

Index

A

adaptive services grid project 109
 adoption of Web services in digital libraries 307–320
 Amin scenario 254
 aspect-oriented framework for Web services (AoF-4WS) 245–263
 aspect-oriented programming 247
 ATS(W) 179
 audio-video coding format 52

B

balance scorecard perspective 342–357
 behavioural specification 230
 BPEL processes 188

C

caching 79
 caching applications 89
 CIAO Prolog system 213
 cluster maintenance 87
 composite applications, coordination 185
 composite Web services 172
 confidentiality 289
 content choreography requirements 63
 content discovery requirements 62
 contract test cases (CTCs) 237

D

data integrity 289
 delivery models 50
 dependability 153
 dependability designing 157
 dependability tree 154
 dependable SOA 155
 digital libraries, adoption of Web services 307

distributed heterogeneous knowledge bases, framework 205
 domain-centric identity management 268

E

e-health 4
 end-to-end multimedia quality 57
 end-to-end solutions 52
 error management 78

F

functional interface specification 228
 functional management 28
 functional specification 229

H

heterogeneous services integration 323
 high availability (HA) 76

I

IBM's WSLA approach for WS-SLA management 293
 identity management 267
 identity provider (IdP) 266
 impure programs 211
 intelligent Web service composition 193–222
 Internet telephony and IP television (IPTV) 53

J

jitter 55

L

location-aware streaming requirements 62
 logic programming 196, 198

M

matchmaking process 143
maximum processing time (MxPT) 33
maximum response time (MxRT) 33
media delivery solutions, overview 50
midstream quality variation requirements 61
minimum processing time (MnPT) 33
minimum response time (MnRT) 33
multimedia delivery, quality models 48–73
multimedia quality metrics, types 57

N

node error detection 87
node selection 87

O

open middleware infrastructure institute (OMII) 9
open security framework (OSF) for service-oriented architectures 270
OSF approach for security policies 281
OWL-Q 132
OWL-Q, metric facet 133
OWL-S transactional matchmaker 185

P

personal identity provider (PIIdP) 266, 271
privacy 289
probability of failure on demand (POFOD) 230
processing time (PT) 33
public key infrastructure (PKI) in WS security 267
pure programs 210

Q

QoS, nonfunctional aspects 32
QoS-based Web service, requirements 122
QoS-based Web service discovery, requirements 125
QoS-based Web service discovery algorithm 142
QoS attributes 117
QoS definition 116
QoS management 28
QoS role for Web services 116
QoS usage benefits 121
QoS value type facet 137
QoWS-based discovery and selection 35
QoWS monitoring 35
QoWS verification and certification 34
quality of service (QoS) 77

R

reliability, modelling 158
relying-party (RP) 266
response time (RT) 33
RuleML 196
run-time testing 235
runtime dependability 160

S

SC-WS project 248
scalability 88
secondary user service (SUS) 6
secure socket layer (SSL) 287
security concerns in Web services 248
security policies 278
security requirements for Web services 288
security service level agreements (SLAs) 286
security SLAs, the need for 295
self-healing Web services 256
Semantic QoS metric matching 137
Semantic Web services, open security framework 264–285
service-oriented architecture (SOA) 48
service-oriented architecture (SOA), dependable 155
service-oriented interoperability framework (SIF) 2
service access management 325
service charge (SC) 33
service evolution 321–341
service evolution, challenges 322
service level agreements (SLA) checks 328
service testing 225
service versioning 335
SH-WS project 256
SIF 6
simple network management protocol (SNMP) 27
SLA guarantees 286
SLAs for quality of service (QoS) 292
SOA policy enforcement 325
stress testing 16
structural specification 229

T

TCP vs. UDP 60
termination states 175
testable interface definition 231
testing phases 225
transactional composite applications 168–192
transactional consistency tool 176
transactional model 174

transport layer security (TLS) 287
 transport protocols 52
 trust management (TM) 276
 TS(W) analysis 177

U

unit testing 16
 usage profile definition 234
 user-centric identity management 269

V

version management, UDDI-based option 336
 video artifacts, examples 56
 video quality 54
 video service audio quality (VSAQ) 59
 video service control quality (VSCQ) 59
 video service picture quality (VSPQ) 59
 video service transmission quality (VSTQ) 59
 virtual Web services 74–95

W

Web Service (WS) security technology 267
 Web service enhancement with QoS 114–150
 Web services' quality, multi-tier framework 23–47
 Web services, non-functional properties 96–113
 Web services, role 342–357
 Web services, testing 12
 Web services-based cluster 86
 Web services architecture 345
 Web services dependability 151–167
 Web services dependability extensions 157
 Web services management framework 31
 Web services profiling 96–113
 Web services quality, duality 100
 Web services resource framework (WSRF) 9
 Web services security, state of the art 290
 Web services security SLA guarantees 286–306
 Web services testability 223–244
 WS-addressing for version management 337
 WS-policy 291
 WS-privacy 291
 WS-security 291
 WS-trust 291
 WS subscription service (UDDI) 315

X

XACML 292