

Technical Sessions for Networks 2002

Tuesday, 27 August 2002

7:30 am to 9 am

Registration for Conference

8:30 am to 9:15 am

Keynote Address 1 - Satellite Access to the Internet

Dr. Norman Abramson, Board of Directors, NetEnterprise, USA.

9:15 am to 10:00 am

Keynote Address 2 - Protocols for High-Speed Networks: A Brief Retrospective Survey of High-Speed Networking Research

Dr. James Sterbenz, Senior Network Scientist, BBN Technologies Internetwork Research Department, USA.

10:20 am to 12:00 pm

Cisco Technology Presentation 1 - Expanding your Network with MPLS-Based Layer 2 VPNs

Amir Khan, Director of Product Management for MPLS, QoS, and Multicast

Cisco Technology Presentation 2 - Solving Problems in Modern Networks with Quality of Service

Vijay Krishnamoorthy, Product Manager for QoS

1:30 pm - 3:30 pm

Session 1: Wireless Local Area Networks

PASSIVE SENSING BASED DYNAMIC CHANNEL SELECTION FOR IEEE 802.11 WIRELESS LANS

R. MALHOTRA, P. BUSCH, Bell-Labs Lucent Technologies, The Netherlands

FAST INTER-AP HANDOFF USING PREDICTIVE AUTHENTICATION SCHEME IN A PUBLIC WIRELESS LAN

S. H. PACK, Y. H. CHOI, Seoul National University, Korea

A WIRELESS SYSTEM FOR DISASTER DAMAGE MONITORING IN VULNERABLE ISM BAND

T. FUJIWARA, S. MIZUSHINA, A. ADACHI, Hamanen Co., Ltd., Japan

T. WATANABE, Shizuoka University, Japan

DEFAULT ROUTER SELECTION BASED ON RTT MEASUREMENTS IN WIRELESS LANS

S. SUGIMOTO, R. KATO, Nippon Ericsson K. K., Japan

INFLUENCE OF HIDDEN STATIONS AND CAPTURE EFFECT OVER IEEE 802.11B DISTRIBUTED COORDINATION FUNCTION

Z. HADZI-VELKOV, B. SPASENOVSKI, Ss. Cyril and Methodius University, Macedonia

Session 2: Quality of Service

A MULTICONSTRAINT QOS ROUTING SCHEME USING A MODIFIED DIJKSTRA'S ALGORITHM

DONG-WON SHIN, Purdue University, USA

E. K. P. CHONG, H. J. SIEGEL, Colorado State University, USA

EFFICIENT RESOURCE RESERVATION USING A PRICING MODEL IN WIRELESS NETWORKS

W. T. CHEN, C. L. LEE, S. C. LO, *National Tsing Hua University, Taiwan, ROC*

RESOURCE MANAGEMENT ARCHITECTURE FOR REALTIME TRAFFIC IN INTRANETS

J. GLASMANN, *Technische Universität München, Germany*

H. MÜLLER, *Siemens AG, Germany*

ADMISSION CONTROL SCHEMES FOR REAL-TIME STREAMS OVER THE INTERNET

V. SHI, W. PERRIZO, *North Dakota State University, USA*

TRANSPORT OF IP SERVICES OVER VBR ATM CONNECTION WITH IMPROVED TOKEN BUCKET SCHEME

S. SELVAKENNEDY, *Taylor's College, Malaysia*

3:50 pm - 5 pm

Session 3: Multicast Networks

LEADER-DRIVEN MULTICAST FOR VIDEO STREAMING ON WIRELESS LANS

P. GE, P. MCKINLEY, *Michigan State University, USA*

A DYNAMIC PEERING NETWORK FOR MULTICAST STREAMING

C. K. YEO, B. S. LEE, M. H. ER, *Nanyang Technological University, Singapore*

NEW CONSTRAINTS FOR DELAY CONSTRAINED MULTICAST ROUTING

H. BETTAHAR, A. BOUABDALLAH, *Universite de Technologie de Compiegne, France*

POSITION LEVERAGE SMOOTH HANDOVER ALGORITHM FOR MOBILE IP

M. ERGEN, S. COLERI, B. DUNDAR, A. PURI, J. WALRAND, P. VARAIYA, *University of California at Berkeley, USA*

Session 4: Home Networks

SENDA: AN ALTERNATIVE TO OSGI FOR LARGE SCALE DOMOTICS

F. MOYA, J. C. LOPEZ, *University of Castilla-La Mancha, Spain*

QOS MANAGEMENT IN RESIDENTIAL GATEWAYS

C. AKINLAR, K. ELBASSIONI, I. KAMEL, *Panasonic Research, USA*

IP-LAYER BRIDGING FOR IP ADDRESS AUTO-CONFIGURATION OF HOME NETWORKS

C. AKINLAR, A. SHANKAR, *University of Maryland at College Park, USA*

Wednesday, 28 August 2002

8:30 am to 9:15 am

Keynote Address 3 - Control of Switched Optical Networks: Pragmatic Issues

Daniel Awduche, Vice President, Network Architecture, Movaz Networks, USA.

9:15 am to 10:00 am

Keynote Address 4

Dr. Ron Hutchins, Associate Vice Provost for Research and Technology, and Chief Technology Officer, Georgia Institute of Technology, USA.

10:20 am to 12:00 pm

Cisco Technology Presentation 3 - Networks in Motion: Mobile IP Allows Networks to Roam

Vinay Anand, Product Manager for Mobile IP

Cisco Technology Presentation 4 - High Availability Networking: Transparent Network Failures

Charles Goldberg, Cisco IOS Product Line Manager

1:30 pm - 3:30 pm

Session 7: MPLS Switching and DiffServ

A NEW TOPOLOGY AWARE LSP PREEMPTION POLICY FOR DIFFSERV-BASED MPLS NETWORKS

J. C. DE OLIVEIRA, C. SCOGLIO, I. F. AKYILDIZ, Georgia Institute of Technology, USA

J. A. SMITH, G. UHL, NASA Goddard Space Flight Center, USA

MABE: A NEW METHOD FOR AVAILABLE BANDWIDTH ESTIMATION IN AN MPLS NETWORK

T. ANJALI, C. SCOGLIO, I. F. AKYILDIZ, Georgia Institute of Technology, USA

J. A. SMITH, A. SCIUTO, NASA Goddard Space Flight Center, USA

A RELIABLE QOS PROVISION AND FAST RECOVERY METHOD FOR PROTECTED LSP IN MPLS-BASED NETWORKS

L. HUNDESSA, J. PASCUAL, Universitat Politecnica de Catalunya, Spain

RTT-AWARE RESOURCE DISCOVERY AND FAIR SHARE MECHANISM FOR DIFFSERV

D. HOANG, M. LI, U. SZEWCOW, University of Technology at Sydney, Australia

USER-ORIENTED OBJECT-BASED MULTIMEDIA COMMUNICATIONS OVER DIFFSERV NETWORKS

K. PURNE, J. P. THOMAS, Oklahoma State University, USA

Session 8: Traffic Engineering and Management

STOCHASTIC UPPER BOUNDS FOR AGGREGATE NETWORK TRAFFIC WITH MODELING BASED ON FRACTIONAL STABLE NOISE

M. L. GUERRERO, L. O. BARBOSA, D. MAKRAKIS, University of Ottawa, Canada

STATISTICAL FEATURES OF LONG-RANGE DEPENDENT TCP TRAFFIC

K. OIDA, ATR Adaptive Communications Research Laboratories, Japan

M. KAWAI, Kyoto University, Japan

M/G/FQ: STOCHASTIC ANALYSIS OF FAIR QUEUEING SYSTEMS

M. HAWA, D. W. PETR, University of Kansas, USA

AN ADAPTIVE ACTIVE QUEUE MANAGEMENT FOR IP TRAFFIC MANAGEMENT
D. PACKERALI, H. PEYRAVI, Kent State University, USA

QUEUEING LOSSES AND ADAPTIVE RELIABLE MULTICAST IN WIRELESS LANS
C. P. TANG, P. K. MCKINLEY, Michigan State University, USA

3:50 pm - 5 pm

Session 5: Network Security and Virtual Private Networks

Chair: Dr. Ahmet Eskicioglu

A GENERAL SECURITY INFRASTRUCTURE FOR WIRELESS COMMUNICATION
W. FENG, Los Alamos National Laboratory, USA

J. AL-MUHTADI, University of Illinois at Urbana-Champaign, USA

ORGANIC TECHNIQUES FOR PROTECTING VIRTUAL PRIVATE NETWORK SERVICES FROM ACCESS LINK
FLOODING ATTACKS

R. S. RAMANUJAN, M. KADDOURA, J. WU, K. MILLIKIN, D. HARPER, D. BACA, Architecture Technology Corporation, USA

MULTICAST SECURITY USING KEY GRAPHS AND SECRET SHARING

A. ESKICIOGLU, City University of New York, USA

M. ESKICIOGLU, University of Manitoba, Canada

Session 6: Power Management and Mobile Agents

SLEEP MODE OPERATION OF A ROUTING PROTOCOL IN MOBILE AD-HOC NETWORKS

A. QAYYUM, Avaz Networks, Pakistan

Y. TOOR, NUST, Pakistan

P. JACQUET, P. MUHLETHALER, T. CLAUSEN, INRIA, France

PERFORMANCE ANALYSIS OF POWER-AWARE ROUTE SELECTION PROTOCOLS IN MOBILE AD-HOC
NETWORKS

D. K. KIM, J. J. GARCIA-LUNA-ACEVES, K. OBRACZKA, University of California at Santa Cruz, USA

J. C. CANO, P. MANZONI, Polytechnic University of Valencia, Spain

ACTIVE MONITORING OF NETWORK SYSTEMS USING MOBILE AGENTS

A. TRIPATHI, T. AHMED, S. PATHAK, A. PATHAK, M. CARNEY, M. KOKA, P. DOKAS, University of Minnesota, USA

Thursday, 29 August 2002

8:30 am to 9:20 am

Keynote Address 5 - Privacy Issues in Virtual Private Networks

Dr. Tim Strayer, Senior Scientist, BBN Technologies Internetwork Research Department, USA.

9:20 am - 10:30 pm

Session 9: Optical Networks

PEER-TO-PEER OPTICAL NETWORKING - ARCHITECTURE, FUNCTIONAL REQUIREMENTS AND APPLICATIONS

J. WU, J. M. SAVOIE, Communications Research Centre, Canada

B. S. ARNAUD, Canarie Inc., Canada

A DIFFERENTIATED-RESILIENCE OPTICAL SERVICES MODEL FOR NEXT GENERATION OPTICAL NETWORKS

S. DONG, C. PHILLIPS, Queen Mary, University of London, UK

DIVIDE ET IMPERA - A HYBRID APPROACH TO ALARM CORRELATION FOR SDH NETWORKS

R. BAYER, software design & management AG, Germany

G. CARLS, B. FROHNHOFF, Arcor AG & Co, Germany

Session 10: Last Mile Technologies and Network Switching

IMPROVING SIP PERFORMANCE AND SCALABILITY IN A PSTN/3G FRAMEWORK

A. MEDDAHI, ENIC Telecom, France

H. AFIFI, INRIA, France

TRAFFIC PERFORMANCE EVALUATION OF THE IP-BASED ADSL AND SDSL

S. G. JONG, D. K. KIM, S. E. KIM, Telecommunication Network Lab. KT, Korea

J. K. CHOI, Information and Communications University, Korea

MULTISTAGE BLOCKING FOR AVOIDING HOL BLOCKING IN WORMHOLE SWITCHES

N. NATCHEV, D. R. AVRESKY, Northeastern University, USA

10:50 am - 12:00 pm

Session 11: TCP Adaptation, Congestion Control, and Protocol Design

PERFORMANCE TRADEOFFS OF TCP ADAPTATION METHODS

N. RAO, Oak Ridge National Laboratory, USA

W. FENG, Los Alamos National Laboratory, USA

ADDITIVE INCREASE MULTIPLICATIVE DECREASE - FAST CONVERGENCE (AIMD-FC)

A. LAHANAS, V. TSAOUSSIDIS, Northeastern University, USA

EZNET: A FRAMEWORK FOR RAPID PROTOCOL PROTOTYPING

U. WALTHER, International University, Germany

S. FISCHER, TU Braunschweig, Germany

Session 12: Network Performance Evaluation

COMPARISONS OF FEC AND CODEC ROBUSTNESS ON VOIP QUALITY AND BANDWIDTH EFFICIENCY

W. JIANG, H. SCHULZRINNE, Columbia University, USA

A BIT-MAP-ASSISTED DYNAMIC QUEUE PROTOCOL FOR MULTIAccess WIRELESS NETWORKS WITH MULTIPLE PACKET RECEPTION

X. WANG, J. K. TUGNAIT, *Auburn University, USA*

MODELING HIGH PERFORMANCE MULTI-CHANNEL SLOTTED RING NETWORKS

J. Y. WANG, *Industrial Technology Research Institute, Taiwan, ROC*

W. S. HWANG, *National Kaohsiung University of Applied Sciences, Taiwan, ROC*

W. F. WANG, *National Yunlin University of Science & Technology, Taiwan, ROC*

1:30 pm - 3:30 pm

Session 13: Mobile IP and Ad-Hoc Networks

Chair: Pascal Lorenz

TOWARDS MANAGED MOBILE IP

R. STATE, A. PETRESCU, *Motorola Labs, France*

EFFICIENT QUEUEING STRATEGIES FOR MOBILE AD-HOC NETWORKS

A. JOSHI, S. R. DAS, *University of Cincinnati, USA*

IMPROVING QOS IN MANET USING A NEW ON-DEMAND FLEXIBLE ROUTING PROTOCOL

S. ZABIR, A. ASHIR, T. SUGANUMA, N. SHIRATORI, *Tohoku University, Japan*

AN ADAPTIVE APPROACH TO GROUP COMMUNICATIONS IN MULTIHOP AD-HOC NETWORKS

K. VISWANATH, K. OBRACZKA, *University of California at Santa Cruz, USA*

Session 14: Mobile Multimedia, Bluetooth, and Sensor Networks

Chair: Benny Bing

ON RTCP FEEDBACK FOR MOBILE MULTIMEDIA APPLICATIONS

I. D. CURCIO, M. LUNDAN, *Nokia Corporation, Finland*

A FAIR AND TRAFFIC DEPENDENT POLLING SCHEME FOR BLUETOOTH

R. KAPOOR, A. ZANELLA, M. GERLA, *University of California at Los Angeles, USA*

BLUETOOTH SCATTERNET FORMATION USING PROXIMITY INFORMATION OF AN ELECTION PROTOCOL

V. BHATNAGAR, G. KESIDIS, *Pennsylvania State University, USA*

ADAPTIVE MULTIMEDIA APPLICATIONS TO IMPROVE USER PERCEIVED QOS IN MULTIHOP WIRELESS AD-HOC NETWORKS

P. RUIZ, E. GARCIA, *Agora Systems, Spain*

MAXIMUM LIFETIME DATA GATHERING AND AGGREGATION IN WIRELESS SENSOR NETWORKS

K. KALPAKIS, K. DASGUPTA, P. NAMJOSHI, *University of Maryland at Baltimore County, USA*

3:50 pm - 5 pm

Session 15: Networked Software and Applications

Chair: Pascal Lorenz

SBM: ENABLING REMOTE MANAGEMENT SERVICES FOR DYNAMICALLY RECONFIGURABLE DEVICES

R. CHAKRAVORTY, *University of Cambridge, UK*

H. OTTEVANGER, *Philips Advanced Systems and Applications Labs, The Netherlands*

OC: AN OPTIMAL CACHE ALGORITHM FOR VIDEO STAGING
S. H. CHANG, J. M. HO, Institute of Information Science, Taiwan, ROC
R. I. CHANG, National Central University, Taiwan, ROC
Y. J. OYANG, National Taiwan University, Taiwan, ROC

EXPERIMENTAL KNOWLEDGE-BASED AUTOMATIC PROGRAM GENERATOR
M. YOSHIDA, M. SAKAMOTO, Oki Software Co. Ltd, Japan

Session 16: 3G Wireless and Software Radio

Chair: Benny Bing

AN EFFICIENT CHANNELIZATION CODE ASSIGNMENT APPROACH FOR W-CDMA
W. T. CHEN, S. H. FANG, National Tsing Hua University, Taiwan, ROC

A FRAMEWORK FOR INTEGRATING MEXE WITH SDR - SOFTWARE ARCHITECTURE
Y. D. CHUANG, National Chiao Tung University, Taiwan, ROC
Y. S. CHANG, Minghsin Institute of Technology, Taiwan, ROC
R. H. WU, S. C. LIN, S. M. YUAN, National Chiao Tung University, Taiwan, ROC

CHANNEL ASSIGNMENT IN CELLULAR RADIO USING A NOVEL GENETIC-SEARCH ALGORITHM
C. F. TSAI, H. C. WU, National Ping Tung University of Science and Technology, Taiwan, ROC