Index

A
abstract services 60
accepted termination states (ATS) 24
access control servers (ACS) 11
actor-centric views 81, 82, 83
advanced planning and optimization (APO) 205, 206, 207, 209, 210, 211, 212, 213, 214
advanced transaction models (ATM) 24
application-specific integrated circuit (ASIC) 224
architectural elements 57, 58
artificial intelligence (AI) 35, 52
assets 115, 125
association rule mining 115, 116, 117, 119, 127, 128
association rules 115, 116, 118, 121, 123, 126, 127
atomic services 22
atomic transaction (AT) 21, 23
attribute assignments 95, 100, 105, 110
automatic information processing 261
autonomous data repositories 96

B
banking systems 115
Barnes & Noble 246, 248
BasicMMoLP 4, 10
Best Buy 246
BigThrift Bank 134, 150, 151, 152, 153, 154
building blocks 22
business activity (BA) 22, 23
business component model (CBM) 131, 132, 133, 135, 141, 142, 143, 144, 145, 149, 158, 159, 161, 164, 165, 166, 168, 170
business cycles 130, 131
business paradigms 261
Business Process Hierarchy (BPH) 135
Business Process Modeling Notation (BPMN) 82, 92
business strategies 130, 131, 141, 158, 161
business to business (B2B) 262
business transformation 130, 131, 132, 133, 134, 136, 140, 143, 144, 145, 146, 149, 150, 157, 158, 159, 161, 166, 169

C
C4ISR Architecture Working Group (AWG) 203
calculus 89, 93
cancellation 24
car navigation systems 216, 217, 220, 222, 224, 226
CD-ROM 216, 229, 232
cluster memberships 118, 123, 124
Collaborative Planning, Forecasting and Replenishment (CPFR) 230
Component Business Map 133, 164, 165, 166, 168, 170
composite service collaboration 11
computer malls 96
computing paradigms 57
connection points 29, 30
Continuous Replenishment (CRP) 230
copyrights 115
credit histories 115
customer relationship management 114, 115
customer service technicians 229, 237, 238

D
database systems 96, 115
dataflow dependency graph (DDG) 67, 69, 74
data management 132
data mining 114, 115, 116, 117, 121, 122, 125
data models 97
decision-support 130
dedicated hardware 216, 217, 222, 224, 226
demand-driven architecture 35, 37, 43, 50
demand-driven SOA for web services (DWSOA) 37, 43, 44, 50
description logics (DL) 113,
determining algorithms 95, 110
Dijkstra algorithm (DA) 216, 220, 222
domain ontologies 95, 97, 98, 99, 100, 105, 106, 107, 110, 111

E
eBay 263
e-businesses 35, 36, 37, 40, 42, 48, 51, 261, 262, 264, 270
e-commerce 35, 36, 37, 40, 41, 42, 43, 48, 50, 52, 55, 263
Efficient Consumer Response (ECR) 230
electronic purchase orders 262
end-users 2
end-user services 2
enterprise models 131, 159
e-retailers 247
e-service delivery 79
e-services 35, 37, 50, 52, 79, 81, 84, 85
event-driven process chains (EPC) 237, 238
Event-Driven Service-Oriented Architecture (EDSOA) 86, 92
exchanging posts 219
expats 81, 82, 83, 84, 85, 86, 90, 92, 93
extensible application markup language (XAML) 180
extensible markup language (XML) 64, 65, 66, 70, 71, 72, 76, 90, 91, 94, 117, 126, 180, 186, 188, 199

F
field programmable gate array (FPGA) 216, 217, 223, 224, 226
first-tier suppliers 204
fleet management 173
flow activities 62, 74
fuzzy-memberships 118

G
gas stations 217, 218, 219, 226
genetic algorithms (GA) 217, 218, 220, 224, 226
global choreography 11
global market 115
global positioning systems (GPS) 8, 18
global schema web database 98

H
heating, air conditioning and sanitary engineering (HAS) 228, 229, 231, 232, 233, 237, 240
Home Depot 246, 248

I
image processing 114, 115, 116, 119
Immigration and Naturalization Service (INS) 82, 83, 84, 85
industry sectors 133
information and communication technologies (ICT) 2, 42, 50, 55
information and communication technologies (ICT) systems 2
information retrieval 95, 96, 97, 98, 100, 107, 110, 111, 112, 113
insurance models 261, 270
integrated platforms 201
integrated service delivery 79, 81, 91, 92
Integrated Service Delivery (ISD) 80, 81, 83, 86, 87, 88, 89, 91, 92, 93
interest rates 115
internal return rate (IRR) 135, 145, 147, 148, 162
<table>
<thead>
<tr>
<th>Term</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>interoperability</td>
<td>201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 212, 213, 214, 215</td>
</tr>
<tr>
<td>interoperation</td>
<td>201</td>
</tr>
<tr>
<td>INTEROP network of excellence (NoE)</td>
<td>202, 203</td>
</tr>
<tr>
<td>IT application models</td>
<td>131, 159</td>
</tr>
<tr>
<td>IT application portfolios</td>
<td>132, 159</td>
</tr>
<tr>
<td>IT consulting</td>
<td>131, 134, 150, 151, 153, 157, 159</td>
</tr>
<tr>
<td>Jointly Managed Inventory (JMI)</td>
<td>230</td>
</tr>
<tr>
<td>knowledge bases (KB)</td>
<td>98</td>
</tr>
<tr>
<td>knowledge management</td>
<td>130</td>
</tr>
<tr>
<td>laptops</td>
<td>173, 194</td>
</tr>
<tr>
<td>loosely-coupled distributed computing</td>
<td>57</td>
</tr>
<tr>
<td>Make-or-Buy</td>
<td>231</td>
</tr>
<tr>
<td>Makeable and Adaptable Service Compositions (MASC)</td>
<td>179, 180, 181, 182, 183, 184, 185, 188, 191, 192, 193, 194, 195, 197, 198, 199</td>
</tr>
<tr>
<td>management initiatives</td>
<td>130, 131, 161</td>
</tr>
<tr>
<td>Microsoft</td>
<td>115, 180, 262</td>
</tr>
<tr>
<td>middleware</td>
<td>57, 59, 76, 77, 78</td>
</tr>
<tr>
<td>middleware services</td>
<td>2</td>
</tr>
<tr>
<td>mining tasks</td>
<td>114, 115, 116, 117, 122</td>
</tr>
<tr>
<td>mobile applications</td>
<td>228, 233, 236</td>
</tr>
<tr>
<td>mobile businesses</td>
<td>173</td>
</tr>
<tr>
<td>mobile devices</td>
<td>173, 185, 194, 195</td>
</tr>
<tr>
<td>mobile service-oriented systems</td>
<td>172, 173, 174, 179, 188, 196, 197</td>
</tr>
<tr>
<td>mobile terminals</td>
<td>237</td>
</tr>
<tr>
<td>mobile web services</td>
<td>173, 174, 186, 188, 192, 197</td>
</tr>
<tr>
<td>monetary costs</td>
<td>246, 248</td>
</tr>
<tr>
<td>multichannel retailers</td>
<td>245, 246, 247, 256, 257</td>
</tr>
<tr>
<td>multichannel retailing servicing systems (MRSS)</td>
<td>246, 247, 248</td>
</tr>
<tr>
<td>multichannel servicing systems</td>
<td>245, 248, 251, 256, 257</td>
</tr>
<tr>
<td>multichannel shoppers</td>
<td>245, 256</td>
</tr>
<tr>
<td>multi-channel shopping</td>
<td>248</td>
</tr>
<tr>
<td>multi-channel shopping behaviors</td>
<td>248</td>
</tr>
<tr>
<td>multimedia over IP (MMoIP)</td>
<td>4, 5, 6, 7, 10, 16</td>
</tr>
<tr>
<td>multi-objective route search algorithms</td>
<td>217</td>
</tr>
<tr>
<td>mutual two pass authentication (MTPA)</td>
<td>8, 12</td>
</tr>
<tr>
<td>net present value (NPV)</td>
<td>135, 145, 147, 148, 155, 156, 162</td>
</tr>
<tr>
<td>network connectivity</td>
<td>175, 177</td>
</tr>
<tr>
<td>non-electronic services</td>
<td>79</td>
</tr>
<tr>
<td>non-probabilistic algorithms</td>
<td>116</td>
</tr>
<tr>
<td>Old Navy</td>
<td>246, 248</td>
</tr>
<tr>
<td>online-oriented shopping</td>
<td>245, 246, 247, 248, 249, 250, 251, 253, 256</td>
</tr>
<tr>
<td>online shoppers</td>
<td>246, 247, 248, 251, 252, 257</td>
</tr>
<tr>
<td>online shopping</td>
<td>245, 248, 250, 251, 256</td>
</tr>
<tr>
<td>ontology</td>
<td>97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 110, 111, 112, 113</td>
</tr>
<tr>
<td>Oracle</td>
<td>115</td>
</tr>
<tr>
<td>organizational processes</td>
<td>81, 82</td>
</tr>
<tr>
<td>organization-centric viewpoints</td>
<td>82, 83</td>
</tr>
<tr>
<td>original equipment manufacturers (OEM)</td>
<td>204, 205</td>
</tr>
<tr>
<td>patents</td>
<td>115</td>
</tr>
<tr>
<td>personal digital assistants (PDA)</td>
<td>173, 194, 232, 237</td>
</tr>
<tr>
<td>PIPE</td>
<td>231, 232, 233, 234, 235, 237, 238, 239, 240, 244</td>
</tr>
<tr>
<td>policy decision points (PDP)</td>
<td>14, 16</td>
</tr>
<tr>
<td>portable computers</td>
<td>96</td>
</tr>
<tr>
<td>portal servers</td>
<td>234, 237, 238</td>
</tr>
<tr>
<td>probabilistic algorithms</td>
<td>116, 117, 121</td>
</tr>
<tr>
<td>probabilistic databases</td>
<td>114, 116, 117, 126, 127</td>
</tr>
<tr>
<td>probabilistic parsing</td>
<td>115</td>
</tr>
<tr>
<td>Process Classification Framework (PCF)</td>
<td>135</td>
</tr>
<tr>
<td>product-related customer services</td>
<td>230</td>
</tr>
<tr>
<td>product-service system (PSS)</td>
<td>230</td>
</tr>
<tr>
<td>product service systems</td>
<td>228, 231, 232, 233, 234</td>
</tr>
</tbody>
</table>
Index

protocol services 2
public domain 79, 80, 81, 82, 83, 86, 92
public domain knowledge 79, 81, 82, 92
public organizations 79, 80, 81, 83, 85, 86, 89, 90, 92, 93

Q

R
radio-frequency identification (RFID) 114, 115
random-access memory (RAM) 74
reasoning mechanisms 95, 110
receive activities 62
Reconfigurable System (RS) 59, 61, 66
Reconfiguration Management System (RM) 59, 60, 61, 62, 74
retrieval tools 96
return on investment (ROI) 135, 145, 148, 155, 162
revenue leakage 133
route search algorithms 217, 222
route searches 216, 217, 218, 220, 222, 223, 224, 226

S
scalability 130, 131, 132
Sears 246, 248
SecureMMoIP 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16
security requirements 1
semantics 95, 96, 97, 98, 99, 100, 105, 107, 108, 109, 110, 111, 112, 113
sensor networks 116, 118
service-based systems (SBS) 175
service brokers 35, 37, 38, 39, 41, 45, 48, 49
service computing 35, 36, 37, 46
service industry 114, 115, 117
service intelligence 35, 36, 37, 50
service level agreement (SLA) 173, 175, 176, 177, 183, 187, 188, 198
service orchestrations 57, 58, 59, 60, 61, 62, 74, 76
service-oriented architecture (SOA) 2, 36, 37, 38, 39, 43, 44, 51, 53, 54, 57, 58, 59, 201, 205, 212, 215
service-oriented systems 57, 58, 172, 173, 174, 175, 177, 178, 179, 180, 182, 183, 186, 187, 188, 191, 192, 193, 194, 195, 196, 197
service platforms 202, 204, 205, 206, 208, 209, 214
service process models 232, 233, 237, 238
service provisions 228, 230
service quality 245, 247, 248, 249, 250, 251, 252, 253, 255, 256, 257, 258, 259
service science 35, 36, 37, 50, 55
shipping costs 248
short message service (SMS) 206
sightseeing spots 216, 217, 220, 221, 222, 224
sightseeing times 217
Simple Object Access Protocol (SOAP) 264, 270
SIROCO 57, 59, 60, 61, 62, 63, 64, 65, 66, 67, 69, 70, 71, 73, 74, 75, 76
small and medium enterprises (SME) 203, 205, 207
SOAP 58, 64, 74
software as a service (SaaS) 201, 202, 203, 204, 205, 206, 208, 209, 214, 215, 262
software industries 261, 270
Staples 246, 248
stock market 114, 115
stock prices 115
stock trading 262
stopover points 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226
sub-tier suppliers 204
Sun Microsystems 262, 263
supply business management (SBM) 205, 206, 207, 208, 209, 210, 211, 212, 213, 214
supply chain management (SCM) 201, 215, 230
supply chain networks 42
supply chains 201, 202, 203, 204, 205, 206, 207, 208, 210, 214
syntax-based methods 95, 96
Index

T
Target  246, 248
technical customer services (TCS)  227, 228, 229, 230, 231, 232, 233, 235, 237, 244
THENA interoperability framework (AIF)  203
transit points  216, 217, 218, 219, 226
tuck tracking  173, 188, 194, 197
two-phase commit (2PC)  23

U
Unified Modeling Language (UML)  1, 2, 4, 5, 10, 13, 17, 18, 20
uniform communication protocols  35, 55
unilateral one pass authentication (UOPA)  7, 11, 12, 14
Universal Description, Discovery and Integration (UDDI)  264, 270, 272
Universe of Instances (UoI)  88
unspeicied stopover points  216, 217, 218, 224
US Department of Defense (DoD)  203

V
vertical cooperation  230
virtual enterprises (VE)  204, 205, 207, 208, 215
virus operators  217

W
Wal-Mart  246, 248
Web servers  261, 262
Web service architecture  36, 37, 38, 40, 43, 51
Web Service Choreography Interface (WSCI)  22, 32
Web service composition scheduling  30
Web service level agreement (WSLA)  179, 180, 198
Web service lifecycles  35, 36, 37, 38, 40, 44, 45, 46, 47, 48, 49, 50
Web Service Offerings Language (WSOL)  172, 174, 175, 177, 179, 180, 185, 186, 188, 191, 192, 193, 194, 199
Web service platforms  34
Web service providers  265
Web services  2, 21-25, 28, 29, 32, 35-55, 58, 61, 62, 67, 74, 173-180, 183, 185, 186, 187, 188, 190, 192, 194, 197, 199, 205, 210, 212, 213, 261-271
Web Services Composite Application Framework (WS-CAF)  22, 33
Web Services Description Languages (WSDL)  264, 270
Web Services Offerings Infrastructure (WSOI)  174, 177, 178, 185, 188, 192, 193, 194, 199
Web Services Policy Framework (WS-Policy)  172, 179, 180, 182, 197, 199, 200
Web service system design  21
word associations  95, 96, 97, 110, 113
WordNet  62, 78
word sense disambiguation (WSD)  97, 98
workflow activities  25
workflow fragments  25, 28, 29, 30, 31
workflows  24, 25, 28, 34