Table of Contents

Message from the General Chair .............................................................. xvii
Message from the Technical Program Chair ........................................... xviii
Organizing Committee ........................................................................... xx
Technical Program Committee ............................................................. xxi
Reviewers ............................................................................................. xxiii

Volume 1 Tuesday

Session 1A: Multimedia I: Systems
Performance of a Storage System for Supporting Different Video Types and Qualities .................................................. 2
   J.C.L. Liu, J. Hsieh, D.H.C. Du, and M. Lin
Agent Communication System for Multimedia Communication Services .............................................................. 10
   R. Kishimoto
A Portable Communication System for Video-On-Demand Applications Using the Existing Infrastructure ...................... 18
   Y. Negishi, K. Kawachiya, and K. Tago
A Server Array Approach for Video-On-Demand Service on Local Area Networks ....................................................... 27
   Y.B. Lee and P.C. Wong

Session 1B: Wireless I: Call Blocking & Frequency Allocation
New Call Blocking versus Handoff Blocking in Cellular Networks ............................................................................ 35
   M. Sidi and D. Starobinski
On Optimal Call Admission Control in Cellular Networks ...................................................................................... 43
   R. Ramjee, R. Nagarajan, and D. Towsley
A Reversible Hierarchical Scheme for Microcellular Systems with Overlaying Macrocells ......................................... 51
   R. Beraldi, S. Marano, and C. Mastroianni
Bounds and Performance of Reuse Partitioning in Cellular Networks ..................................................................... 59
   D. Lucatti, A. Pattavina, and V. Trecordi

Session 1C: Multicast I: Internet
IP Multicast Extensions for Mobile Internetworking ................................ 67
   A. Acharya, A. Bakre, and B.R. Badrinath
Distributed Center-Location Algorithms: Proposals and Comparisons ....................................................................... 75
   D.G. Thaler and C.V. Ravi Shankar
Performance and Resource Cost Comparisons for the CBT and PIM Multicast Routing Protocols in DIS Environments ........................................ 85
   T. Billhartz, J.B. Cain, E. Farrey-Goudreau, D. Fieg, and S. Batsell
Call Admission and Resource Reservation for Multicast Sessions ........................................................................ 94
   V. Firoiu and D. Towsley
Session 1D: QoS I: Policies and Issues
Efficient Network QoS Provisioning Based on Per Node Traffic Shaping .........................102
L. Georgiadis, R. Guérin, V. Peris, and K.N. Sivarajan
Latency-Rate Servers: A General Model for Analysis of Traffic
Scheduling Algorithms .................................................................111
D. Stiliadis and A. Varma
WF2Q: Worst-Case Fair Weighted Fair Queueing .........................................................120
J.C.R. Bennett and H. Zhang
On CBR Service ...........................................................................129
M. Grossglauser and S. Keshav

Session 2A: Optical I: Wavelength Routing
Distributed Network Control for Wavelength Routed Optical Networks .........................138
R. Ramaswami and A. Segall
Connectivity and Sparse Wavelength Conversion in Wavelength-Routing
Networks ....................................................................................148
S. Subramaniam, M. Azizoglu, and A.K. Somani
Comparison of Wavelength-Interchanging and Wavelength-Selective
Cross-Connects in Multiwavelength All-Optical Networks ...........................................156
G. Jeong and E. Ayanoglu
A New Model for Optimal Routing and Wavelength Assignment in Wavelength
Division Multiplexed Optical Networks .........................................................................164
C. Chen and S. Banerjee

Session 2B: Real-Time Scheduling
A Bounded-Hop-Count Deflection Scheme for Manhattan-Street Networks ..................172
W. Dobosiewicz and P. Gburzynski
Admission Control for Hard Real-Time Connections in ATM LANs ..............................180
A. Raha, S. Kamat, and W. Zhao
“Time-Driven Priority” Flow Control for Real-Time Heterogeneous
Internetworking ............................................................................189
C.-S. Li, Y. Ofek, and M. Yung
Scheduling Real-Time Traffic in ATM Networks .........................................................198
T. Ling and N.B. Shroff

Session 2C: Protocol Implementation
Design, Implementation, and Performance of a Native Mode ATM
Transport Layer ............................................................................206
R. Ahuja, S. Keshav, and H. Saran
The Effectiveness of Affinity-Based Scheduling in Multiprocessor Networking ............215
J.D. Salehi, J.F. Kurose, and D. Towsley
Fast Decoding of Tagged Message Formats ....................................................................224
T. Blackwell
Control Mechanisms for Packet Audio in the Internet ..................................................232
J.-C. Bolot and A. Vega-García
Session 2D: Queueing Analysis of Network Elements I
Passive Estimation Algorithms for Queueing Delays in LANs and Other Polling Systems .................................................................240
D. Manjunath and M.L. Molle
Efficient Solution of Multiple Server Queue with Application to the Modeling of ATM Concentrators ...................................................248
A.E. Kamal
A Simple Approximation for Modeling Nonstationary Queues ..............255
W.-P. Wang, D. Tipper, and S. Banerjee
Performance of a Ps Persistent Protocol Subject to Correlated Gaussian Traffic ..............................................................263
R.G. Addie, D. Platt, and M. Zukerman

Session 3A: Switching I
Scheduling Multicast Cells in an Input-Queued Switch ...........................271
N. McKeown and B. Prabhakar
Parallel Routing Algorithms in Benes-Clos Networks ...........................279
T.T. Lee and S.-Y. Liew
Maintaining High Throughput during Overload in ATM Switches ..............287
J.S. Turner
Achieving 100% Throughput in an Input-Queued Switch .........................296
N. McKeown, V. Anantharam, and J. Walrand

Session 3B: ATM I: VP/VC Control
Concurrent ATM Connection Setup Reducing Need for VP Provisioning ....303
M. Veeraraghavan, M.M. Kshirsagar, and G.L. Choudhury
Virtual Path Control for ATM Networks with Call Level Quality of Service Guarantees .................................................................312
N.G. Aneroussis and A.A. Lazar
Routing Virtual Circuits with Timing Requirements in Virtual Path Based ATM Networks ..............................................................320
C.-J. Hou
An Adaptive Virtual Path Allocation Policy for Broadband Networks ..........329
A. Orda, G. Pacifici, and D.E. Pendarakis

Session 3C: Multicast II: Routing and Management
An Algorithm for Multicast Tree Generation in Networks with Asymmetric Links .................................................................337
R. Ramanathan
Multicast Traffic in Multi-Hop Lightwave Networks: Performance Analysis and an Argument for Channel Sharing ..........................345
S.B. Tridandapani and B. Mukherjee
Multicast Routing with End-to-End Delay and Delay Variation Constraints ..............................................................353
G.N. Rouskas and I. Baldine
ARIES: A Rearrangeable Inexpensive Edge-Based On-Line Steiner Algorithm .................................................................361
F. Bauer and A. Varma
### Session 3D: Traffic I: Modeling & Characterization

- **Source Policing for ATM Systems Based on Peakedness Rate**
  - *P.L. Sánchez and R.R. Mazumdar*
  
- **Definition of Burstiness and Quantization for Delay Sensitive Traffic Streams**
  - *T.-H. Lee, K.-C. Lai, and M.-Y. Tsai*

- **Real-Time Estimation of UPC Parameters for Arbitrary Traffic Sources in ATM Networks**
  - *B.L. Mark and G. Ramanurthy*

- **A Simulation Study of Delay and Delay Variation in ATM Networks, Part I: CBR Traffic**
  - *H. Naser and A. Leon-Garcia*

### Volume 2 Wednesday

#### Session 4A: Optical II: WDM Architectures

- **A Single-Hop Wavelength Routed LAN/MAN Architecture**
  - *M.W. Janoska and T.D. Todd*

- **On Torus Topologies with Random Extra Links**
  - *M. Kovacevic*

- **A Delay Line Receiver Architecture for All-Optical Networks**
  - *I. Chlamtac, A. Fumagalli, and C.-J. Suh*

- **On a Scalable Topology for Lightwave Networks**
  - *A. Venkateswaran and A. Sengupta*

#### Session 4B: Wireless II: Physical Layer

- **A Flexible Modem Structure for Increased Network Capacity and Multimedia Transmission in GSM PCS**
  - *C. Brown and K. Feher*

- **Mobile Power Management for Maximum Battery Life in Wireless Communication Networks**
  - *J.M. Rulnick and N. Bambos*

- **Effect of the Local Propagation Model on the LOS Microcellular System Design**
  - *D. Har and H.L. Bertoni*

- **Partitioning Frequency-Hopping Codes for CDMA Cellular Systems**
  - *G-C. Yang*

#### Session 4C: Network Management

- **Intelligent Agents: An Emerging Technology for Next Generation Telecommunications?**
  - *T. Magedanz, K. Rothermel, and S. Krause*

- **Techniques for Automated Network Map Generation Using SNMP**
  - *G. Mansfield, M. Ouchi, K. Jayanthi, Y. Kimura, K. Ohta, and Y. Nemoto*

- **SNMP and OSI Management Information Modeling and Translation: A Case Study**
  - *I. Khan and G. Knight*
The Semantics of Network Management Information ............................................................ 489
   T. Zhang and S. Covaci

Session 4D: Traffic II: Multiple Time Scales
Experiments of the Theory of Effective Bandwidth for Markov Sources
and Video Traces ........................................................................................................... 497
   L.-S. Chou and C.-S. Chang
Modeling Heterogeneous Sources on Multiple Time Scales ........................................... 505
   E.T. Saulnier and K.S. Vastola
On the Relevance of Time Scales in Performance Oriented Traffic
Characterizations ......................................................................................................... 513
   M. Montgomery and G. de Veciana
Evaluating the Queue Length Distribution of an ATM Multiplexer with
Multiple Time Scale Arrivals ......................................................................................... 521
   P.R. Jelenkovic and A.A. Lazar

Session 5A: Multimedia II: Video Characterization
AAL1 with FEC for the Transport of CBR MPEG2 Video over ATM Networks ................. 529
   Y. Rasheed and A. Leon-Garcia
Video Traffic Characterization for Multimedia Networks with a
Deterministic Service ................................................................................................. 537
   D.E. Wrege and J. Liebeherr
Analysis of MPEG-1 Transmission through B-ISDN ATM Networks ............................... 545
   O.L. Stokes and A.A. Nilsson
On the Use of Destination Set Grouping to Improve Fairness in Multicast
Video Distribution .................................................................................................... 553
   S.Y. Cheung, M.H. Ammar, and X. Li

Session 5B: ATM II: Flow Control and Modeling
Improved Loss Calculations at an ATM Multiplexer ..................................................... 561
   N. Shroff and M. Schwartz
ATM Rate Based Congestion Control Using a Smith Predictor:
An EPRCA Implementation ...................................................................................... 569
   S. Mascolo, D. Cavendish, and M. Gerla
Robust Non-Probabilistic Bounds for Delay and Throughput in
Credit-Based Flow Control ....................................................................................... 577
   S. Khorsandi and A. Leon-Garcia
Feedback Based Flow Control in ATM Networks with Multiple
Propagation Delays ................................................................................................... 585
   R. Pazhyannur and R. Agrawal

Session 5C: Internet Potpourri
How to Model an Internetwork .................................................................................... 594
   E.W. Zegura, K.L. Calvert, and S. Bhattacharjee
Network Security via Reverse Engineering of TCP Code: Vulnerability
Analysis and Proposed Solutions ............................................................................... 603
   B. Guha and B. Mukherjee
<table>
<thead>
<tr>
<th>Session 5D: QoS II: Architecture &amp; Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carry-Over Round Robin: A Simple Cell Scheduling Mechanism for ATM Networks</td>
</tr>
<tr>
<td>D. Saha, S. Mukherjee, and S.K. Tripathi</td>
</tr>
<tr>
<td>Hardware-Efficient Fair Queueing Architectures for High-Speed Networks</td>
</tr>
<tr>
<td>J.L. Rexford, A.G. Greenberg, and F.G. Bonomi</td>
</tr>
<tr>
<td>HOL-EDD: A Flexible Service Scheduling Scheme for ATM Networks</td>
</tr>
<tr>
<td>M. Vishnu and J.W. Mark</td>
</tr>
<tr>
<td>Traffic-Controlled Rate-Monotonic Priority Scheduling of ATM Cells</td>
</tr>
<tr>
<td>S.-K. Kweon and K.G. Shin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session 6A: Switching II</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATM Multiplexers and Output Port Controllers with Distributed Control and Flexible Queueing Disciplines</td>
</tr>
<tr>
<td>K.L.E. Law and A. Leon-Garcia</td>
</tr>
<tr>
<td>Efficient Analysis of Shared Buffer Management Strategies in ATM Networks under Non-Uniform Bursty Traffic</td>
</tr>
<tr>
<td>B.R. Collier and H.S. Kim</td>
</tr>
<tr>
<td>Dynamic Queue Length Thresholds in a Shared Memory ATM Switch</td>
</tr>
<tr>
<td>A.K. Choudhury and E.L. Hahne</td>
</tr>
<tr>
<td>Queue Management for Shared Buffer and Shared Multi-Buffer ATM Switches</td>
</tr>
<tr>
<td>Y.-S. Lin and C.B. Shung</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session 6B: Wireless III: Next Generation Access Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slotted ALOHA and CDPA: A Comparison of Channel Access Performance in Cellular Systems</td>
</tr>
<tr>
<td>F. Borgonovo and M. Zorzi</td>
</tr>
<tr>
<td>Directed Antennas in the Mobile Broadband System</td>
</tr>
<tr>
<td>M. Hornfeffer and D. Plassmann</td>
</tr>
<tr>
<td>A Demand-Assignment Access Control for Multi-Code DS-CDMA Wireless Packet (ATM) Networks</td>
</tr>
<tr>
<td>Z. Liu, M.J. Karol, M. El Zarki, and K.Y. Eng</td>
</tr>
<tr>
<td>A Bandwidth Reservation Protocol for Speech/Data Integration in TDMA-Based Advanced Mobile Systems</td>
</tr>
<tr>
<td>G. Anastasi, D. Grillo, L. Lenzini, and E. Mingozzi</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session 6C: Resource Management I</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Nonstationary Analysis of Bandwidth Access Control Schemes for Heterogeneous Traffic in B-ISDN</td>
</tr>
<tr>
<td>Y. Qian, D. Tipper, and D. Medhi</td>
</tr>
<tr>
<td>Timescale of Interest in Traffic Measurement for Link Bandwidth Allocation Design</td>
</tr>
<tr>
<td>Y. Kim and S.-q. Li</td>
</tr>
</tbody>
</table>
Near-Optimal Bandwidth Allocation for Multi-Media Virtual Circuit Switched Networks ..............................................749
  W.C. Chan and E. Geraniotis
Performance Analysis of Fast Reservation Protocol with Generalized Bandwidth Reservation Method ..................758
  H. Shimonishi, T. Takine, M. Murata, and H. Miyahara

Session 6D: Admission Control

Neural Network Methods with Traffic Descriptor Compression for Call Admission Control ...........................................768
  R.G. Ogier, N.T. Plotkin, and I. Khan
A Neural-Net Based Fuzzy Admission Controller for an ATM Network .................................................................777
  R.-G. Cheng and C.-J. Chang
Integrated Control of Connection Admission, Flow Rate, and Bandwidth for ATM Based Networks .................784
  A. Pitsillides, P. Ioannou, and D. Tipper
A General Preemption-Based Admission Policy Using a Smart Market Approach ........................................794
  F. Toutain and O. Huber

Session 7A: Switching III

Asymmetric ATM Switch Modules with Imbalanced Traffic .................................................................802
  A.K. Chatterjee and V.K. Konangi
VLSI Design Optimization of Input/Output-Buffered Broadband ATM Switches ........................................810
  H. Shi, C. Zukowski, and O. Wing
High-Performance Low-Cost Non-Blocking Switch for ATM ...............................................................818
  J.-F. Lin and S.-D. Wang
Analysis of Space-Time Tradeoffs in Photonic Switching Networks .............................................................822
  C. Qiao

Session 7B: ATM III: Potpourri

Backpressure in Shared-Memory-Based ATM Switches under Multiplexed Bursty Sources .............................830
  F.M. Chiussi, Y. Xia, and V.P. Kumar
An Efficient Signaling Structure for ATM Networks ..................................................................................844
  D. Wu
An Improved SSCOP-Like Scheme for Avoiding Unnecessary Retransmissions and Achieving Ideal Throughput ..............................855
  R. Cohen
A Management System for Load Balancing through Adaptive Routing in Multi-Service ATM Networks ..........863
  P. Georgatsos and D. Griffin

Session 7C: Resource Management II

A Study of Reservation Dynamics in Integrated Services Packet Networks ........................................871
  D.J. Mitteil, D. Estrin, S. Shenker, and L. Zhang
Dynamic Bandwidth Allocation Policies ........................................................................................................880
  Y. Afek, M. Cohen, E. Haalman, and Y. Mansour
A Pricing Model for High Speed Networks with Guaranteed Quality of Service ..........888
H. Jiang and S. Jordan

BALANCE—A Flexible Parallel Load Balancing System for Heterogeneous Computing Systems and Networks ........................................... 896
C.-C. Hui, S.T. Chanson, P.-M. Chui, and K.-M. Lau

Session 7D: LANs/MANs
A Protocol for Efficient Transfer of Data over Fiber/Cable Systems .................904
D. Sala and J.O. Limb
Hierarchical FDDI — An Approach for FFOL ...................................... 912
B. Albert and A.P. Jayasumana
An Efficient and Practical Local Synchronous Bandwidth Allocation Scheme for the Timed-Token MAC Protocol ......................... 920
S. Zhang, A. Burns, and A. Wellings
Approximating Max-Min Fair Rates via Distributed Local Scheduling with Partial Information .................................................. 928
A. Mayer, Y. Ofek, and M. Yung

Volume 3 Thursday

Session 8A: Optical III: WDM Channel Access
Distributed Queue Packet Scheduling Algorithms for WDM-Based Networks ........938
A. Muir and J.J. Garcia-Luna-Aceves
A Lightweight Media Access Protocol for WDM-Based Distributed Shared Memory System ......................................................... 946
K.M. Sivalingam and P.W. Dowd
Limited-Range Wavelength Translation in All-Optical Networks .................. 954
J. Yates, J. Lacey, D. Everitt, and M. Summerfield
A Distributed Adaptive Protocol Providing Real-Time Services on WDM-Based Lams ................................................................. 962
A. Yan, A. Ganz, and C.M. Krishna

Session 8B: ATM IV: System Modeling
Conditional Overflow Probability and Profile Curve for ATM Congestion Detection ................................................................. 970
I. Widjaja, M.F. Neuts, and J.-M. Li
Transient Behavior of ATM Networks under Overloads ............................. 978
C.-Y. Wang, D. Logothetis, K.S. Trivedi, and I. Viniotis
Skew Performance Evaluation in an ATM Multimedia Multiplexer .............. 986
A. La Corte, A. Lombardo, and G. Schembra
ATM Network Design and Optimization: A Multirate Loss Network Framework ................................................................. 994
D. Mitra, J.A. Morrison, and K.G. Ramakrishnan

Session 8C: Routing
Quantization and Cost Computation of MDP-Based Admission and Routing .......... 1004
C.-T. Lea and K.-W. Ke
Signaling Network Architecture and Transaction Protocols to Support Realtime Connection Rerouting in ATM/B-ISDNs
O.T.W. Yu and V.C.M. Leung
GoS-Based Pricing and Resource Allocation for Multimedia Broadband Networks
H. Ji, J.Y. Hui, and E. Karasan
Congestion-Oriented Shortest Multipath Routing
S. Murthy and J.J. Garcia-Luna-Aceves

Session 8D: QoS III: Losses & Resource Management
ATM Traffic Management with Diversified Loss and Delay Requirements
G. Chen and I. Stavrakakis
Weighted Fair Blocking Mechanisms for Discrete-Time Multiplexing
A.E. Conway and C. Rosenberg
Performance Evaluation of Selective Cell Discard Schemes in ATM Networks
K. Kawahara, K. Kitajima, T. Takine, and Y. Oie
A Measurement-Based Loss Scheduling Scheme
T. Yang and J. Pan

Session 9A: Multimedia III: VBR Video Protocols
Encapsulation Protocols for MPEG Video in ATM Networks
H.V. Todd and J.S. Meditch
A Reliable, Adaptive Network Protocol for Video Transport
P. Goyal, H.M. Vin, C. Shen, and P.J. Shenoy
H-BIND: A New Approach to Providing Statistical Performance Guarantees to VBR Traffic
E.W. Knightly
A Bandwidth Allocation Protocol for MPEG VBR Traffic in ATM Networks
S. El-Henaoui, R. Coelho, and S. Tohme

Session 9B: Wireless IV: Scheduling & Performance
Delay Analysis for Forward Signaling Channels in Wireless Cellular Network
I. Rubin and C.W. Choi
A New Model for Scheduling Packet Radio Networks
A. Sen and M.L. Huson
Unified Power Control, Error Correction Coding and Scheduling for a CDMA Downlink System
Y. Lu and R. Brodersen
Enhancing Throughput over Wireless LANs Using Channel State Dependent Packet Scheduling
P. Bhagwat, P. Bhattacharya, A. Krishna, and S. Tripathi

Session 9C: Protocol Design and Testing
Context Independent Unique Sequences Generation for Protocol Testing
T. Ramalingom, K. Thulasiraman, and A. Das
Multi-Subsystem Protocol Architectures: Motivation and Experience with an Adapter-Based Approach
B. Krupczak, M. Ammar, and K. Calvert
An Integration-Oriented Approach for Designing Communication Protocols from Component-Based Service Specifications ................................................................. 1157
M. Nakamura, Y. Kakuda, and T. Kikuno

A Stepwise Refinement Based Approach for Synthesizing Protocol Specifications in an Interpreted Petri Net Model ............................................................... 1165
H. Kahlouche and J.J. Girardot

Session 9D: Rate-Based Flow Control Systems
A New Rate-Based Switch Algorithm for ABR Traffic to Achieve Max-Min Fairness with Analytical Approximation Delay Adjustment ........................................ 1174
D.H.K. Tsang and W.K.F. Wong
Time Scale Analysis of Explicit Rate Allocation in ATM Networks ........................................ 1182
A. Charny and K.K. Ramakrishnan
Network Buffer Requirements of the Rate-Based Control Mechanism for ABR Services .......................................................... 1190
M. Ritter
Scalability Issues for Distributed Explicit Rate Allocation in ATM Networks .......................... 1198
A. Charny, K.K. Ramakrishnan, and A.G. Lauck

Session 10A: Optical IV: WDM Performance
On the Capacity of MAC Protocols for All-Optical WDM Multi-Rings with Tunable Transmitters and Fixed Receivers ................................................................. 1206
M. Ajmone Marsan, A. Bianco, E. Leonardi, M. Meo, and F. Neri
On the Design of Optimal TDM Schedules for Broadcast WDM Networks with Arbitrary Transceiver Tuning Latencies ......................................................... 1217
G.N. Rouskas and V. Sivaraman
Design and Analysis of a WDMA Protocol for Passive Star-Coupled Lightwave Networks .......................................................... 1225
C.-J. Hou, B. Wang, and C.-C. Han
Performance of a MAC Protocol for WDM Networks with On-Line Scheduling .................. 1234
K.M. Sivalingam and J. Wang

Session 10B: ATM V: Connectionless Service
The Drop from Front Strategy in TCP and in TCP over ATM ................................................ 1242
T.V. Lakshman, A. Neidhardt, and T.J. Ott
Flow Labelled IP: A Connectionless Approach to ATM ......................................................... 1251
P. Newman, T. Lyon, and G. Minshall
Experimental Study of Extended HIPPI Connections over ATM Networks .......................... 1261
A Simulation Study of TCP Performance in ATM Networks with ABR and UBR Services .......................................................... 1269
H. Li, K.-Y. Siu, H.-Y. Tzeng, C. Ikeda, and H. Suzuki

Session 10C: Network Routing and Management
A Conflict-Free Traffic Assignment Algorithm Using Forward Planning ............................ 1277
V. Yau and K. Pawlikowski
The Role of the Manager in a Noncooperative Network..................................................1285
    Y.A. Korilis, A.A. Lazar, and A. Orda
Efficient Support for the Client/Server Paradigm over Heterogeneous ATM Networks ..................................................1294
    O. Gerstel, I. Cidon, and S. Zaks
An Optimal VP-Based Multicast Routing in ATM Networks.............................................1302
    S.-B. Kim

Session 10D: Queueing Analysis of Network Elements II
Bounds, Approximations and Applications for a Two-Queue GPS System.........................1310
    F.L. Presti, Z.-L. Zhang, and D. Towsley
A New Paradigm in Teletraffic Analysis of Communication Networks ..............................1318
    N. Akar and K. Sohrabyy
Sojourn-Time Analysis on Nodal Congestion in Broadband Networks and Its Impact on QoS Specifications ..............................................1327
    W.-c. Lau and S.-q. Li
Bounds on Finite Horizon QoS Metrics with Application to Call Admission .....................1338
    Z. Liu, P. Nain, and D. Towsley

Session 11A: Multimedia IV: Scheduling & Management
Group Priority Scheduling .................................................................................................1346
    S.S. Lam and G.G. Xie
Video on Demand over ATM: Constant-Rate Transmission and Transport .......................1357
    J.M. McManus and K.W. Ross
“Call-Level” and “Burst-Level” Priorities for an Effective Management of Multimedia Services in UMTS .................................................................1362
    A. Iera, S. Marano, and A. Molinaro
Network Algorithms and Protocol for Multimedia Servers ..............................................1371
    P. Goyal and H.M. Vin

Session 11B: Wireless V: Handoff & Mobility
Performance Evaluation of Crossover Switch Discovery Algorithms for Wireless ATM LANs .................................................................1380
    C.-K. Toh
A Network Architecture for Mobile Computing ..................................................................1388
    K. Brown and S. Singh
Performance Analysis of the Anchor Radio System Handover Method for Personal Access Communications System ........................................1397
    I.F. Akyildiz, J.S.M. Ho, and M. Ulema
Handling Mobility in a Wireless ATM Network ................................................................1405
    B.A. Akyol and D.C. Cox

Session 11C: Multicast III: Reliable Transport
RMTP: A Reliable Multicast Transport Protocol .............................................................1414
    J.C. Lin and S. Paul
Optimal Deterministic Timeouts for Reliable Scalable Multicast .....................................1425
    M. Grossglauser
Reliable Concurrent Multicast from Bursty Sources........................................................... 1433
  Y. Ofek and B. Yener
Ramp: A Reliable Adaptive Multicast Protocol................................................................. 1442
  A. Koifman and S. Zabele

Session 11D: Traffic III: Self-Similar
Tail Probabilities for a Multiplexer with Self-Similar Traffic........................................... 1452
  M. Parulekar and A.M. Makowski
Modelling and Performance Analysis of Traffic in ATM Networks
Including Autocorrelation................................................................................................. 1460
  G. Haßlinger and M. Adam
Point Process Approaches to Modeling and Analysis of Self-Similar
Traffic — Part I: Model Construction.................................................................................. 1468
  B.K. Ryu and S.B. Lowen
Supporting Real Time VBR Video Using Dynamic Reservation Based on
Linear Prediction.................................................................................................................. 1476
  A. Adas

Author Index........................................................................................................................ A1