Table of Contents Part I

3rd to 4th Generation

Bandwidth Management for QoS Support in Mobile Networks 1
S.-H. Lee, D.-S. Jung, Electronics & Telecommunication Research Institute, Korea ; S.-W. Park, Hannam University, Korea

3G and Beyond & Enabled Adaptive Mobile Multimedia Communication 12
T. Kanter, Ericsson Radio Systems AB, Sweden ; T. Rindborg, D. Sahlin, Ericsson Utvecklings, Sweden

Creation of 3rd Generation Services
in the Context of Virtual Home Environment 27
J. Oliveira, University of Porto, Portugal ; R. Roque, Portugal Telekom, Portugal ; S. Sedillot, INRIA, France ; E. Carrapatoso, University of Porto, Portugal

Internet (I)

WLL Link Layer Protocol for QoS Support of Multi-service Internet 37
H. Pham, B. Lavery, James Cook University, Australia ; H.N. Nguyen, Vienna University of Technology, Austria

The Earliest Deadline First Scheduling with Active Buffer Management
for Real-Time Traffic in the Internet 45
X. Hei, D.H.K. Tsang, Hong Kong University of Science and Technology, Hong Kong

Pricing and Provisioning for Guaranteed Internet Services 55
Z. Fan, University of Birmingham, UK

Price Optimization of Contents Delivery Systems with Priority 65
K. Yamori, Y. Tanaka, Waseda University, Japan ; H. Akimaru, Asahi University, Japan

An Approach to Internet-Based Virtual Call Center Implementation 75
M. Popovic, V. Kovacevic, University of Novi Sad, Yugoslavia

Traffic Control

Implementation and Characterization of an Advanced Scheduler 85
F. Risso, Politecnico of Torino, Italy

A Performance Study of Explicit Congestion Notification (ECN) with Heterogeneous TCP Flows 98
R. Kinicki, Z. Zheng, Worcester Polytechnic Institute, USA

Diffusion Model of RED Control Mechanism 107
R. Laalaoua, S. Jedruś, T. Atmaca, T. Czachórski, INT, France

A Simple Admission Control Algorithm for IP Networks 117
K. Kim, P. Mouchtaris, S. Samtani, R. Talpade, L. Wong, Telcordia Technologies, USA

An Architecture for a Scalable Broadband IP Services Switch 124
M.V. Hegde, M. Naraghi-Poor, J. Bordes, C. Davis, O. Schmid, M. Maher, Celox Networks Inc., USA

Mobile and Wireless IP

On Implementation of Logical Time in Distributed Systems Operating over a Wireless IP Network 137
D.A. Khotimsky, Lucent Technologies, USA ; I.A. Zhuklinets, Mozhaysky University, Russia

Performance of an Inter-segment Handover Protocol in an IP-based Terrestrial/Satellite Mobile Communications Network 147
L. Fan, M.E. Woodward, J.G. Gardiner, University of Bradford, UK

Performance Evaluation of Voice-Data Integration for Wireless Data Networking 157
M. Chatterjee, S.K. Das, The University of Texas at Arlington, USA ; G.D. Mandyam, Nokia Research Center, USA

A Hard Handover Control Scheme Supporting IP Host Mobility 167
Y. Takahashi, N. Shinagawa, T. Kobayashi, YRP Mobile Telecommunications Key Technology Research Laboratories, Japan

Internet (II)

A Flexible User Authentication Scheme for Multi-server Internet Services 174
W.-J. Tsaur, Da-Yeh University, Taiwan

NetLets: Measurement-Based Routing for End-to-End Performance over the Internet 184
N.S.V. Rao, Oak Ridge National Laboratory, USA ; S. Radhakrishnan, B.-Y. Choel, University of Oklahoma, USA

Using the Internet in Transport Logistics –
The Example of a Track & Trace System 194
K. Jakobs, C. Pils, M. Wallbaum, Technical University of Aachen, Germany

Distributed Management of High-Layer Protocols and Network Services
through a Programmable Agent-Based Architecture 204
L.P. Gaspary, L.F. Balbinot, R. Storch, F. Wendt, L. Rockenbach Tarouco, Federal University of Rio Grande do Sul, Brazil

Differentiated Services

A Buffer-Management Scheme for Bandwidth and Delay Differentiation
Using a Virtual Scheduler 218
R. Pletka, P. Droz, IBM Research, Switzerland ; B. Stiller, ETH Zürich, Switzerland

Enhanced End-System Support for Multimedia Transmission
over the Differentiated Services Network 235
H. Wu, Tsinghua University, China ; H.-R. Shao, Microsoft Research, China ; X. Li, Tsinghua University, China

Investigations into the Per-Hop Behaviors of DiffServ Networks 245
Z. Di, H.T. Mouftah, Queen's University, Canada

An Adaptive Bandwidth Scheduling for Throughput and Delay Differentiation 256
H.-T. Nguyen, H. Rzehak, University of Federal Armed Forces Munich, Germany

Evaluation of an Algorithm for Dynamic Resource Distribution
in a Differentiated Services Network 266
E.G. Nikolouzou, P.D. Sampatakos, I.S. Venieris, National Technical University of Athens, Greece

GPRS and Cellular Networks

Quality of Service Management in GPRS Networks 276
P. Stuckmann, F. Müller, Aachen University of Technology, Germany

Case Studies and Results on the Introduction of GPRS
in Legacy Cellular Infrastructures 286
C. Konstantinopoulou, K. Koutsopoulos, P. Demestichas, E. Matsikoudis, M. Theologou, National Technical University of Athens, Greece

Traffic Analysis of Multimedia Services in Broadband Cellular Networks 296
P. Fazekas, S. Imre, Budapest University of Technology and Economics, Hungary

Scheduling Disciplines in Cellular Data Services
with Probabilistic Location Errors 307
J.-L. Chen, H.-C. Cheng, H.-C. Chao, National Dong Hwa University, Taiwan

WDM and Optical Networks

Restoration from Multiple Faults in WDM Networks
without Wavelength Conversion 317
C.-C. Sue, S.-Y. Kuo, National Taiwan University, Taiwan

An All-Optical WDM Packet-Switched Network Architecture
with Support for Group Communication 326
M.R. Salvador, S.Heemstra de Groot, D. Dey, University of Twente, The Netherlands

Performance Consideration for Building
the Next Generation Multi-service Optical Communications Platforms 336
S. Dastangoo, Onex™ Communications Corporation, USA

Traffic Management in Multi-service Optical Network 348
H. Elbiaze, T. Atmaca, INT, France

Performance Comparison of Wavelength Routing Optical Networks
with Chordal Ring and Mesh-Torus Topologies 358
M.M. Freire, University of Beira Interior, Portugal ; H.J.A. da Silva, University of Coimbra, Portugal

Differentiated and Integrated Services

Achieving End-to-End Throughput Guarantee for Individual TCP Flows
in a Differentiated Services Network 368
X. He, H. Che, The Pennsylvania State University, USA

Performance Evaluation of Integrated Services in Local Area Networks 378
J. Ehrensberger, Swiss Federal Institute of Technology, Switzerland

Integrating Differentiated Services with ATM 388
S. Manjanatha, R. Bartoš, University of New Hampshire, USA

Management and Realization of SLA for Providing Network QoS 398
M. Hashmani, M. Yoshida, NS Solutions Corporation, Japan ; T. Ikenaga, Y. Oie, Kyushu Institute of Technology, Japan

Optimal Provisioning and Pricing of Internet Differentiated Services in Hierarchical Markets 409
E.W. Fulp, Wake Forest University, USA ; D.S. Reeves, N.C. State University, USA

Keynote Speech
Adding Interactive Services in a Video Broadcasting Network 419
R. Jäger, BetaResearch, Germany

Wireless ATM

A Discrete-Time Queuing Analysis of the Wireless ATM Multiplexing System 429
M.M. Ali, X. Zhang, J.F. Hayes, Concordia University, Canada

A QoS Based Distributed Method for Resource Allocation in Unlicensed Wireless ATM Systems 439
G.F. Marias, L. Merakos, University of Athens, Greece

An Adaptive Error Control Mechanism for Wireless ATM 449
P.R. Denz, A.A. Nilsson, North Carolina State University, USA

A Review of Call Admission Control Schemes in Wireless ATM Networks 459
D.D. Vergados, N.G. Protopsaltis, C. Anagnostopoulos, J. Anagnostopoulos, M.E. Theologou, E.N. Protonotarios, National Technical University of Athens, Greece

Multicast (I)

Analysis and Evaluation of QoS-Sensitive Multicast Routing Policies 468
E. Pagani, G.P. Rossi, University of Milano, Italy

Multicast Performance of Multistage Interconnection Networks with Shared Buffering 478
D. Tutsch, International Computer Science Institute, USA ; M. Hendler, G. Hommel, Technical University of Berlin, Germany

Performance Evaluation of PIM-SM Recovery 488
T. Čičić, S. Gjessing, University of Oslo, Norway ; Ø. Kure, Norwegian University of Science and Technology, Norway

Reducing Multicast Inter-receiver Delay Jitter – A Server Based Approach 498
J.-U. Klöcking, C. Maihöfer, K. Rothermel, University of Stuttgart, Germany

Multicast Routing and Wavelength Assignment in Multi-Hop Optical Networks 508
R. Libeskind-Hadas, Harvey Mudd College, USA ; R. Melhem, University of Pittsburgh, USA

Real-Time Traffic

Improving the Timed Token Protocol 520
Y. Bouzida, R. Beghdad, EMP, Algeria

Design of a Specification Language and Real-Time APIs
for Easy Expression of Soft Real-Time Constraints with Java 530
K.-Y. Sung, Handong University, Korea

Feedback-Controlled Traffic Shaping for Multimedia Transmissions
in a Real-Time Client-Server System 540
G.-M. Muntean, L. Murphy, University College Dublin, Ireland

Bandwidth Reallocation Techniques
for Admitting High Priority Real-Time Calls in ATM Networks 549
L.K. Miller, University of Toledo, USA ; E.L. Leiss, University of Houston, USA

Temporal Control Specifications and Mechanisms
for Multimedia Multicast Communication Services 559
H.-Y. Kung, National Pingtung University of Science and Technology, Taiwan;
C.-M. Huang, National Cheng Kung University, Taiwan

Wireless (I)

Improving Fairness and Throughput in Multi-Hop Wireless Networks 569
H.-Y. Hsieh, R. Sivakumar, Georgia Institute of Technology, USA

Dynamic Allocation of Transmitter Power in a DS-CDMA Cellular System
Using Genetic Algorithms 579
J. Zhou, Y. Shiraishi, U. Yamamoto, Y. Onozato, Gunma University, Japan

The Coexistence of Multicast and Unicast over a GPS Capable Network 589
T. Asfour, A. Serhrouchni, ENST, France

An Approach for QoS Scheduling on the Application Level 599
for Wireless Networks .....
D.-H. Hoang, D. Reschke, TU Ilmenau, Germany

Multicast (II)

A Host-Based Multicast (HBM) Solution for Group Communications 610
V. Roca, A. El-Sayed, INRIA Rhône-Alpes, France

An Evaluation of Shared Multicast Trees with Multiple Active Cores 620
D. Zappala, A. Fabbri, University of Oregon, USA

QoS Routing Protocol for the Generalized Multicast Routing Problem (GMRP) 630
H. Bettahar, A. Bouabdallah, Technical University of Compiègne, France

Feedback Scalability for Multicast Videoconferencing..... 640
H. Smith, California Polytechnic State University, USA ; M. Mutka, L. Yang, Michigan State University, USA

Group Communication and Multicast 649
J. Templemore-Finlayson, S. Budkowski, INT, France

Routing

Avoiding Counting to Infinity in Distance Vector Routing 657
A. Schmid, O. Kandel, C. Steigner, University of Koblenz-Landau, Germany

Proposal of an Inter-AS Policy Routing and a Flow Pricing Scheme to Improve ASes' Profits 673
N. Ogino, M. Suzuki, KDD R&D Laboratories Inc., Japan

Stigmergic Techniques for Solving Multi-constraint Routing for Packet Networks 687
T. Michalareas, L. Sacks, University College London, UK

Dynamic Capacity Resizing of Virtual Backbone Networks 698
S.H. Rhee, Kwangwoon University, Korea ; J. Yoon, H. Choi, I. Choi, ETRI/National Security Research Institute, Korea

Wireless (II)

Throughput Improvements Using the Random Leader Technique for the Reliable Multicast Wireless LANs 709
H.-C. Chao, National Dong Hwa University, Taiwan ; S.W. Chang, Southern Information System Inc., Taiwan ; J.L. Chen, National Dong Hwa University, Taiwan

Performance Evaluation and Implementation of QoS Support in an 802.11b Wireless LAN 720
V. Mirchandani, E. Dutkiewicz, Motorola Australian Research Centre, Australia

Increasing Throughput and QoS in a HIPERLAN/2 System with Co-channel Interference 727
J. Rapp, Aachen University of Technology, Germany

An Intra-media Multimode Wireless Communication Terminal for DSRC Service Networks 737
M. Umemoto, Yokosuka ITS Research Center, Japan

Traffic Analysis, Modeling and Simulation

Simulation of Traffic Engineering in IP-Based Networks 743
T.T.M. Hoang, W. Zorn, University of Karlsruhe, Germany

An Algorithm for Available Bandwidth Measurement 753
J. He, C.E. Chow, J. Yang, T. Chujo, Fujitsu Laboratories of America Inc., USA

Influence of Network Topology on Protocol Simulation 762
D. Magoni, J.-J. Pansiot, Université Louis Pasteur, France

An Adaptive Flow-Level Load Control Scheme for Multipath Forwarding 771
Y. Lee, Y. Choi, Seoul National University, Korea

Performance Evaluation of CANIT Algorithm
in Presence of Congestion Losses 780
H. Benaboud, N. Mikou, University of Bourgogne, France

User Applications

Project Driven Graduate Network Education 790
A. Van de Capelle, E. Van Lil, J. Theunis, J. Potemans, M. Teughels, K.U. Leuven, Belgium

Modelling User Interaction with E-commerce Servers 803
H. Graja, J. McManis, School of Electronic Engineering, Ireland

XML Smartcards 811
P. Urien, H. Saleh, A. Tizraoui, Bull, France

The Influence of Web Page Images on the Performance of Web Servers 821
C. Hava Muntean, J. McManis, J. Murphy, Dublin City University, Ireland

Network Resilience in Multilayer Networks:
A Critical Review and Open Issues 829
F. Touvet, D. Harle, University of Strathclyde, UK

Author Index 839

Table of Contents Part II

Mobility Management

Dynamic Resource Management Scheme for Multimedia Services
in Wireless Communication Networks 1
D.-E. Lee, Chungwoon University, Korea ; B.-J. Lee, J.-W. Ko, Y.-C. Kim, Chonbuk National University, Korea

An Adaptive Handover-Supporting Routing Method
for ATM Based Mobile Networks, and Its Adaptation to IP Scenarios 11
S. Szabo, S. Imre, Budapest University of Technology and Economics, Hungary

Location Stamps for Digital Signatures:
A New Service for Mobile Telephone Networks 20
M. Kabatnik, University of Stuttgart, Germany ; A. Zugenmaier, University of Freiburg, Germany

A New Method for Scalable and Reliable Multicast System
for Mobile Networks 31
M. Hayashi, Hitachi Europe, France ; C. Bonnet, Institute Eurecom, France

An Adaptive Mobility Management Scheme to Support Internet Host Mobility 41
M. Woo, Sejong University, Korea

TCP Analysis

Modeling and Analysis of TCP Enhancement over Heterogeneous Links 51
M. Liu, N. Ehsan, University of Michigan, USA

TCP Throughput Guarantee Using Packet Buffering 61
S. Choi, C. Kim, Seoul National University, Korea

Modular TCP Handoff Design in STREAMS-Based TCP/IP Implementation ... 71
W. Tang, L. Cherkasova, L. Russell, Hewlett Packard Labs., USA ;
M.W. Mutka, Michigan State University, USA

An Efficient TCP Flow Control and Fast Recovery Scheme
for Lossy Networks 82
H.Y. Liao, Y.C. Chen, C.L. Lee, National Chiao Tung University, Taiwan

Bandwidth Tradeoff between TCP and Link-Level FEC 97
C. Barakat, E. Altman, INRIA, France

QoS (I)

Supporting QoS for Legacy Applications 108
C. Tsetsekas, S. Maniatis, I.S. Venieris, National Technical University of Athens, Greece

An Open Architecture for Evaluating Arbitrary Quality of Service Mechanisms in Software Routers 117
K. Wehrle, University of Karlsruhe, Germany

Measurement-Based IP Transport Resource Manager Demonstrator 127
V. Räisänen, Nokia Research Center, Finland

Packet-Size Based Queuing Algorithm for QoS Support 137
M.C. Choi, H.L. Owen, Georgia Tech Research Institute, USA ; J. Sokol, Siemens AG, Germany

Backbone Network Design with QoS Requirements 148
H.-H. Yen, F.Y.-S. Lin, National Taiwan University, Taiwan

Ad Hoc Networks

A Multi-path QoS Routing Protocol in a Wireless Mobile ad Hoc Network 158
W.-H. Liao, National Central University, Taiwan ; Y.-C. Tseng, National Chiao-Tung University, Taiwan ; S.-L. Wang, J.-P. Sheu, National Central University, Taiwan

Study of a Unicast Query Mechanism for Dynamic Source Routing in Mobile ad Hoc Networks 168
B.-C. Seet, B.-S. Lee, C.-T. Lau, Nanyang Technological University, Singapore

Ad-hoc Filesystem:
A Novel Network Filesystem for Ad-hoc Wireless Networks 177
K. Yasuda, T. Hagino, Keio University, Japan

A Review of Current On-demand Routing Protocols 186
M. Abolhasan, T. Wysocki, University of Wollongong, Australia ;
E. Dutkiewicz, Motorola Australia Research Centre, Australia

Security

Construction of Data Dependent Chaotic Permutation Hashes to Ensure Communications Integrity 196
J. Scharinger, Johannes Kepler University, Austria

Secure Communication: A New Application for Active Networks 206
M. Günter, M. Brogle, T. Braun, University of Berne, Switzerland

Deployment of Public-Key Infrastructure in Wireless Data Networks 217
A.K. Singh, Infosys Technologies Limited, India

A Scalable Framework for Secure Group Communication 225
L.-C. Wuu, H.-C. Chen, National YunLin University, Taiwan

Authenticating Multicast Streams in Lossy Channels
Using Threshold Techniques 239
M. Al-Ibrahim, University of Wollongong, Australia ; J. Pieprzyk, Macquarie University, Australia

QoS (II)

Tuning of QoS Aware Load Balancing Algorithm (QoS-LB)
for Highly Loaded Server Clusters 250
K. Kaario, Honeywell Industrial Automation & Control, Finland ;
T. Hämäläinen, J. Zhang, University of Jyväskylä, Finland

The Incremental Deployability of Core-Stateless Fair Queuing 259
Y. Blanpain, H.-Y. Hsieh, R. Sivakumar, Georgia Institute of Technology, USA

A New IP Multicast QoS Model on IP Based Networks 268
H.S. Eissa, T. Kamel, Electronics Research Institute, Egypt

Integrated Management of QoS-Enable Networks Using QAME 277
L. Zambenedetti Granville, L.M. Rockenbach Tarouco, M. Bartz Ceccon,
M.J. Bosquiroli Almeida, Federal University of Rio Grande do Sul, Brazil

On Web Quality of Service: Approaches to Measurement
of End-to-End Response Time 291
M. Tsykin, Fujitsu Australia Limited, Australia

MPLS

Path Computation for Traffic Engineering in MPLS Networks 302
G. Banerjee, D. Sidhu, University of Maryland, USA

Minimum Regret Approach to Network Management under Uncertainty
with Applications to Connection Admission Control and Routing 309
V. Marbukh, National Institute of Standards and Technology, USA

MPLS Restoration Scheme Using Least-Cost Based Dynamic Backup Path 319
G. Ahn, Electronics and Telecommunications Research Institute, Korea ; W. Chun, Chungnam National University, Korea

Connection Management in MPLS Networks Using Mobile Agents 329
S. Yucel, Marconi Communications, USA ; T. Saydam, University of Delaware, USA

General Connection Blocking Bounds and an Implication of Billing for Provisioned Label-Switched Routes in an MPLS Internet Cloud 339
G. Kesidis, Pennsylvania State University, USA ; L. Tassiulas, University of Maryland, USA

Switches

FPCF Input-Queued Packet Switch for Variable-Size Packets 348
P. Homan, J. Bester, University of Ljubljana, Slovenia

A Cost-Effective Hardware Link Scheduling Algorithm for the Multimedia Router (MMR) 358
M.B. Caminero, C. Carrión, F.J. Quiles, University of Castilla-La Mancha, Spain ; J. Duato, Polytechnical University of Valencia, Spain ; S. Yalamanchili, Georgia Institute of Technology, USA

The Folded Hypercube ATM Switches 370
J.S. Park, N.J. Davis IV, Virginia Polytechnic Institute and State University, USA

Open Software Architecture for Multiservice Switching System 380
H.-J. Park, Y.-I. Choi, B.-S. Lee, K.-P. Jun, Electronics & Telecommunication Research Institute, Korea

A Multicast ATM Switch Based on PIPN 390
S.F. Oktug, Istanbul Technical University, Turkey

CORBA

Concurrent Access to Remote Instrumentation in CORBA-Based Distributed Environment 399
A. Stranjak, Lucent Technologies, Ireland ; D. Kovačić, I. Čavrak, M. Žagar, University of Zagreb, Croatia

Design and Implementation of CORBA-Based Integrated Network Management System 409
J.-H. Kwon, HyComm Incorporated, USA ; J.-T. Park, Kyungpook National University, Korea

Framework for Real-Time CORBA Development 422
Z. Mammeri, J. Rodriguez, University of Toulouse, France ;
P. Lorenz, IUT de Colmar, University of Haute Alsace, France

Development of Accounting Management Based Service Environment
in Tina, Java and Corba Architectures 438
A. Sekkaki, University Hassan II, Morocco ; L.M. Cáceres Alvarez,
W. Tatsuya Watanabe, C. Becker Westphall, Federal University of Santa Catarina, Brazil

A QoS System for CaTV Networks 449
J. Leal, J.M. Fornés, University of Sevilla, Spain

Mobile Agents

Towards Manageable Mobile Agent Infrastructures 458
P. Simões, P. Marques, L. Silva, J. Silva, F. Boavida, University of Coimbra, Portugal

Dynamic Agent Domains in Mobile Agent Based Network Management 468
R. Sugar, S. Imre, Technical University of Budapest, Hungary

Networking in a Service Platform Based on Mobile Agents 478
M. Palola, VTT Electronics, Finland

Realizing Distributed Intelligent Networks
Based on Distributed Object and Mobile Agent Technologies 488
M.K. Perdikeas, O.I. Pyrovolakis, A.E. Papadakis, I.S. Venieris, National Technical University of Athens, Greece

ATM Networks (I)

A New Cut-Through Forwarding Mechanism
for ATM Multipoint-to-Point Connections 497
A. Papadopoulos, Computers Technology Institute, Greece ;
T. Antonakopoulos, V. Makios, University of Patras, Greece

Cell-by-Cell Round Robin Service Discipline for ATM Networks 507
H.M. Mokhtar, R. Pereira, M. Merabti, Liverpool John Moores University, UK

Delay and Departure Analysis of CBR Traffic in AAL MUX
with Bursty Background Traffic 517
C.G. Park, D.H. Han, Sunmoon University, Korea

Virtual Path Layout in ATM Path with Given Hop Count 527
S. Choplin, INRIA, France

Simulation-Based Stability of a Representative, Large-Scale ATM Network for a Distributed Call Processing Architecture 538
R. Citro, Intel Corporation, USA ; S. Ghosh, Stevens Institute of Technology, USA

Voice over IP (I)

Proposed Architectures for the Integration of H.323 and QoS over IP Networks 549
R. Estepa, J. Leal, J.A. Ternero, J.M. Vozmediano, University of Sevilla, Spain

Third-Party Call Control in H.323 Networks – A Case Study 559
A. Miloslavski, V. Antonov, L. Yegoshin, S. Shkrabov, J. Boyle, G. Pogosyants, N. Anisimov, Genesys Telecommunication Labs, USA

Measurement-Based MMPP Modeling of Voice Traffic in Computer Networks Using Moments of Packet Interarrival Times 570
N.S. Kambo, D.Z. Deniz, T. Iqbal, Eastern Mediterranean University, Turkey

Evaluation of End-to-End QoS Mechanisms in IP Networks 579
F.A. Shaikh, S. McClellan, University of Alabama at Birmingham, USA

Web-Enabled Voice over IP Call Center 590
S. Kuhlins, University of Mannheim, Germany ; D. Gutacker, OSI mbH, Germany

Active Networks

ANMP: Active Network Management Platform for Telecommunications Applications 599
W.-K. Hong, M.-J. Jung, Korea Telecom, Korea

An Active Network Architecture: Distributed Computer or Transport Medium . 612
E. Hladká, Z. Salvet, Masaryk University, Czech Republic

An Active Network for Improving Performance of Traffic Flow over Conventional ATM Service 620
E. Rashid, T. Araki, Hirosaki University, Japan ; T. Nakamura, Tohoku University, Japan

An Active Programmable Harness for Measurement of Composite Network States 628
J.I. Khan, A.U. Haque, Kent State University, USA

Protocol Design of MPEG-4 Media Delivery with Active Networks 639
S. Go, J.W. Wong, University of Waterloo, Canada ; Z. Wu, Bond University, Australia

ATM Networks (II)

Prediction and Control of Short-Term Congestion in ATM Networks Using Artificial Intelligence Techniques 648
G. Corral, A. Zaballos, J. Camps, J.M. Garrell, University Ramon Llull, Spain

Monitoring the Quality of Service on an ATM Network Carrying MMB Traffic Using Weighted Significance Data 658
A.A.K. Mouharam, M.J. Tunnicliffe, Kingston University, UK

ATM Traffic Prediction Using Artificial Neural Networks and Wavelet Transforms 668
P. Solís Barreto, Catholic University of Goiás, Brazil ; R. Pinto Lemos, Federal University of Goiás, Brazil

Threshold-Based Connection Admission Control Scheme in ATM Networks: A Simulation Study 677
X. Yuan, North Carolina A & T State University, USA ; M. Ilyas, Florida Atlantic University, USA

ABR Congestion Control in ATM Networks Using Neural Networks 687
K. Dimyati, C.O. Chow, University of Malaya, Malaysia

Voice over IP (II)

An Architecture for the Transport of IP Telephony Services 697
S. Guerra, J. Vinyes, D. Fernández, Technical University of Madrid, Spain

Architectural Framework for Using Java Servlets in a SIP Environment 707
R. Glitho, R. Hamadi, R. Huie, Ericsson Research Canada, Canada

A Practical Solution for Delivering Voice over IP 717
S. Milanovic, Serco Group plc, Italy; Z. Petrovic, University of Belgrade, Yugoslavia

QoS Guaranteed Voice Traffic Multiplexing Scheme over VoIP Network Using DiffServ 726
E.-J. Ha, J.-H. Kwon, J.-T. Park, Kyungpook National University, Korea

VoIP over MPLS Networking Requirements 735
J.-M. Chung, Oklahoma State University, USA ; E. Marroun, H. Sandhu, Cisco Systems, USA ; S.-C. Kim, Oklahoma State University, USA

Video Communications

A System Level Framework for Streaming 3-D Meshes over Packet Networks . 745
G. Al-Regib, Y. Altunbasak, Georgia Institute of Technology, USA

Techniques to Improve Quality-of-Service in Video Communications
via Best Effort Networks 754
B.E. Wolfinger, M. Zaddach, Hamburg University, Germany

Simulation of a Video Surveillance Network
Using Remote Intelligent Security Cameras 766
J.R. Renno, M.J. Tunnicliffe, G.A. Jones, Kingston University, UK ;
D.J. Parish, Loughborough University, UK

Cooperative Video Caching for Interactive and Scalable VoD Systems 776
E. Ishikawa, C. Amorim, Federal University of Rio de Janeiro, Brazil

Optimal Dynamic Rate Shaping for Compressed Video Streaming 786
M. Kim, Y. Altunbasak, Georgia Institute of Technology, USA

ATM Networks (III)

IP Stack Emulation over ATM 795
I.G. Goossens, I.M. Goossens, Free University of Brussels, Belgium

ATM Network Restoration
Using a Multiple Backup VPs Based Self-Healing Protocol 805
S.N. Ashraf, INT, France ; C. Lac, France Télécom R&D, France

A New Consolidation Algorithm for Point-to-Multipoint ABR Service
in ATM Networks 815
M. Shamsuzzaman, A.K. Gupta, B.-S. Lee, Nanyang Technological University, Singapore

Experimental TCP Performance Evaluation
on DiffServ Assured Forwarding over ATM SBR Service 825
S. Ano, T. Hasegawa, KDDI R&D Laboratories Inc, Japan ; N. Decre, ENST, France

PMS: A PVC Management System for ATM Networks 836
C. Yang, S. Phan, National Research Council of Canada, Canada

Modelization

Buffer-Size Approximation for the Geo/D/1/K Queue 845
P. Linwong, Tohoku University, Japan ; A. Fujii, Miyagi University, Japan ; Y. Nemoto, Tohoku University, Japan

Client-Server Design Alternatives: Back to Pipes but with Threads 854
B. Roussev, Susquehanna University, USA ; J. Wu, Florida Atlantic University, USA

Towards a Descriptive Approach
to Model Adaptable Communication Environments 867
A.T.A. Gomes, S. Colcher, L.F.G. Soares, PUC-Rio, Brazil

All-to-All Personalized Communication Algorithms
in Chordal Ring Networks 877
H. Masuyama, H. Taniguchi, T. Miyoshi, Tottori University, Japan

Formal and Practical Approach to Load Conditions in High Speed Networks ... 890
A. Pollak, University of the Armed Forces Munich, Germany

Author Index 895

http://www.springer.com/978-3-540-42302-7

Networking - ICN 2001
First International Conference on Networking Colmar, France, July 9-13, 2001 Proceedings, Part I
Lorenz, P. (Ed.)
2001, L, 846 p., Softcover
ISBN: 978-3-540-42302-7