

4/3/98

PRELIMINARY PROGRAM

The Third IEEE Symposium on Computers and Communications



ISCC'98



**Athens, Greece
June 29 – July 2, 1998**



**Sponsored by
IEEE Communications Society and IEEE Computer Society***

Monday, June 29

Tutorials

To be announced

Tuesday, June 30

8:30 – 10:30 Plenary Session (speakers to be announced)
10:30 – 11:00 Coffee
11:00 – 12:20 Parallel Sessions (Morning)
12:20 – 2:00 Lunch
2:00 – 3:20 Parallel Sessions (Mid-Day)
3:20 – 3:50 Coffee
3:50 – 5:30 Parallel Sessions (Afternoon)
7:00 – 10:00 Tutorials

Wednesday, July 1

9:00 – 10:30 Plenary Session (speakers to be announced)
10:30 – 11:00 Coffee
11:00 – 12:00 Parallel Sessions (Morning)
12:00 – 1:30 Lunch
1:30 – 2:30 Parallel Sessions (Mid-Day)
2:30 – 3:00 Coffee
3:00 – 4:00 Parallel Sessions (Afternoon)
4:10 – 5:30 Panel Session

Thursday, July 2

9:00 – 10:30 Plenary Session (speakers to be announced)
10:30 – 11:00 Coffee
11:00 – 12:20 Parallel Sessions (Morning)
12:20 – 2:00 Lunch
2:00 – 3:20 Parallel Sessions (Mid-Day)
3:20 – 3:50 Coffee
3:50 – 5:30 Parallel Sessions (Afternoon)

* Technical Committee on Simulation

Tuesday Morning

Traffic Management in ATM Networks

An Adaptive Scheme for Better Utilization with QoS Constraints for VBR Video Traffic in ATM Networks
Girish Chiruvolu, Ravi Sankar and N. Ranganathan

The Limitations of Artificial Neural Networks for Traffic Prediction
Jason Hall and Philip Mars

A Simulation Study on the Performance of Integrated Switching Strategy for Traffic Management in ATM Networks
Y. Ahmet Sekercioglu, Andreas Pitsillides and Petros Ioannou

An Adaptive Shaper with Effective-Rate Enforcement for ATM Traffic
Anthony Catsoulis, Y. Kamaras, K. Kavidopoulos and N. Mitrou

Communication Theory I

Effects of Timing and Jitter Errors on Pulse Amplitude Modulated Time Division Multiplexed Signals
Alfred S. Andrawis and Ira Jacobs

Narrowband Interference Suppression via Nonlinear Estimation
K. N. Plataniotis and A. N. Venetsanopoulos

Code Tracking Loop Performance for an Orthogonal CDMA Uplink SATCOM System
Hsuan-Jung Su, Pen Li, Evaggelos Geraniotis and Diakoumis P. Gerakoulis

Analysis and Simulation of Multipath Interference of FM Subcarrier Digital Signals
Linda Zeger, Pei Chen and Hisashi Kobayashi

Routing I

On the Effectiveness of Path Pre-Computation in Reducing the Processing Cost of On-Demand QoS Path Computation
George Apostolopoulos and Satish K. Tripathi

Topology Aggregation for Directed Graph
Baruch Awerbuch and Yuval Shavitt

Design Considerations for Link-state Routing Protocols
M. Sivabalan and H. T. Mouftah

Distributed Routing based on an Estimated Input Traffic Matrix
Fazlollah Adibniya

Wireless Networks

Performance of Floor Acquisition Multiple Access in Ad-Hoc Networks
J. J. Garcia-Luna-Aceves and Chane L. Fullmer

Dynamic Transmission Scheduling for Packet Radio Networks
Christos G. Panayiotou and Christos G. Cassandras

WTCP: An Efficient Mechanism for Improving TCP Performance over Wireless Links
Karunaharan Ratnam and Ibrahim Matta

Store & Forward Data Communications Using Small Terminals and Microsatellites
Michael Hadjitheodosiou

Tuesday Mid-Day

Resource Management in ATM Networks

The Use of the Fast Resource Management Protocol in ATM Networks -- Performance and Applicability
Antonios F. Atlasis, Georgios I. Stassinopoulos and Evangelos D. Baltatzis

Bandwidth Allocation for Interactive Video-on-Demand
Philip Branch

Performance Evaluation of Scheduling and Resource Reservation Algorithms in an Integrated Packet Services Network Environment
Sungwon Ha, Kang-Won Lee and Vaduvur Bharghavan

VPN Design Scheme and Service Control in Public ATM Networks
Hye-Kyung Min and Ho-Jin Park

Communication Theory II

Iterative Decoding with Erasures in a Concatenated System
Jan Bajcsy and Hisashi Kobayashi

BER Evaluation of Symbol-Aided Coherent Demodulation for Rician and Rayleigh Fading Channels
Mohamed M. Khairy and Evangelos Geraniotis

Quadrature M-ary CDMA Signal Design without Co-Channel Interference for Approximately Synchronized Mobile Systems
Naoki Suehiro and Hideyuki Torii

Spectrum Efficiency of a FFH/BFSK Mobile System
Carl Zhou, Mokhar Boukli-Hacene and Mohammed Kouar

Network Management I

Distributed Management of Exclusive Resources in Collaborative Multimedia Systems
H. Abdel-Wahab, A. Youssef and K. Maly

The modularity of SNMPv3
Omar Cherkaoui, Ylian Saint Hillaire, Abdelatif Obaid and Ahmed Serhouchni

Scalability Improvement of the Real-time Control Protocol (RTCP) Leading to Management Facilities in the Internet
Randa El-Marakby and David Hutchison

Application Oriented Management in Distributed Environments
Vassilios Tsaoussidis and Kevin Liu

Multicasting

On the Importance of FEC in Bulk Transmission Multicast
Yair Bartal, John W. Byers, Michael Luby and Danny Raz

A Multicast Congestion Control Mechanism for Reliable Multicast
Dante DeLucia and Katia Obraczka

Impact of Network Dynamics on End-to-End Protocols: Case Studies in Reliable Multicast
Kannan Varadhan, Deborah Estrin and Sally Floyd

Adaptive Rate-Based Feedback Flow Control Algorithms -- Extensions to Multicast Connections
Huayan Wang, Rauf Izmailov and Mischa Schwartz

Tuesday Afternoon

ATM Network Monitoring and Performance Testing

ATM Traffic Generator Card: An Integrated Solution

St. Hontas, G. Tselikis, S. Tompros, J. Gianniadakis, S. Andritsos, D. Loukatos and N. Mitrou

Interoperability of EFCI and ER Switches for ABR Services in ATM Networks

Yuan-Cheng Lai and Ying-Dar Lin

A Low-Pass Filter Design for ATM Traffic Measurement and its Application to Bandwidth Management

Kohei Shiimoto, Naoaki Yamanaka and Haruhisa Hasegawa

User-Programmable Flexible ATM Network Architecture, Active-ATM - Experimental Results

Naoaki Yamanaka, Eiji Oki, Haruhisa Hasegawa and Thomas M. Chen

In-Service Methods for Performance

Management in Switched Broadband Networks

Thomas Lindh

Algorithms for Network Design I

A Dynamic Delayed Acknowledgment Mechanism to Improve TCP Performance for Asymmetric Links

Hossam Afifi, Omar Elloumi and Gerardo Rubino

An Algorithmic Approach for the Planning of Partial Access ETSI SDH SNCP-ring Subnetworks

Andreas Antonopoulos, J. J. O'Reilly and P. Lane

Comparison of Congestion Control Mechanisms for IN Signalling Systems

F. Bernabei, G. Chierchia and L. Gratta

Equivalence of Behaviour Process Specifications: Problem, Notions, Generalizations, and Comparative Analysis

Hazem El-Gendy, Hani El-Sayed and Abdel-Wahab Fayez

A Formal TTCN-based Protocol Testing for Intelligent Network

Sangki Kim, Hyunjoo Bae and Kyungpyo Jun

Distributed and Parallel Processing I

Performance Modeling and Analysis of a Distributed Computing Environment

Elias Drakopoulos

Scheduling the Access of Shared Variables for the Two Communication Nodes Parallel Structures

Tahany Fergany

Advanced Service Creation in Distributed Heterogeneous Environments

N. I. Liossis, N. D. Polydorou, E. C. Tzifa, P. P. Demestichas and M. E. Anagnostou

A Caching Model for Efficient Distributed Network and Systems Management

Fotis Stamatelopoulos and Basil Maglaris

Wireless DECT Networks

Performance Analysis of a Channel Selection Scheme for DECT Indoor Environment

Paliatsos Athanasios, Tzouflas Georgios and Constantinou Philip

DECT Mobility Support in a Hybrid DECT -- Broadband ISDN Environment

A. D. Liveris, N. V. Georgantas and M. E. Theologou

Indoor Mobile Radio Channel Measurements and Characterization for DECT Picocells

N. Papadakis, A. G. Kanatas, E. Angelou, N. Moraitis and P. Constantinou

A Low Complexity Baseband Receiver for Direct Conversion Burst-Type Radio Systems

A. E. Tzimas, E. G. Metaxakis and G. A. Kalivas

Telephony Solution for Local Multi-point Distribution Service

Derek Lam, Aly F. Elrefaie, Lynn Plouse and Yee-Hsiang Chang

Wednesday Morning

Congestion Control in ATM Networks

Burst Level Congestion Control in ATM Networks

Alexander Gersht, Girish Pathak and Alexander Shulman

Study of a Rate-Based ABR Scheme Supporting Bursty Data Applications

M. Lopez Guerrero, J. R. Gallardo, S. Rosenberg, L. Orozco Barbosa and D. Makrakis

Analytical and Simulation Analysis of the Explicit-Rate ABR Flow Control Algorithms: Transient Behavior

Milan Vojnovic and Nikola Rozic

Software Techniques

Object-Oriented Development of Telematic Services

Dionisis X. Adamopoulos and Constantine A. Papandreou

An Approach for Engineering CORBA-based Multi-Agent Applications

F. Bellas, R. Juanes, N. Rodriguez and A. Vina

A Generic Legality Checker and Attribute Evaluator for a Distributed Enterprise Environment

C. Goumopoulos, P. Alefragis, K. Thrampoulidis and E. Housos

Multimedia Applications

Design Methodology of an Educational Computer-Aided Telematics Service

S. S. Mitropoulos and A. S. Andreatos

Collaborative Distance Training: Architecture of a Demonstrator

Francoise Sandoz, Lucia Gradinariu and Gerard Beuchot

Performance Evaluation of a Small-Scale VOD Server based on the UNIX

Jong Moon Sohn, Gil Yong Kim and Tae Geun Kim

Network Mobility

A Hierarchical Mobility Management Scheme for the Internet

Claude Castelluccia

PI and PIF Based Mobilizer

B. Mizrachi, I. Cidon and M. Sidi

FBM Mobility Modeling for Nomadic Subscribers

E. Aleman-Llanes, D. Munoz-Rodriguez and C. Molina

Wednesday Mid-Day

ATM Interworking

Performance Evaluation of IP Controlled-Load Service over ATM CBR and VBR Services
Paolo Giacomazzi, Luigi Musumeci and Luigi Fratta

Dual-Mode Routing: a Generic Framework for IP over ATM Integrated Routing
Bernard Sales and Piet Van Mieghem

The Study and Implementation of Interworking Between B-ISDN and N-ISDN
Meng Shusen, Li Wenhai and Hu Jiandong

Integrated Switch Architectures I

ATM Input-Buffered Switches with the Guaranteed-Rate Property
A. Hung, G. Kesidis and N. McKeown

Quasi-Optimal Algorithms for Input Buffered ATM Switches
M. Ajmone Marsan, A. Bianco, E. Leonardi and L. Milia

Stand-by Loading Scheme: An Effective Software Retrofit Method for Switching System
S. I. Jun, H. K. Chang, W. Choi and Y. M. Kim

Electronic Commerce

Symmetric Adaptive Customer Modeling in an Electronic Store
Maria Barra, Giuseppe Cattaneo, Alberto Negro and Vittorio Scarano

SET and SSL: Electronic Payments on the Internet
M. H. Sherif, A. Serhrouchni, A. Y. Gaid and F. Farazmandnia

Mobile Agent for Electronic Commerce in Virtual Mall
SooHo Sohn

Wireless CDMA Networks

Call Admission Control Schemes for DS-CDMA Cellular System Supporting an Integrated Voice/Data Traffic
Um Hwa-Young

A Virtual Token Dual Bus Protocol for the Interconnection Network in CDMA Mobile Communication System
Youn-Kwae Jeong

The Impact of Repeaters on CDMA System Performance
Charles Xu, David J. Y. Lee, Milind Mohile and Unmesh Mayekar

Wednesday Afternoon

Optical Networks

Optimal Node Assignment in Reconfigurable WDM Lightwave Networks with Regular Virtual Topologies
Fai Siu and Rocky K. C. Chang

On the Performance Bounds of Optical LANs based on WDM
Bo Li, Yang Qin and Xi-Ren Cao

Improving the Performance of Reconfigurable WDM Lightwave Networks with Deflection Routing via Node Reassignment
Fai Siu and Rocky K. C. Chang

Integrated Switch Architectures II

A Generic ISDN Terminal Architecture for BRI and PRI Applications
N. V. Stefanopoulos, S. L. Tombros, A. D. Liveris and G. I. Stassinopoulos

Buffer Space Management Using Thresholds
Pierre U. Tagle and Neeraj K. Sharma

Adaptive Buffer Threshold Updating for an ATM Switch
Ece Yaprak, Anthony T. Chronopoulos and Yi Xiao

Routing II

Routing Through Teranode Networks with Topology Aggregation
Baruch Awerbuch, Yi Du, Bilal Khan and Yuval Shavitt

Vicinity Routing in Large Scale Networks
Israel Cidon and Atai Levi

An Efficient Route Generation Algorithm for a Distributed Multilayered Network
Masakazu Sato and Mitsuhiro Nakamura

Wireless ATM Networks

Mobility Management and Control Protocol for Wireless ATM Networks
Alexandros Kaloxylos, Stathes Hadjiefthymiades and Lazaros Merakos

Improving Traffic Scheduling in a Wireless ATM Network
Nikos Passas, Thanasis Korakis, Evangelos Zervas and Lazaros Merakos

Design and Performance Evaluation of Wireless ATM Connection Management Schemes
Upkar Varshney

Wednesday Late Afternoon Panel Session

Military versus Commercial Communications: Similarities and Differences

Organized by Tarek Saadawi and Jeffrey E. Wieselthier

Panelists:

A. Brinton Cooper, US Army Research Laboratory
Allen Levesque, GTE
Barth Root, US Naval Research Laboratory
Paul Sass, US Army CECOM
Ken Young, Bellcore

Thursday Morning

Scheduling and Flow Control in ATM Networks

Analysis of the Transient Behaviour of ABR Networks
James Kershaw

Empirical Evaluation of ATM CBR Traffic Transported under Diverse Operating Conditions
K. Shuaib, H. Elsayed, S. Nawrot, M. Lee, Tarek Saadawi and Thomas K. Mills

A Cell Burst Scheduling for ATM Networking - Part I: Theory
Caimu Tang, Anthony T. Chronopoulos and Ece Yaprak

A Cell Burst Scheduling for ATM Networking - Part II: Implementation
Caimu Tang, Anthony T. Chronopoulos and Ece Yaprak

Methods and Tools for Networks

Design and Implementation of a TCP/IP Protocol Analyser
Dionisis X. Adamopoulos and Constantine A. Papandreou

Hierarchical Simulation Model for MPEG Video
Jian Feng and Kwok-Tung Lo

Average Information Staleness (AIS) as a System Measure of Performance
Constantine N. Manikopoulos and Jose L. Ucles

An Overview of Off-The-Shelf Tools and their Applications to Telecom and Enterprise Networking
Humayun Akhtar

Internet Networking

Tunnel Agents for Enhanced QoS in the Internet
Hermann DeMeer, Antonio Puliafito, Jan-Peter Richter and Orazio Tomarchio

DHCP for IPv6
Charles E. Perkins and Jim Bound

An Integrated Model for Intranet Security Using Prevention and Detection Techniques
H. Baraka, H. A. El-Manawy and A. Sourial

QoS Control using Adaptive Layered Data Transmission
Dorgham Sisalem and Frank Emanuel

Broadband Transport Systems

On Congestion Problems in Digital Cross-Connect (DCS) Transport Networks
Ramesh Bhandari

Thursday Mid-Day

Buffer Management in ATM Networks

Evaluation of Required Queue Size to Support ABR Service
A. Bak, W. Burakowski and A. Beben

An ATM Buffer Manager with Priorities for Traffic Shaping and ABR Service Support
J. G. Kamaras, A. C. Catsoulis and N. M. Mitrou

A Stochastic Model for a hysteresis Based Priority Queueing Strategy for ATM Networks with Batch Arrivals
-- Theory
Sashisekaran Thiagarajan and Srinivas R. Chakravarthy

Digital Signal Processing

Simulation of a FFT Based Discrete Multi-Tone System for ADSL and VDSL Transmission
M. Hawryluck, A. Yongacoglu and M. Kavehrad

Evaluation of the Casner-Van Jacobson Algorithm for Compressing the RTP/UDP/IP Headers
G. Mamais, M. Markaki, M. H. Sherif and G. Stassinopoulos

Linear PCM Signal Processing for Audio Processing Unit in Multipoint Video Conferencing System
Kyeong-Yeol Yu, Jong-Hoon Park and Jong-Hyeong Lee

Using Feed Forward Multilayer Neural Network and Vector Quantization as an Image Data Compression Technique
Ahmed A. Abdelwahab, Elsayed M. Saad, Mahmoud A. Deyab and Ibrahim I. Ibrahim

Distributed and Parallel Processing II

Using Pre-emptive Access to the Critical Section in Shared Memory Environment to minimize the Execution Time of the Fork-Join Construct
Mi-Sook Kim and Reda A. Ammar

An Embedded Distributed Architecture for the Efficient Execution of Computationally Intensive Jobs
Apostolos N. Meliones and Theodora A. Varvarigou

Genetic Application in the Design of Dynamic Interconnection Networks
A. Sayed, H. Baraka and A. Sorial

On Thorough Garbage Collection in Distributed Systems
Yunlong Liu and Junliang Chen

Wireless Routing

QoS Routing in Multihop Packet Radio Environment
Yu-Ching Hsu, Tzu-Chieh Tsai and Ying-Dar Lin

A Distributed Routing Algorithm for Supporting Connection-Oriented Service in Wireless Networks with Time-Varying Connectivity
Anastassios Michail and Anthony Ephremides

A Performance Comparison of the Temporally-Ordered Routing Algorithm and Ideal Link-State Routing
Vincent D. Park and M. Scott Corson

The Clade Vertebrata: Spines and Routing in Ad Hoc Networks
Raghupathy Sivakumar, Bevan Das and Vaduvur Bharghavan

Thursday Afternoon

Fault Tolerance and Network Reliability

An Enhanced Algorithm of Spare Capacity Assignment for Self-Healing Networks
Lijun Chen, Yuehui Jin and Shiduan Cheng

Performance Based Reliability Enhancement of Distributed Computing Systems
Anup Kumar, Adel S. Elmaghraby and Sanjay P. Ahuja

A Two-Level Strategy for the Software Fault Tolerance of the Service Control Point
Yunlong Liu, Fangchun Yang and Junliang Chen

Recirculation in a Fault-Tolerant MIN
Neeraj K. Sharma and Julian D. Ho

An Optimal End-to-End Bypass Configuration Algorithm for Self-Healing VP-based ATM Networks
Simon C. Wong and Rocky K. C Chang

Algorithms for Network Design II

A Hill-Climbing Approach to the Queue Depth Assignment Problem to Insure Customer QoS Subscriptions
Marc Donis, Lundy Lewis and Utpal Datta

Network Resources Location
Ran Giladi, Ephraim Korach and Roni Ohaion

Stability and Throughput Improvement for Multichannel CSMA and CSMA/CD Protocols with Optimal Bandwidth Allocation
Ioannis E. Pountourakis

Behavior of Task Scheduling Algorithms with Probabilistic Module Execution Times
M. Kholief, I. Awad, M. El-Derini, M. Nagi and H. Ali

Non-Preemptive Real-Time Scheduling of Multimedia Tasks
Shlomi Dolev and Alexander Keizelman

Network Management II

A Videoconference System for Network Operations and Maintenance
Christoph Kroll

Pricing Techniques for Distributed Resource Management in an Intranet
Theodora A. Varvarigou, Yannis A. Korilis, Giorgos A. Efthivoulidis and Sudhir R. Ahuja

A TNET Database Server for Production Flow Control
Eman Kamel and Khalid Kamel

Network Management Structuring in an Object Oriented System Environment
Christoph Kroll and Maria Dolores Saiz

Broadband Access Technologies and Operations
Manu Malek

Cellular Wireless Networks

Design and Performance Assessment Methods for Third Generation Cellular Systems
V. P. Demesticha, D. Karagiannis, E. C. Tzifa, P. P. Demestichas and M. E. Theologou

Adaptive Channel Allocation for Cellular Communication Systems
P. P. Demestichas, E. C. Tzifa and M. E. Anagnostou

An Enhanced Distributed Call Admission Control for Wireless Systems
Shengming Jiang, Danny H. K. Tsang and Bo Li

A Channel Sharing Scheme to Improve System Capacity and Quality of Service in Wireless Cellular Networks
Junyi Li, Ness B. Shroff and Edwin K. P. Chong

Overlapping Coverage and Channel Rearrangement for the Improvement of the Performance of a Hierarchical Cellular System
S. Marano, C Mastroianni and R. Riccardi