

Index

A

- A/V Stream Throughput 82
- A/V Streaming Service 55
- ACR/NEMA 135
- admission control 36, 237, 252
- allocation techniques 62
- analysis 334
- annotation 143
- Application Data Units (ADUs) 20
- application level framing 20
- application QoS 6
- application-level framing 80
- applications 269
- architecture of Vic 80
- ATM 186, 444
- ATM channel 186
- Audio/Video (A/V) Streaming Service
 - specification 55
- authentication 450
- authentication mechanism 30, 58
- available bit applications 374

B

- B-ISDN 444
- bandwidth 19, 372
- best effort 18
- bit error rate (BER) 458
- blind delay 358
- broadcast 442
- broadcast news 126, 127

C

- C++ 62
- callback interface 69
- canonical name 26
- causal order 354
- CDMA 445
- center-based trees 381
- channel equalization 449
- clock-driven protocol 351

- coding mode selection 466
- coding scheme 104
- collaborative 333
- collaborative services 1
- collaborative systems 291
- Common Object Request Broker Architec-
 - ture 1, 2, 38
- Common Object Request Broker Architec-
 - ture (CORBA) 2
- compressed video images 10
- compression rates 103
- computer graphics 334
- computer supported cooperative work 134
- computer-supported collaboration 134
- connection-oriented transport 43
- constant bit rate applications 374
- consumer architecture 79
- continuous media 237, 252
- contributing source count 25
- contributing source identifier 23
- controlled load 18
- coordinator 8
- CORBA 38, 54
- CORBA A/V Streaming Service Compo-
 - nents 60
- CORBA Internet Inter-ORB Protocol
 - (IIOP) 55
- CORBA Media Stream Framework 19
- CORBA Media Streaming Framework 39
- CORBA/ATM Testbed 82
- cordless systems 445
- CPU Usage of the MPEG decoder 82
- cryptographic 144
- CSC 134
- CSCW 134, 135, 147

D

- data transfer protocol 23, 55
- database architecture 151
- datagram-oriented transport 43
- delay 371

delay jitter 269
 delivery rule 361
 DES 144
 DICOM 135
 DICOM standard 146
 digital television 103
 digital video 190
 distance 151
 distance learning 1, 151
 distributed 1, 134
 distributed multimedia systems 333
 distributed object computing 2
 distributed object technology 38
 distributed systems 2, 136
 distributed virtual environments 292
 DVMRP 416
 dynamic visual data 333

E

EDGE 452
 elastic applications 18
 encryption 448
 end systems 23
 end-to-end delivery 3
 end-to-end quality of service 1
 endpoint connection 7
 EuroISDN 147
 European ISDN 147
 event lattice 353
 extensible interface 73
 extension interface 59

F

Facial Definition Parameters (FDPs) 104
 Facial Feature Extraction 110
 Fair 18
 FDD 447
 fixed-filter 36
 flooding 380
 flow descriptor 35
 flow devices 40
 flow endpoint 57
 flow specification 58, 67
 flows 57
 flows and flow endpoints 40

G

g-precedence 357
 General Inter-ORB Protocol 3
 global positioning systems (GPS) 363
 GPRS 451
 granularity 357
 granularity condition 360
 graphical user interface 120
 GSM 441
 guaranteed service 18

H

H.323 26
 handover 448
 happen before relation 354
 HDR 441
 high bandwidth 370
 HSCSD 441

I

IDEA 144
 ideo buffering process 79
 IDL 57
 IGMP 413
 image processing 134, 334
 implementing Vic using TAO's A/V
 Streaming Service 80
 information extraction 126
 initialization phase 107
 instruction 151
 instruction on demand 151
 integrated layer processing 20
 inter-media synchronization 352
 inter-stream synchronization 352
 intermediate systems 23
 Internet 17, 269
 Internet access technologies 19
 Internet Control Message Protocol (ICMP)
 25
 Internet control protocol 25
 Internet Engineering Task Force 18
 Internet Engineering Task Force (IETF) 18
 Internet Integrated Services Model 18
 Internet Multicast Backbone 398
 Internet TCP/IP protocol architecture 20
 intra-stream synchronization 4, 352

IP Multicast 412
 IP-multicast 19
 ISDN 147, 149, 443
 isochronous synchronization 351

J

Java event model 48
 Java Media Framework 17, 19
 Java media packages 49
 jitter 352, 372
 JMF API 48
 JMF interfaces 49
 JMF RTP architecture 49

L

Lamport 351
 language processing 126, 127
 lattice structure 351
 loss-free data transport 374
 low latency 383

M

managing real-time 1
 MBGP 422
 MBone 19, 370, 398, 412
 MD5 144
 MDBMS 151
 media capture 48
 media controller 63, 66, 77
 media frameworks 19
 media presentation 48
 media processing 49
 media streaming 17
 media-on-demand services 32
 medical CSCW 141, 149
 medical teleconferencing 135
 medical telecooperation 135
 message passing mechanism 139
 message-passing systems 355
 middleware 19, 54
 mixer 23
 mobile operating systems 460
 Mobile Station Application Execution
 Environment 463
 model-based 102
 Moving Picture Experts Group 103

MPEG player application 75
 MPEG video 193
 MPEG-2 186
 MPEG-2 Video Communications 186
 MPEG-2 video streams for transmission
 186
 MPEG-4 102, 255, 260
 Multi-Channel Multipoint Distribution
 Service 19
 multi-participant multimedia conferences
 22
 multicast 369
 Multicast Access Control 428
 Multicast Address Allocation Model 432
 Multicast Address Set Claim 434
 multicast-capable protocol 370
 multimedia 102, 126, 151, 186, 269
 multimedia applications 1
 multimedia conferences 22
 multimedia data 370
 multimedia database management system
 151
 multimedia device 7, 40
 Multimedia Device Factory (MMDevice)
 61
 multimedia frameworks 17
 multimedia presentation 151
 multimedia streaming 1, 57, 388, 390
 multimedia transmission 222
 multimedia transport 370
 multiplexing 26
 Multipoint-to-Multipoint Binding 98

N

network dimensioning 186
 networking 186
 neural network 111
 NTP 351
 NTP timestamp 363

O

object 151
 object bus 39
 Object Management Group (OMG) 55
 object request broker 2, 39, 55
 object reuse 151
 object-oriented multimedia middleware 38

OMA architecture 38
 OMG IDL 45
 ordering property 359

P

packet audio 269, 270
 parallelism in depth 136
 partial order 354
 partially synchronous systems 355
 payload format specification 22
 personalcasts 126
 PIM-DM 416
 PIM-SM 416
 playout delay 269, 270
 pluggable A/V protocol 68
 pluggable A/V protocol framework 55
 point-to-multipoint binding 96
 point-to-point binding 91
 policy control 36
 precision 357
 predictive service 18
 presentation description file 33
 profile 22
 profile specification 22
 programs 134
 property service 61
 protocols 20

Q

Quality of Service 2, 35, 54, 172, 237,
 255, 454

R

radio access methods 445
 real time protocol 120
 real-time 269
 real-time media transport 17
 Real-Time Stream-Control Protocol 32
 real-time streaming 370
 real-time streaming protocol (RTSP) 21
 real-time telecooperation 136
 real-time traffic 370
 real-time transmission 120
 real-time transport protocol 21

receiver report 26
 reliability 372
 remote method invocation 2
 request broker 39
 reservation styles 36
 resource allocation 237
 resource management 1
 Resource ReSerVation Protocol (RSVP)
 21, 35
 resource scheduling 238
 Reverse Path Broadcasting (RPB) 380
 Reverse Path Multicasting (RPM) 381
 reversible run-length-codes 466
 roaming 451
 roundtrip delay 358
 RPC 141
 RSVP 174, 255, 256
 RTCP 363
 RTP 352
 RTP client and server 50
 RTP relay 23
 RTP session 50
 RTP timestamp 363
 RTP transmissions 22
 RVBR 255, 256

S

satellite 441
 scalable 466
 scalable data dissemination 374
 security 450
 security subsystem 143
 segmentation 110
 SEISMED 144
 sender report 26
 sending rule 361
 service model 18
 service providers 442
 service quality 373
 session 21
 session advertisement 26
 session announcement protocol (SAP) 21,
 28
 session description protocol (SDP) 21
 session directory 26
 session initiation protocol (SIP) 21, 30
 session invitation 26
 session manager 50

shared datagram network 370
 shared explicit 36
 short message service (SMS) 451
 simple flow protocol (SFP) 43, 59
 simplex protocol 35
 skew 361
 smart card 459
 Soft-Qos Framework 237, 245
 source description 26
 source callback 81
 spanning trees 380
 speech transcription 126
 stability rule 361
 stable 361
 Steiner Trees (ST) 381
 stream controller 8, 64
 stream endpoint 7, 39, 57, 58, 64
 stream establishment latency 85
 stream endpoint 61
 streams 39, 40, 57
 supplier 8
 supplier architecture 75
 synchronization markers 466
 synchronization source 25
 synchronized clocks 352
 synthetic/natural hybrid coding 104
 systems 271

T

TAO 55
 TAO's CORBA A/V Streaming Service 57
 TCP/IP protocol 20
 TDD 447
 TDMA 445
 teleconferencing 1
 teleconsultation 135, 149
 telecooperation 134
 telecooperation architecture 134
 terminals 441
 three dimensional modeling 108
 thresholding 112
 throughput 452
 tie-breaking rule 362
 time-based media 49
 timestamp 352
 timing constraints 1
 topic detection and tracking 126, 127

tracking phase 107
 translator 23
 transmission control protocol 371
 transmission delay 459
 transport protocols 385
 Truncated Reverse Path Broadcasting
 (TRPB) 381

U

UMTS 441
 UMTS Terrestrial Radio Access 454
 user datagram protocol 371
 user studies 126
 using ATM 186
 UTRA 454

V

variable bit applications with low latency
 374
 VBR Traffic Shaping 222
 Vic 80
 video 126
 video coding 102
 video retrieval 172, 174
 video streaming 172, 175
 video transmission 6, 103
 video conferencing application 70, 8,
 122, 413
 videoconferencing system 102
 videophone 103
 videophone applications 103
 virtual device 63
 Virtual Home Environment (VHE) 456
 virtual multimedia device 7
 virtual prototyping 290
 VRML 109

W

wildcard filter 36
 Wireless Application Protocol (WAP) 462
 wireless cellular networks 441
 wireless database 467
 wireless video 466