and, 54
 dedicated leased lines (T1, fractional T1), 23-24
 dial up, 22, 54-55, **54**
 digital subscriber line (DSL), 22-23

Note: boldface numbers indicate illustrations

- dynamic host configuration protocol (DHCP) and, 54
 - fiber optic, 23
 - IBM support, 74-75
 - Internet Setup Wizard for, 53-56
 - IP addresses and, 54
 - ISDN, 22
 - multilink support in, 55-56, **55**, **56**
 - network access points (NAPs) for, 21
 - Password Authentication protocol (PAP) and, 54
 - point-to-point protocol (PPP) connection for, 53-54, **53**, **54**, 67
 - quality of service (QoS) and, 64-66, **65**, 69, **69**
 - remote authentication dial in user service (RADIUS) and, 54-55
 - security and, 106-108
 - serial line Internet protocol (SLIP) and, 54
 - TCP/IP and, 52-53
 - Internet Corporation for Assigned Names and Numbers (ICANN), 78, 79
 - Internet Engineering Task Force (IETF), 93
 - Internet Mail Access Protocol (IMAP), 124
 - Internet Print Protocol (IPP), 134-135
 - Internet service providers (ISPs), 21-24, 62
 - Internet Setup Wizard, 53-56
 - Internet Software Consortium (ISC), 78
 - InterNIC, 24-26, 79, 82, 85, 88
 - IP addresses, 24, 29-30, 53, 54
 - classes of, 29-30, 29
 - duplicate address detection/resolution in, 75
 - IP filtering in, 64, 67
 - network address translation (NAT) for, 30, 57, 63-64, 117-118
 - resolving names/addresses, 84-87, **85**
 - virtual, 56-59, 151
 - IP filtering, 64, 67
 - IPComp support and virtual private networks (VPNs), 63
 - iPlanet, 250
 - ISDN Internet connectivity, 22
 - iSeries Connect (*See* Connect)
 - IStar processor, 9
- J**
- J Walk, 136
 - Jacada, 136
 - Jakarta Tomcat, 17, 169, 171, 175-177, 223, 224, 227, 248
 - configuration of, in- and out-of-process, 176-177
 - contexts in, 177
 - custom applications and, 177
 - porting of, 176
 - URL and IFS in, 177
 - WebSphere Application Server and, 172
 - Java, 3, 9, 35, 137, 169, 202, 217, 220-226, 249-255, 275, 280
 - bean deployment tools for, 185
 - business objects and, 251-253, **252**
 - common gateway interface (CGI) and, 226
 - hiding data in, 252
 - HTTP server and, 224-226, **225**
 - IBM Toolbox for Java and, 250
 - learning, 254-255
 - Lotus Domino and, 203, 206
 - MochaSoft and, 132
 - model/view/controller method in, 173-174, **174**, 253-254, **253**
 - multithreading and, 249
 - object oriented design and, 251
 - performance advantage of, 225-226
 - persistence in, 252
 - pervasive computing and, 277
 - platform independence and, 250
 - polymorphism and inheritance in, 251
 - PowerPC processor and, 249-250
 - printing and, 208, 211-212
 - VisualAge for Java and, 171, 232-233, 250
 - WebSphere Application Server and, support for, 169-171
 - WebSphere Development Tools and, 236
 - XML and, 254
 - Java 2 Enterprise Edition (J2EE), 169, 223
 - LDAP server and, 95, 97
 - WebSphere Application Server and, 178, 182, 183
 - WebSphere Commerce Suite and, 187
 - Java application server, 17, 36, 171-172, **171**
 - java command, 169
 - Java database connectivity (JDBC), 44, 45, 173-174
 - Java Development Kit (JDK), 169, 170, 224
 - Java Message Service, 182
 - Java naming and directory interface (JNDI) and
 - LDAP server and, 95, 97, 99
 - WebSphere Application Server and, 183
 - Java servlets, 17, 169, 170, 172, 224, 250
 - Java Thin Application client for WebSphere Application Server, 183
 - Java Virtual Machine (JVM), 169, 170, 224, 250, 277
 - javac, 169
 - JavaMail, 182
 - JavaScript, 183
 - JavaServer Pages (JSPs), 17, 35, 169, 170, 173, 183, 224, 250
 - jobs in OS/400, 34, 37
 - journaling in database access, 44
 - JSP client for WebSphere Application Server, 183
 - junk email (spam), 119, 122
- K**
- Kerberos, 92, 96, 98, 117

Note: boldface numbers indicate illustrations

L

- L2 cache (*See also* cache memory), 9
- Lakeview Technology, 36, 260, 265
- languages for programming, 215-227
- levels of security, 105
- lightweight directory access protocol (LDAP) server (*See also* Network Directory Services), 93-102, 248
 - access control lists (ACL) and, 96
 - auditing and, 99
 - change logs, 98
 - directory information tree (DIT) in, 95, **95**
 - distinguished name (DN) and, 95
 - DNS and, 95-96
 - email and, 123-124
 - END TCP/IP Server (ENDTCPSVR) command in, 101
 - event notification in, 99
 - examples of, 100-101, **100, 101**
 - features and functions of, in iSeries, 98-99
 - further information/resources for, 102
 - high availability and, 97
 - HTTP servers and, 147
 - ILE APIs and, 99
 - iSeries implementation of, 98
 - Java 2 Enterprise Edition (J2EE) and, 95, 97
 - Java Naming Directory and Directory Interface (JNDI) and, 95, 97, 99
 - Kerberos and, 98
 - load balancing and, 97, **97**
 - Lotus Domino and, 203
 - management of, using ALLOBJ and IOSYSCFG
 - authorities, 101
 - publishing services in, 99-100
 - Qshell utilities and, 99
 - replication in, 98
 - schema for, 94-95, **95, 98**
 - security and authentication in, 96-98, 100-101, **100, 101**
 - Start TCP/IP Server (STRTCPSVR) command in, 101
 - suffixes and referrals in, 96, **96**
 - synchronization in, 98
 - System Distribution Directory (SDD) and, 98
 - transaction support in, 98
 - use of, 94-96, **94, 95**
 - WebSphere Application Server and, 179
 - Windows support in, 99
 - Work with Directory Entry (WRKDIRE) command for, 98
- Lightweight Third Party Authentication (LTPA) in
 - WebSphere Application Server, 175
- Line Printer Daemon (LPD), 134
- Line Printer Requester (LPR), 134
- Linux, 3, 4, 5, 12, 34, 38-39, 42, 91, 222, 248, 279, 280
 - Apache HTTP server and, 168
 - local partitioning (LPAR) and, 36
 - security and, 118
 - virtual private networks (VPN) and, 62
 - WebSphere Development Tools and, 236
- Liveliness Monitor, 264, 268
- load balancing, 56-59, **57, 58, 97, 97, 267**
- local partitioning (*See* logical partitioning)
- Log Analyzer, 152
- logging
 - Apache HTTP server and, 162
 - HTTP servers and, 152
- logical partitioning (LPAR), 12, 35-37, 40, 58, 257, 261
- Lotus Domino, 123-124, 203-206
 - Apache HTTP server and, 162
 - ClusterProven Domino and, 270
 - collaboration using, 204-205
 - e-Business and, 206
 - email and, 205
 - high availability and, 270
 - HTTP server and, 137-138, **138, 155, 156, 203, 204, 205, 206**
 - Java support in, 203, 206
 - LDAP server and, 96, 203
 - local partitioning (LPAR) and, 36
 - POP3 server and, 203
 - replication in, 204
 - Sametime, 204
 - SMTP server and, 203
 - WebSphere Application Server and, 178
 - WebSphere integration with, 206

M

- machine-to-machine communications, 7
- Macintosh, Apache HTTP server, 168
- Mail Server Framework (MSF), 121
- maintenance and upgrades for iSeries, 10
- Management Central Pervasive, 11
- Management Central System, 74-75
- Map network address translation (NAT), 30, 63-64
- marketing, 188-189, 244-245
- Masquerade network address translation (NAT), 30, 63-64
- McCool, Robert, 160
- memory management, 10, 33-34, 221
- metafiles, HTTP servers and support, 150
- Metiom, 197
- Microsoft systems and security, 4, 5, 118, 279
- Microsoft Outlook, email, 123
- Microsoft Windows (*See* Windows)
- MochaSoft, 132, 220-221
- model/view/controller method, 173-174, **174, 253-254, 253**
- modular programming, 115, 215
- Motorola, 276
- MQSeries, 18, 182, 199, 202
- MSNTP/400, 133
- multicultural support, 189-190
- multilink support, in TCP/IP, 55-56, **55, 56**

Note: boldface numbers indicate illustrations

multiple node support, WebSphere Application Server, 179
 multiple processor machines, 10
 multiple server instances on one machine, 89
 multithreading, 34-35, 249-250
 Apache HTTP server and, 161
 asynchronous I/O completion port APIs in, 66-67
 HTTP servers and, 161
 thread safe processing and, 140

N

name-based virtual hosting, HTTP servers, 151-152
 name resolution in DNS, 84-87, **85**
 National Center for Supercomputing Applications (NCSA), 143
 national language support (NLS), 131, 217
 nested VPN connections, 62
 Net.Data, 45, 137, 161, 222, 227, 243, 263
 Apache HTTP server and, 161
 HTTP servers and, 148
 NetRexx, 183
 Netscape Rhino, 183
 NetServer, 39
 NetStat, 75, 135
 network access points (NAPs), 21
 network address translation (NAT), 30, 57, 63-64, 117-118
 Network Associates, 78
 Network Authentication Service, 116-117, 133-134
 Network Directory Services (*See also* lightweight directory access protocol), 93-102
 Network Dispatcher, 58-59, 264
 network news transport protocol (NNTP), 136
 Network Solutions Inc., 25
 nodes and clustering, 44, 179
 Nokia, 276
 Notify function in DNS, 90
 Novell, 42
 NSLOOKUP, 73, **73**, 81-87, 135

O

object management authorities, 110
 object oriented design /programming, 251
 Office Vision/400, 121, 126-127
 open database connectivity (ODBC), 44, 45
 Open Group, The, 42
 Open Shortest Path First (OSPF), 56
 Open Systems Interconnection (OSI), 93
 operating system (*See also* OS/400), 11-12, 33-35, 49
 Operations Navigator, 11, 39, 46, 66, 67-74, 81
 Operations Navigator AFP Manager, 211
 optical connection (*See* high speed link)
 Oracle, 41, 42, 44
 OS/400, 11-12, 33-35, 49, 129
 TCP/IP and support in, 51-52

WebSphere Development Tools and, 230

P

packet filtering, 27-28
 packet sniffing, 107
 partitioning (*See* logical partitioning)
 Password Authentication protocol (PAP), 54
 passwords and user IDs, 105, 106, 112, 132
 HTTP servers and, authentication of, 147
 remote execution (REXEC) and, 133
 Payment Manager, in WebSphere Commerce Suite, 192-193
 PCs (*See also* xSeries), 5, 13, 215, 248-249, 279
 PDF files, 208, 209, 211-212
 peer model for high availability, 264-265, **265**
 performance of HTTP servers, 157, **157**
 Performance Explorer, 75-76
 Perl, 183
 persistent CGI support, vs. stateless CGI, 148-149, 252
 personal digital assistants (PDAs), 273-278
 pervasive computing, 17, 187, 257, 273-278
 PING, 135
 PING attacks, 108
 PL/I, 35, 215, 221
 platform for Internet content selection (PICS) support, 153
 platform independence, Java, 250
 point to point protocol (PPP), 53-54, **53**, **54**, 67
 policy setting, 110-112, **111**, **112**
 polymorphism, 251
 POP3 server, 35, 122-126, 203
 portable applications solutions environment (PASE), 12, 37-38, 40, 136, 248
 DNS and, 78-79, 88
 POSIX, 133
 POST method, 142-143, **143**, 172, 218
 post office protocol (POP3), 120-126, **121**
 PowerPC processor, Java, 249-250
 PREIPSEC filters, 62
 primary/backup server model, 264
 Print Services Facility (PSF), 209
 Print Suite, 210
 Print Trace (PRTTRC), 75
 printing, 19, 207-212
 Adobe Acrobat PDF files and, 208, 209, 211-212
 Advanced Function Printing (AFP) and, 208-209
 “anything, anywhere,” 208
 Client Access Express AFP Print Drivers for, 211
 Content Manager OnDemand and, 209-210
 fonts, AFP font collection for, 210
 formats supported by AFP (GIF, TIFF, etc.), 209
 Host Print Transform (HPT) and, 131, 209
 InfoPrint Designer for, 210
 Internet Print Protocol (IPP) in, 134-135
 Java and, 208, 211-212

- printing, *continued*
- Line Printer Daemon (LPD) in, 134
 - Line Printer Requester (LPR) in, 134
 - Operations Navigator AFP Manager for, 211
 - Print Services Facility (PSF) for, 209
 - Print Suite for, 210
 - SNA Character Stream (SCS), 208
 - Telnet and, 131
 - tools to create output for, 210-211
 - Viewer, AFP Viewer for, 211
- processors for iSeries, 9-12, 249-250, 271
- local partitioning (LPAR), 35-37
 - speed of, 224
- programming languages, 215-227
- proxy and reverse proxy support, 153-155, **154**, **155**, 157
- pSeries, 249, 271
- PUBLIC user profile, 110
- publishing services in LDAP server, 99-100
- Q**
- Qshell utilities, LDAP server, 99
- QSYS, 152
- quality of service (QoS)
- database access and, 43
 - TCP/IP and, 64-66, **65**, 69, **69**
- Query Management Facility, 45
- QUOTE command, 130
- R**
- RAID 5 backups, 10
- Realtime Blackhole List (RBL), 122
- recursive queries, DNS, 85
- Red Hat Linux, 39
- redirection, URL, HTTP servers, 150
- reduced instruction set computing (RISC), 11, 34, 249
- Regatta processors, 271
- registering a domain name, 26, 80-81
- relay protection, email, 122
- remote access services (RAS), 67
- remote authentication dial in user service (RADIUS), 54-55
- remote execution (REXEC), 133
- remote journaling in database access, 44
- Rendezvous/400, 136
- replication
- high availability and, 265-266, **266**
 - LDAP server and, 98
 - Lotus Domino and, 204
- request processing, HTTP servers, 139-143, **140**, **141**, **143**
- resolving domain names/addresses, 84-87, **85**
- Resource Analyzer (RA) in WebSphere Application Server, 175
- retail sales, WebSphere Commerce Suite, 190
- reverse proxy support, HTTP servers, 153-155, **154**, **155**
- ReWrite Engine, Apache HTTP server, 162-163
- Rexx, 183
- Rhino, 183
- risk assessment
- high availability and, 260-261
 - security, 103-106, 108-109
- round robin load balancing, 57-58, **57**, **58**
- Route Daemon (RouteD), 133
- routers and routing, 26-27, 56
- TCP/IP and, 56, 71, **71**
- routing information protocol (RIP), 133
- RPG, 35, 137, 202, 206, 215, 217-222, 227, 229, 230, 231, 232, 249, 251, 275
- RPG III, 216
- RPG IV, 216
- RUNSQLSTM command, 45
- S**
- Sametime, Lotus Domino, 204
- Sans Institute, 106
- schema
- LDAP server and, 94-95, **95**, 98
 - XML, 195
- screen scraping, 220-221
- SDM, 229, 230
- Seagull Software, 136
- search engine, 156
- Apache HTTP server and, 164-167, **165**, **166**, **167**
 - database access and, 47
- secure dynamic updates, DNS, 89-90
- secure electronic transaction (SET), 192
- secure sockets layer (SSL), 107, 113-115
- Apache HTTP server and, 161
 - FTP and, 130
 - HTTP servers and, 146, 161
 - WebSphere Commerce Suite and, 192
- SecureWay LDAP server (*See* lightweight directory access protocol), 93
- security, 103-118, 279
- access control lists (ACL) and, 96
 - authentication in, 109-110, 116-117
 - authorities in, 110
 - certificate authorities (CAs) in, 114-115
 - configuration of, 110-112, **111**, **112**
 - demilitarized zone (DMZ), 27-29
 - Digital Certificate Manager (DCM) and, 113-115, **114**
 - digitally signed software in, 115-116
 - email, 31
 - encryption and, 109-110, 116-117
 - file transfer protocol (FTP), 130
 - 4758 PCI Cryptographic Coprocessor for, 116-117
 - firewalls for, 27-31, 117-118, 262
 - Generic Security Services (GSS) in, 117
 - Internet exposures to, 106-108

- iSeries facilities for, 110-116
- Kerberos and, 117
- LDAP server and, 96-97, 98
- levels of, 105
- multiple machines and, 262-263, **262**
- network authentication services in, 116-117
- object management authorities in, 110
- passwords and user IDs in, 105, 106, 112, 132
- policy setting for, 108-109, 110-112, **111**, **112**
- PUBLIC user profile in, 110
- risk assessment for, 103-109
- secure sockets layer (SSL) and, 107, 113-115
- single sign on (SSO) and, 179
- TCP/IP and, 59
- Telnet, 130-132
- virtual private networks (VPNs) and, 59-62, **60**, **61**
- WebSphere Application Server and, 179
- serial line Internet protocol (SLIP), 54
- server farms/groups (*See also* clustering), 3-4, 179, 262
- server side includes (SSI)
 - Apache HTTP server and, 162
 - HTTP servers and, 149
- servers (*See also* Apache HTTP server; HTTP server)
 - clones and, 267-268
 - cluster hash table (CHT) and, 264-265, 268
 - clustering, 266, 270
 - demilitarized zone (DMZ) in, 27-29
 - denial of service (DoS) attacks and, 108
 - diskless, 40
 - domain name server (DNS), 26, 57, 67
 - dual-homed, 56
 - dynamic host configuration protocol (DHCP) and, 89, 92
 - email security and, 31
 - email, SMTP server for, 121-122
 - firewalls for, 29-31
 - Java application server and, 17, 171-172, **171**
 - lightweight directory access protocol (LDAP), 93
 - Liveliness Monitor in, 264, 268
 - load balancing and, 56-59, **57**, **58**, 267
 - logical partitioning (LPAR) and, 12, 35-37, 58
 - multiple server instances on one machine and, 89
 - peer model for, 264-265, **265**
 - primary/backup model for, 264
 - replication in, 265-266, **266**
 - round robin load balancing in, 57-58, **57**, **58**
 - Start Server Job (STRSRVJOB) in, 75
 - switched disks cluster availability in, 270
 - TCP/IP and, 51
 - triggered cache manager and, 269
 - virtual IP addressing in, 56-59
 - virus scanners for, 31
 - WebSphere Commerce and Payment, 187-193
 - xSeries, 40
- Service Agent, 75
- service programs, 115
- services oriented architecture protocol (SOAP), 180
- Servlet client, WebSphere Application Server, 182
- servlets, Java, 17, 169, 170, 172, 206, 224, 250
- SEU, 229, 230
- shopping cart applications, 188
- Silicon Graphics Inc., 78
- simple mail transfer protocol (SMTP), 35, 120-121, **121**, 124-126
- simple network management protocol (SNMP), 133-134, 158
- simple object access protocol (SOAP), 137, 180, 199, 200, 202
- single sign on (SSO), 179
- SMTP server, 124-126, 203
- SNA Character Stream (SCS) printing, 208
- sniffing, 107
- social engineering, 105
- sockets connections, 72, **72**, 75-76
- software, 49
- Solaris, 91
- Soltis, Frank, 250
- spam and junk email, 119, 122
- specialization of programmers/designers, 247-248
- split DNS, 89
- spoofing, 107
- spying, industrial, 105
- SQL/SQL Procedure Language, 41, 45, 230
- SQL Server, 42
- SStar processor, 9
- Stalker Software email software, 124-126
- standards-based software, 280
- Start Server Job (STRSRVJOB), 75
- Start TCP/IP Interface (STRTCPIFC) command, 74
- Start TCP/IP Server (STRTCPSVR) command, 74, 101, 158
- Start Trace (STRTRC), 75
- stateless CGI, 148-149
- Static network address translation (NAT), 63-64
- static Web site pages, 15-16
- statistics monitoring
 - HTTP servers and, 157, **157**
 - TCP/IP and, 71, **71**, 75
- STDIN, 142-143, 219
- STDOUT, 141, 142, 219
- stored procedures, SQL, 230
- subnets, virtual private networks (VPNs), 63
- suffixes and referrals, LDAP server, 96, **96**
- Sun Microsystems, 38, 39, 78, 223, 250
- support personnel, 3-4
- SuSE Linux, 39
- switched disks cluster availability, 270
- synchronization
 - LDAP server and, 98
 - simple network time protocol (SNTP), 133-134
- synchronous DSL (SDSL), 23
- System Distribution Directory (SDD), 98

Note: boldface numbers indicate illustrations

Systems Licensed Internal Code (SLIC), 11, 34, 224
 Systems Network Architecture (SNA), TCP/IP, 51

T

T1 Internet access, 23-24

Tcl, 183

TCP/IP, 35, 38, 51-76, 129, 280

address resolution protocol (ARP) table for, 72, **72**

Apache HTTP server and, 163

asynchronous I/O completion port APIs in, 66-67

bootstrap protocol (BOOTP) and, 132

buffer sizes and, 76

challenge handshake authentication protocol (CHAP)
 and, 54

configuration of, 52, 67-69, **68, 69**

database access and connectivity and, 43

debug and diagnostic tools in, 75-76

dial up connection and, 54-55, **54**

Differentiated Services (DiffServ) and, 65-66

domain name server (DNS) and, 67, 77-92

dual homed servers and, 56

duplicate address detection/resolution in, 75

dynamic host configuration protocol (DHCP) and, 54,
 77-92

END TCP/IP Server (ENDTCPSVR) command in, 101

firewalls for, 29-31

HTTP servers and, 139

Integrated Services in, 65-66

Interfaces display for, 70, **70**

Internet connectivity and, 52-53, 74-75

Internet Setup Wizard for, 53-56

IP filtering in, 64, 67

Jakarta Tomcat and, 172

load balancing and, 56-59, **57, 58**

local partitioning (LPAR) and, 58

multilink support in, 55-56, **55, 56**

NetStat, 75

network address translation (NAT) and, 63-64

Network Dispatcher and, 58-59

NSLOOKUP for, 73, **73**

operations enhancements for, 74

Operations Navigator and, 67-74

Password Authentication protocol (PAP) and, 54

Performance Explorer for, 75-76

performance of, 64-67

point to point protocol (PPP) connection for, 53-54, **53,**
54, 67

quality of service (QoS) and, 64-66, **65, 69, 69**

remote access services (RAS) and, 67

remote authentication dial in user service (RADIUS)
 and, 54-55

round robin load balancing in, 57-58, **57, 58**

routing and advanced connectivity in, 56

routing in, 71, **71**

routing information protocol (RIP) and, 133

security and, 59, 107

serial line Internet protocol (SLIP) and, 54

simple network time protocol (SNTP), 134

sniffing, packet sniffing and, 107

sockets connections in, 72, **72**

Start TCP/IP Interface (STRTCPIFC) command for, 74

Start TCP/IP Server (STRTCPSVR) command for, 74,
 101, 158

statistics screen for, 71, **71, 75**

supported features/systems for, 51-52

Systems Network Architecture (SNA) and, 51

Trace Route utility for, 73, **73, 75**

trivial file transfer protocol (TFTP) and, 134

usability in, 67-74

virtual IP addressing in, 56-59

virtual private networks (VPNs) and, 59-62, **60, 61, 67,**
 68

WebSphere Application Server and, 172

technology independent machine interface (TIMI), 224

Telnet, 19, 35, 130-132

terminal emulation, 19, 130-132

text extender, XML, 46-47, 199, 202

theft of data, 105

third-party vendor tools, 136

thread safe processing, HTTP servers, 140

threads (*See* multithreading)

tiers of Web environment, 234-235, **234**

time to live (TTL) settings, DNS, 87

time, simple network time protocol (SNTP), 133-134

Token Ring, 55

Tomcat (*See* Jakarta Tomcat)

top level domains (TLDs), 79

Torvalds, Linus, 38

trace facilities, HTTP servers, 158

Trace Job (TRCJOB), 75

Trace Route, 73, **73, 75, 135**

Transaction Signatures (TSIGs), 90

transaction support in LDAP server, 98

triggered cache manager, 269

trivial file transfer protocol (TFTP), 134

Turbolinux, 39

U

Unicode, 189-190

universal description discovery and integration (UDDI), 180

UNIX (*See also* portable applications solutions
 environment), 4, 5, 12, 37, 38, 42, 132, 133, 215, 222,
 280

Apache HTTP server and, 161, 168

security and, 118

virtual private networks (VPN) and, 62

URLs, 79, 150

user directories, HTTP servers, 152-153

Note: boldface numbers indicate illustrations

user extensibility in Apache HTTP server, 162
 user IDs, 105
 user profiles, 106, 147

V

VBScript, 183
 vectors, Java, 173
 Viewer, AFP Viewer, 211
 virtual hosting
 Apache HTTP server and, 163
 HTTP servers and, 151
 virtual IP addresses, 37, 56-59, 151
 virtual private networks (VPNs), 35, 59-62, **60**, **61**, 107
 configuration of, 63
 database access and, 43
 file transfer protocol (FTP) and, 63
 IKE digital certificates for, 62
 Internet common messaging protocol (ICMP) and, 63
 IPComp support and, 63
 nested connections in, 62
 network address translation (NAT) and, 63
 on demand connections to, 62
 per interface rule load/unload in, 62
 security, 118
 subnets and, 63
 TCP/IP and, 67, 68
 virus scanners, 31
 Vision Solutions, 36, 260, 265
 VisualAge for Java, 171, 185, 232-233, 250, 277
 VisualAge for RPG, 232
 Vixie, Paul, 78

W

wallets, electronic wallets, 192-193
 WDSL, 152
 Web archive (WAR) files, WebSphere Application Server, 182
 Web crawler, 156, 164-167, **165**, **166**, **167**
 Web-enabled applications, 246
 Web environment, tiers, 234-235, **234**
 Web services
 e-Business and, 244
 WebSphere Application Server and, 180-181, **181**
 Web Services Description Language (WSDL), 181
 Web site design, 15-18, 243
 common gateway interface (CGI) for, 17
 dynamic pages in, 16
 e-Commerce-enabled, 16-17
 internal or corporate-based, 17, 245-246
 Java application server for, 17
 Net.Data and, 222
 pervasive computing and, 17
 specialization of programmers/designers for, 247-248

static pages in, 15-16
 Welcome or Index page in, 145-146, **146**, 163
 WEBDAV support in Apache HTTP server, 162
 WebFacing, 135, 220-221, 232
 WebLogic, 17
 WebSphere Application Server, 9, 17, 45, 137, 169, 248
 administration of, 184
 Advanced edition 3.5.5, 175, 178-182
 Apache HTTP server and, 162, 171, 178
 applet client for, 183
 bean deployment tools for, 185
 bean scripting framework (BSF) for, 183
 clients for, 182-184
 clustering or server groups and, 179
 configuration of, 172, 184
 Connect and, 171
 connection pooling in, 184-185
 console for, 184
 control program (WCP) for, 184
 data access in, 184-185
 debuggers, 185
 enterprise applications in, 182
 Enterprise JavaBean (EJBs) and, 175, 178-179, 183
 high availability and, 261, 266-269, **267**, **268**
 HTTP servers and, 138, 156, **156**, 178
 J2EE Application client in, 183
 Jakarta Tomcat and, 171, 172, 175-177
 Java 2 Enterprise Edition (J2EE) and, 178, 182, 183
 Java and, 169-171, 223
 Java application server and, 171-172, **171**
 Java Database Connectivity (JDBC) and, 173-174
 Java Message Service in, 182
 Java naming and directory interface (JNDI) and, 183
 Java Thin Application client for, 183
 JavaMail in, 182
 JavaServer Pages (JSPs) and, 173, 183
 JSP client for, 183
 LDAP server and, 96
 lightweight directory access protocol (LDAP) and, 179
 Lightweight Third Party Authentication (LTPA) in, 175
 Lotus Domino and, 178, 206
 model/view/controller method in, 173-174, **174**
 multiple node support in, 179
 POST method in, 172
 programming for, 182
 Resource Analyzer (RA) in, 175
 security in, 179
 services oriented architecture protocol (SOAP), 180
 Servlet client for, 182
 servlets and, 172
 single sign on (SSO) and, 179
 standard edition v3.x, 175
 TCP/IP and, 172
 tools for, 185

- WebSphere Application Server, *continued*
 - universal description discovery and integration (UDDI) in, 180
 - VisualAge for Java and, 171, 185
 - Web archive (WAR) files in, 182
 - Web services and, 180-181, **181**
 - Web Services Description Language (WSDL) and, 181
 - WebSphere Development Tools and, 171
 - WebSphere Studio and, 171
 - Work Load Management (WLM) in, 175, 179
 - WebSphere Commerce Suite, 45, 187-193, 243, 280
 - accelerators in, 188
 - automated B2B in, 191
 - business-to-business communication and, 187, 190-191
 - business-to-consumer applications for, 188-189
 - call center support in, 191
 - Commerce Analyzer in, 190, 191
 - Connect and, 191
 - credit card transactions and, 192-193
 - Enterprise JavaBeans (EJBs) and, 187
 - Java 2 Enterprise Edition (J2EE) and, 187
 - marketing and, 188-189
 - multicultural support in, 189-190
 - Payment Manager in, 192-193
 - pervasive computing devices and, 187
 - programming requirements in, 193
 - retail sales features in, 190
 - secure electronic transaction (SET) and, 192
 - secure sockets layer (SSL) and, 192
 - shopping carts and, 188
 - wallets, electronic wallets and, 192-193
 - WebSphere Control Program (WCP), 184
 - WebSphere Development Studio (WDS), 221, 227, 229, 280
 - WebSphere Development Tools, 35, 171, 220, 229-237
 - client side tools in, 231-236
 - CODE/400 in, 231
 - compilers and OS/400 tools in, 230
 - future of, 236
 - Java and, 236
 - Linux and, 236
 - VisualAge for Java in, 232-233
 - VisualAge for RPG, 232
 - WebFacing in, 232
 - WebSphere Studio and, 233-236, **236**
 - WebSphere Studio Application Developer (WSAD) and, 233, 237
 - WebSphere Studio Site Developer and, 237
 - WebSphere Java Application Server, 35
 - WebSphere Studio, 45, 171, 233-236, **236**
 - WebSphere Studio Application Developer (WSAD), 233, 237
 - WebSphere Studio Site Developer, 237
 - WebSphere Transcoding Publisher, 276
 - Webulator, 135
 - Welcome page, Web site, 145-146, **146**, 163
 - well-known ports, 153
 - WHOIS server, to search for domain names, 24-26, **25**, 81-87
 - Williams, Bleddyn, 176
 - Windows, 38, 42, 222, 280
 - Apache HTTP server and, 168
 - LDAP server and support in, 99
 - Windows 2000, 3, 5, 34, 39-40, 132
 - DNS and interoperability and, 91
 - virtual private networks (VPN) and, 61
 - Windows 95/98, 62, 132
 - Windows Millennium, virtual private networks (VPN), 61
 - Windows NT, 3, 5, 34, 39-40, 132
 - Windows Terminal Server, 13
 - wireless application protocol (WAP), 274
 - wireless devices and pervasive computing, 273-278
 - wireless markup language (WML), 274, 276-277
 - Work Load Management (WLM), WebSphere Application Server, 175, 179
 - Work with Active Jobs (WRKACTJOB) command, 158
 - Work with Directory Entry (WRKDIRE) command, 98
 - Work with Order Information (WRKORDINF) command, 74
 - Workstation gateway (WSG), 135, 220
 - World Wide Web Consortium (W3C), 195, 274
- X**
- X.500 protocol, 93
 - XML, 6, 18, 35, 137, 225, 244
 - Connect and, 195, 199, 200, 202
 - database access and, text extenders for, 46-47
 - electronic data interchange (EDI) vs., 195-196
 - Java and, 254
 - pervasive computing and, 275, 277
 - WebSphere Transcoding Publisher, 276
 - XML Extender, 199, 202
 - xSeries (*See also* PCs), 13, 40, 248, 249, 279
 - XSLT, 199, 275
- Z**
- Zone Transfer (IXFR and AXFR), DNS, 90
 - zSeries, 38