E. Global Service Portability and Infrastructure for Next Generation Virtual Home/Office Environments

E01 Architecture for VHE

Monday 29 April 2002—8:50 am

E01-1 Applying a Policy-based Framework to Manage Quality of Service Requirements in the Virtual Home Environment
Alvin Yew, Antonio Liotta, George Pavlou, University of Surrey, UK

E01-2 Service Provision and Resource Discovery in the VESPER VHE
José André Moura, José Manuel Oliveira, Eurico Carrapatoso, INESC Porto, Portugal
Renato Roque, Portugal Telecom Inovação, Portugal

E01-3 Extending VHE with the Device Unifying Service
Erik Vanem, Dao Van Tran, Tore E. Jønvik, Do Van Thanh, Telenor R&D, Norway

E02 Enablers for VHE

Monday 29 April 2002—10:40 am

E02-1 Next Generation Service Creation Using XML Scripting Languages
John-Luc Bakker, Ravi Jain, Telcordia Technologies, USA

E02-2 A High Level Service Creation Environment for Parlay in an SIP Environment
Roch H. Glitho, Andre Poulin, Ericsson Research Canada, Canada; Ferhat Khendek, Concordia University, Canada

E02-3 Schemes for Updating Mobile Service Agents in Virtual Home Environment
Thierno Bah, Samuel Pierre, École Polytechnique de Montréal, Canada
Roch H. Glitho, Ericsson Research Canada, Canada

E02-4 IPMSA: Integrated Personal Mobility Services Architecture
A. Mingkhwan, M. Merabbi, B. Askwith, Liverpool John Moores University, UK

E03 Management in VHE

Monday 29 April 2002—1:40 pm

E03-1 Analysis and Optimization of a Transparent Multicast Mobility Support in Cellular Systems
A. Giovanardi, G. Mazzini, M. Rossi, University of Ferrara, Italy

E03-2 Mobility and Its Impact on the Performance of Hierarchical Multicast Retransmission
Youngkook Kim, Saewoong Bahk, Seoul National University, Korea

E03-3 Architectural Framework for Large-Scale Multicast in Mobile Ad Hoc Networks
Ahmed Helmy, University of Southern California, USA

E03-4 ADS+: An Efficient Binding Update Delivery Scheme Using IP Multicast
Kwan-Wu Chin, Motorola Australia, Australia; Fachmin Folianto, National University of Singapore, Singapore
Mohan Kumar, The University of Texas at Arlington, USA

E04 Performance, Security, and Applications in VHE

Monday 29 April 2002—3:30 pm

E04-1 Factors Affecting the Performance of Ad Hoc Networks
Dmitri D. Perkins, Herman D. Hughes, Charles B. Owen, Michigan State University, USA

E04-2 Minimizing Energy Consumption of Secure Wireless Session with QoS Constraints
Ramesh Karri, Piyush Mishra, Polytechnic University, USA
E04-3  A Security Architecture for Application Session Handoff .............................................................. 2058
Erik Skow, Jiejun Kong, Thomas Phan, Fred Cheng, Richard Guy, Rajive Bagrodia, Mario Gerla, Songwu Lu
University of California at Los Angeles, USA

E04-4  Mobility amongst Heterogeneous Networks with AAA Support ............................................................ 2064
M. Cappiello, Università degli Studi di Roma "La Sapienza", Italy; A. Floris, L. Veltri, CoRiTel, Italy

E05 Roaming Support for VHE
Tuesday 30 April 2002—10:40 am

E05-1  Global Roaming Management in the Next-Generation Wireless Systems .............................................. 2070
Ronald Beaubrun, Samuel Pierre, Paola Ficchini, Jean Conan, École Polytechnique de Montréal, Canada

E05-2  Global Mobility Approach with Mobile IP in "All IP" Networks ............................................................ 2075
L. Morand, France Telecom R&D, France
S. Tessier, T-Nova Deutsche Telekom Innovationsgesellschaft mbH, Berkom, Germany

E05-3  A Simple Swap Technique and Enhanced GTT Location Database Management Scheme .................... 2080
Kuo-Hsing Chiang, RMIT University, Australia; Nirmala Shenoy, Rochester Institute of Technology, USA

E05-4  Virtual Bluetooth Devices as a Means of Extending Pairing and Bonding in a Bluetooth Network ............ 2087
Jim Beasley, James Fuhring, Jim Jollota, Duke Kamstra, Spencer Stephens, Strix Systems Inc., USA

F. HIGH-SPEED NETWORKS

F01 High-Speed Switches and Routers 1
Monday 29 April 2002—8:50 am

F01-1  Design of Non-Blocking Permutation Generator .................................................................................... 2090
Joo-young Lee, Jae-il Jung, Hanyang University, Korea

F01-2  MSN Type-X: Next Generation Internet Backbone Switch / Router Architecture .................................... 2095
Naoaki Yamanaka, NTT Innovation Laboratories, Japan
Takashi Kurimoto, Takashi Miyamura, Michihiro Aoki, NTT Network Service Systems Laboratories, Japan

F01-3  A Packet Switch with Bufferless Switch Cards and Partial Distribution of VOQ-state Information to Parallel Arbiters ... 2100
A. M. M. Lelkens, H.-J. Reumerman, J. Ungermann, A. van Wageningen, Philips Research Laboratories, Germany

F01-4  A 2-Stage Matching Scheduler for a VOQ Packet Switch Architecture .................................................. 2105
Ying Jiang, Suntek Technology Co., Ltd., China
Mounir Hamdi, Hong Kong University of Science and Technology, Hong Kong

F02 High-Speed Switches and Routers 2
Monday 29 April 2002—10:40 am

F02-1  The Compound VC switch: A non-VC Merge ATM Multicast Switch ...................................................... 2111
Josep Mangues-Bafalluy, Jordi Domingo-Pascual, Technical University of Catalunya, Spain

F02-2  Evaluation of Open-Loop Sequence Control Schemes for Multipath Switches ....................................... 2116
Denis Khotimsky, Santosh Krishnan, Bell Laboratories, USA

F02-3  PCRRDD: A Pipeline-based Concurrent Round-Robin Dispatching Scheme for Clcs-Network Switches .......... 2121
Eiji Oki, NTT Network Innovation Laboratories, Japan
Roberto Rojas-Cessa, H. Jonathan Chao, Polytechnic University, USA

F02-4  Convex Optimization of Output Link Scheduling and Active Queue Management in QoS Constrained Packet Switches ...................................................................................... 2126
Mung Chiang, Bernard L. F. Chan, Steven Boyd, Stanford University, USA
F03 Network Design and Analysis
Monday 29 April 2002—1:40 pm

F03-1 An Integrated DWDM Optical Network Design with Traffic Grooming....................................................... 213
John Yu, Eileen Zhou, Centerpoint Broadband Technologies, Inc., USA

F03-2 A Proposal for an Ethernet-over-WDM Wide Area Multiplexing Architecture.................................................. 2137
Guido Gilardi, Achille Pattavina, Giacomo Verticale, Politecnico di Milano, Italy

F03-3 Proposal of Free Space Optical Mesh Network Architecture for Broadband Access........................................... 2142
Jinlong Zhang, Nokia Networks, Finland

F03-4 On Performance Prediction of Address Lookup Algorithms of IP Routers through Simulation and Analysis Techniques .................................................. 2146
Ryo Kawabe, Masayuki Murata, Osaka University, Japan
Shingo Ata, Osaka City University, Japan; Masanori Uga, NTT Network Service Systems Laboratories, Japan
Kohei Shiomoto, Naoaki Yamanaka, NTT Network Innovation Laboratories, Japan

F04 Network Survivability and Reliability
Monday 29 April 2002—3:30 pm

F04-1 QoS Provision with Path Protection for Next Generation SONET................................................................. 2152
Nirwan Ansari, Gang Cheng, Yuanqiu Luo, Li Zhu, New Jersey Institute of Technology, USA
Stephen Israel, Jonathan Ma, OpenCon Communication Systems, Inc., USA

F04-2 Shared Path Protection with Differentiated Reliability.......................................................................................... 2157
Andrea Fumagalli, Marco Tacca, Ferenc Unghvary, András Faragó, The University of Texas at Dallas, USA

F04-3 Algorithms for Budget-Constrained Survivable Topology Design ................................................................. 2162
Nikhil Garg, Rahul Simha, The George Washington University, USA; Wenxun Xing, Tsinghua University, China

F04-4 A Family of Algorithms for Network Reliability Problems ................................................................................. 2167
Jack Shalio, Vivace Networks, USA

F05 High-Speed Switches and Routers 3
Tuesday 30 April 2002—10:40 am

F05-1 Multi-Log2
N Switching Networks for High-Speed Switching ........................................................................................................ 2174
Wojciech Kabacinski, Mariusz Zal, Poznan University of Technology, Poland

F05-2 A Scalable Multistage Packet Switch for Terabit IP Router Based on Deflection Routing and Shortest Path Routing ....................................................................................... 2179
Hiroaki Morino, Tadao Saito, Chuo University, Japan; Thai Thach Bao, NEC Corporation, Japan
Nguyen Hoaison, Hitoshi Aida, The University of Tokyo, Japan

F05-3 Efficient Design of RED Routers for TCP/RAP Fairness Optimization .......................................................... 2186
Fernando Menta, Giovanni Schembra, University of Catania, Italy

F05-4 A Trace Driven Study of Packet Level Parallelism .............................................................................................. 2191
Huan Liu, Stanford University, USA

F06 Network Security and Monitoring
Tuesday 30 April 2002—1:40 pm

F06-1 High Speed LSI Processing for the RSA Cryptogram.......................................................................................... 2196
Yoshinori Fujisawa, Nagano National College of Technology, Japan;
Yasushi Fuwa, Youhei Yamazaki, Shinshu University, Japan

F06-2 Establishment of Conference Keys in Heterogeneous Networks ..................................................................... 2201
Wade Trappe, Yuke Wang, K. J. Ray Liu, University of Maryland at College Park, USA
F06-3  A Framework on Gigabit Rate Packet Header Collection for Low-Cost Internet Monitoring System ................................................................. 2205
Teruyuki Hasegawa, Tomohiko Ogishi, Toru Hasegawa, KDDI R&D Laboratories Inc., Japan

F06-4  Efficient Parameter Selection for Use of Self-similarity in Real Time Resource Management ................................................................. 2212
Zafer Sahinoglu, Mitsubishi Electric Research Labs, USA; Sirin Tekinay, New Jersey Institute of Technology, USA

F07 Routing in High-Speed Networks 1
Tuesday 30 April 2002—1:40 pm

F07-1  QoS Routing Algorithms for Multiple Traffic Classes ................................................................. 2217
Yun-Wen Chen, Ren-Hung Hwang, National Chung Cheng University, Taiwan

F07-2  The Enhanced Ticket-based Routing Algorithm ................................................................. 2222
Li Xiao, Jun Wang, Klara Nahrstedt, University of Illinois at Urbana-Champaign, USA

F07-3  Path Selection in Networks with Non-Deterministic Information ................................................................. 2227
E. Korach, R. Ohayon, Ben-Gurion University of the Negev, Israel

F07-4  Efficiency Analyses on Routing Cache Replacement Algorithms ................................................................. 2232
Woei-Luen Shyu, Cheng-Shong Wu, Ting-Chao Hou, National Chung-Cheng University, Taiwan

F08 Resource Allocation in High-Speed Networks
Tuesday 30 April 2002—3:30 pm

F08-1  Cost Minimization Study of Semi-Elastic Flows Using Internet ................................................................. 2237
Marcos Postigo-Boix, Mónica Aguilar-Igartua, Polytechnic University of Catalonia, Spain
Joan Garcia-Haro, Polytechnic University of Cartagena, Spain

F08-2  Periodic Bandwidth Allocation Based on Virtual Queue Occupancy ................................................................. 2242
Jingdi Zeng, Nirwan Ansari, New Jersey Institute of Technology, USA

F08-3  Dynamic Bandwidth Allocation Protocol for Hierarchically Compressed Video in ATM Networks ................................................................. 2247
Majdi Ashibani, D. Mashao, B. Nleya, University of Cape Town, South Africa

F08-4  Dynamic Random Channel Allocation Scheme in HiperLAN Type 2 ................................................................. 2253
Gyung-Ho Hwang, Dong-Ho Cho, Korea Advanced Institute of Science and Technology, Korea

F09 Routing in High-Speed Networks 2
Tuesday 30 April 2002—3:30 pm

F09-1  A Destination-Driven Shortest Path Tree Algorithm ................................................................. 2258
Baoxian Zhang, H. T. Mouftah, Queen's University, Canada

F09-2  An IP Packet Forwarding Technique Based on Partitioned Lookup Table ................................................................. 2263
Mohammad J. Akhbari-zadeh, Mehrdad Nourani, The University of Texas at Dallas, USA

F09-3  QoS Routing under Adversarial Binary Uncertainty ................................................................. 2268
V. Marbukh, National Institute of Standards and Technology, USA

F09-4  Performance Evaluation of Delay-Constrained Least-Cost QoS Routing Algorithms
Based on Linear and Nonlinear Lagrange Relaxation ................................................................. 2273
Gang Feng, Kia Makki, Niki Pissinou, Florida International University, USA; Christos Douligeris, University of Piraeus, Greece

F10 Performance Evaluation
Wednesday 01 May 2002—10:40 am

F10-1  Performance of Random Multiple Access Scheme Under Long-Range-Dependent Traffic ................................................................. 2279
Jianbo Gao, Izhak Rubin, University of California at Los Angeles, USA

F10-2  A New Technique for Performance Evaluation of Random Access Protocols ................................................................. 2284
Chuan Heng Foh, Moshe Zukerman, The University of Melbourne, Australia
F10-3 Performance Evaluation of Two GMPLS-based Distributed Control and Management Protocols for Dynamic Lightpath Provisioning in Future IP Optical Networks .................................................. 2289
Abdallah Shami, Chadi Assi, Ibrahim Habib, M. A. Ali, City College of the City University of New York, USA

F10-4 The Optimal Connection Preemption Algorithm in a Multiclass Network ................................................................. 2294
Sung-eok Jeon, Randal T. Abler, Ana E. Goulart, Georgia Institute of Technology, USA

F11 Network Planning and Design
Wednesday 01 May 2002–8:50 am

F11-1 Simple Models and their Limits for TCP/IP Network Analysis and Dimensioning .......................................................... 2299
Andrea Baiocchi, Andrea De Vendictis, Alessia Monticelli, University of Roma “La Sapienza”, Italy

F11-2 Link Capacity Dimensioning and Path Optimization for Networks Supporting Elastic Services ........................................ 2304
Gábor Malicskó, Ericsson Traffic Lab, Hungary; Gábor Fodor, Ericsson Research, Sweden
Michal Plíro, Lund Institute of Technology, Sweden

F11-3 On the Effectiveness of Restoration Path Computation Methods ...................................................................................... 2312
Balázs Sziatovszki, Áron Szentesi, Alpar Jüttner, Ericsson Research, Hungary

F11-4 Computing Path-Tables of Quickest Paths under Different Routing Mechanisms ......................................................... 2318
William C. Grimmell, Nageswara S. V. Rao, Oak Ridge National Laboratory, USA

F12 Traffic Control and Management
Wednesday 01 May 2002–8:50 am

F12-1 Dynamic Bandwidth Allocation for Streaming MPEG Coded Video over ATM Networks .................................................. 2325
Preslav Markov, Hassan Mehrpour, University of New South Wales, Australia

F12-2 An Enhanced Marking Strategy for Explicit Congestion Notification in the Internet ......................................................... 2330
Byung-Chul Kim, Young-Soo Choi, You-Ze Cho, Kyungpook National University, Korea

F12-3 TCP Increase/Decrease Behavior with Explicit Congestion Notification (ECN) ................................................................. 2335
Minseok Kwon, Sonia Fahmy, Purdue University, USA

F12-4 MCA: A Rate-based End-to-End Multicast Congestion Avoidance Scheme ................................................................. 2341
Jiang Li, Shivkumar Kalyanaraman, Rensselaer Polytechnic Institute, USA

F13 Quality of Service
Wednesday 01 May 2002–10:40 am

F13-1 Dynamic Fair Bandwidth Allocation for DiffServ Classes .................................................................................................. 2348
Hideyuki Shimomichi, Tutomo Murase, NEC Corporation, Japan
Ichinoshin Maki, Masayuki Murata, Osaka University, Japan

F13-2 A Probe-based Server Selection Protocol for Differentiated Service Networks ................................................................. 2353
Meng Guo, Mustafa H. Ammar, Ellen W. Zegura, Georgia Institute of Technology, USA
Fang Hao, Lucent Technologies, USA

F13-3 IRED: A Router Algorithm for Supporting Integrated Services in the Internet ........................................................ 2358
Jian-Hao Hu, Kwan L. Yeung, The University of Hong Kong, Hong Kong

F13-4 Proportional QoS Provision: A Uniform and Practical Solution ......................................................................................... 2363
Yang Chen, C. Qiao, State University of New York at Buffalo, USA
Mounir Hamdi, Danny H. K. Tsang, Hong Kong University of Science and Technology, Hong Kong
F14 Scheduling and Buffer Management 1
Wednesday 01 May 2002—1:40 pm

F14-1  GREEN: An Active Queue Management Algorithm for a Self Managed Internet .................................................. 2368
Bartek Wydrowski, Moshe Zukerman, The University of Melbourne, Australia

F14-2  Throughput of Crossbar Switches Using Maximal Matching Algorithms ............................................................... 2373
Kent D. Benson, Tellabs Research Center, USA

F14-3  Dynamically Weighted Queueing for Fair Bandwidth Allocation and Its Performance Analysis ................................ 2379
Ryoichi Kawahara, NTT Service Integration Laboratories, Japan; Naohisa Komatsu, Waseda University, Japan

F14-4  A Simple and Effective Scheduling Mechanism Using Minimized Cycle Round Robin ................................................ 2384
Yao Liang, Virginia Polytechnic Institute and State University, USA

F15 Traffic Engineering 1
Wednesday 01 May 2002—1:40 pm

F15-1  A Simulation Study on the Relevant Time Scales of the Input Traffic for a Tandem Network ............................................. 2389
A. Nogueira, R. Valadas, University of Aveiro, Portugal

F15-2  Application of Multifractals in the Characterization of WWW Traffic ................................................................. 2395
Abdullah Balamash, Marwan Krunz, University of Arizona, USA

F15-3  Extensions to Multifractal Wavelet Model for Synthesizing Network Traffic ............................................................. 2400
Logeshwaran Vijayan, Swapan Chakrabarti, David W. Petr, University of Kansas, USA; Soheil Khan, Sprint, USA

F15-4  Characterizing and Modeling Network Traffic Variability ............................................................................................ 2405
Sarat Pothuri, David W. Petr, University of Kansas, USA; Soheil Khan, Sprint, USA

F16 Scheduling and Buffer Management 2
Wednesday 01 May 2002—3:30 pm

F16-1  Scheduling Unsplittable Flows Using Parallel Switches ............................................................................................... 2410
Saad Mneimneh, Kai-Yeung Siu, Massachusetts Institute of Technology, USA

F16-2  Impact of Scheduling Algorithms on Performances of Buffered Crossbar Switch Fabrics .............................................. 2416
Igor Radusinovic, Milica Pejanovic, University of Montenegro, Yugoslavia; Zoran Petrovic, University of Belgrade, Yugoslavia

F16-3  A New Active Queue Management Algorithm Based on the Rate and Burstiness Estimation ................................. 2421
Youquan Zheng, Zhenming Feng, Tsinghua University, China

F16-4  Queueing Analysis of Early Message Discard Policy ................................................................................................. 2426
Parijat Dube, Eitan Altman, Project MISTRAL/INRIA, France

F17 Traffic Engineering 2
Wednesday 01 May 2002—3:30 pm

F17-1  A Constrained Multipath Traffic Engineering Scheme for MPLS Networks .............................................................. 2431
Youngseok Lee, Yongho Seok, Yanghee Choi, Seoul National University, Korea
Changhoon Kim, Electronics and Telecommunications Research Institute, Korea

F17-2  A Case Study on Evaluating the Benefits of MPLS Traffic Engineering through Constraint-based Routing and Network Controls ......................................................................................... 2437
S. Srivastava, B. Kritikasalasvan, V. Venkatachalam, C. Beard, D. Medhi, A. van de Liefvoort, University of Missouri–Kansas City, USA; W. Alanqar, A. Nagarajan, Sprint Corporation, USA

F17-3  Inter-Domain Router Placement and Traffic Engineering ............................................................................................. 2443
Fung Lam, Wing Cheong Lau, Victor O. K. Li, The University of Hong Kong, Hong Kong

F17-4  Self-similar Traffic Shaping at the Edge Router in Optical Packet-switched Networks ................................................. 2449
Fei Xue, S. J. Ben Yoo, University of California at Davis, USA
G. MULTIMEDIA AND VoIP—SERVICES & TECHNOLOGIES

G01 Multimedia Communication Systems [a]
Monday 29 April 2002—8:50 am

G01-1 Distributed Media Control for Multimedia Communications Services ................................................................. 2454
Eric Cheung, Michael Jackson, Pamela Zave, AT&T Labs Research, USA

G01-2 A Global Multimedia Testbed: Malaysia’s Multimedia Super Corridor ................................................................. 2459
Kher Hui Ng, Ryoichi Komiya, Multimedia University, Malaysia

G01-3 ATM Network Impairment Evaluation of an Experimental 3D Videophone for Virtual Reality Telecommunication System ................................................................. 2464
Nor Azhar Mohd Arif, Ryoichi Komiya, Multimedia University, Malaysia

G02 Multimedia Communication Systems [b]
Monday 29 April 2002—10:40 am

G02-1 Interworking between SIP and MPEG-4 DMIF for Heterogeneous IP Video Conferencing ................................................................. 2469
Toufik Ahmed, Ahmed Mehaoua, University of Versailles, France; Raouf Boutaba, University of Waterloo, Canada

G02-2 Retransmission Scheduling in Layered Video Caches ................................................................. 2474
Michael Zink, Jens Schmitt, Ralf Steinmetz, Darmstadt University of Technology, Germany

G02-3 Efficiently Providing Secure Multimedia Conferencing in SEC ................................................................. 2479
Giovanni Di Crescenzo, Hyong Sop Shim, Gardner Patton, Siddhartha Dalal, Telcordia Technologies Inc., USA
Olga Kornievskaia, University of Michigan at Ann Arbor, USA

G02-4 Adaptive and Energy Efficient Wavelet Image Compression for Mobile Multimedia Data Services ................................................................. 2484
Dong-Gi Lee, Sujit Dey, University of California at San Diego, USA

G03 Multimedia Communication Systems [c]
Monday 29 April 2002—1:40 pm

G03-1 VELVET: An Adaptive Hybrid Architecture for VERY Large Virtual Environments ................................................................. 2491
Jauvane C. de Oliveira, Nicolas D. Georganas, University of Ottawa, Canada

G03-2 A Multi-Multicast Sharing Technique for Large-Scale Video Information Systems ................................................................. 2496
Duc A. Tran, Kien A. Hua, Mounir Yantaoui, University of Central Florida, USA

G03-3 Bitrate Adaptation Flow Control for Multimedia-on-Demand ................................................................. 2503
Siu Ping Chan, Chi-Wah Kok, Hong Kong University of Science and Technology, Hong Kong

G03-4 Bit-Plane-Wise Unequal Error Protection for Internet Video Applications ................................................................. 2508
Joohee Kim, Russell M. Mersereau, Yucel Altunbasak, Georgia Institute of Technology, USA

G04 Multimedia Service Protocols
Monday 29 April 2002—3:30 pm

G04-1 Rate and Robustness Control with RTP Monitoring Agent for Mobile Multimedia Streaming ................................................................. 2513
T. Yoshimura, T. Ohya, T. Kawahara, M. Etoh, NTT DoCoMo, Inc., Japan

G04-2 Design of the Application-level Protocol for Synchronized Multimedia Sessions ................................................................. 2518
Chun-Chuan Yang, National Chi Nan University, Taiwan

G04-3 Throughput Analysis of Tree-based Protocols for Many-to-Many Reliable Multicast ................................................................. 2523
Wonyong Yoon, Dongman Lee, Information and Communications University, Korea
Hee Yony Youn, Sungkyunkwan University, Korea
Seek Joo Koh, Electronics and Telecommunications Research Institute, Korea

G04-4 Implementation of Fair Link Sharing through Modifications of the Linux Kernel ................................................................. 2528
Julie Halalsky, Neel Murarka, Paul Halalsky, Hugh Smith, California Polytechnic State University, USA
G05 Multimedia Supporting Technologies
Tuesday 30 April 2002—10:40 am

G05-1 On the Effectiveness of Buffer Sharing in Multimedia Server Network Switches with Self-Similar Traffic
Yunkai Zhou, Harish Sethu, Drexel University, USA

G05-2 Placement of Storage Capacity in Distributed Video Servers
Juan Segarra, Vicent Cholvi, Universitat Jaume I, Spain

G05-3 Optimal Linear Interpolation Coding for Server-based Computing
Fei Li, Jason Nieh, Columbia University, USA

G06 QoS for Multimedia and IP Telephony (1)
Tuesday 30 April 2002—1:40 pm

G06-1 Policing Aggregates of Voice Traffic with the Token Bucket Algorithm
M. J. C. Buchli, D. De Vleeschauwer, J. Janssen, G. H. Petit, Alcatel Bell, Belgium

G06-2 Channel Loss and Queuing Loss Tradeoffs in Voice Transmission over ATM Switching Systems
S. B. Zahir-Azami, A. Yongacoglu, L. Orozco-Barbosa, A. Ali, University of Ottawa, Canada

G06-3 A General Method for Analyzing and Synthesizing Loss Patterns
Vilho Räisänen, Nokia Networks, Finland; Ari Lakanemi, Nokia Research Center, Finland

G06-4 Orthogonal Layered Multicast: Improving the Multicast Transmission of Multimedia Streams at Multiple Data Rates
M. Novaes, P. Westerink, C. Codella, IBM T. J. Watson Research Center, USA

G07 QoS for IP Telephony (2)
Tuesday 30 April 2002—3:30 pm

G07-1 Assessing Network Readiness for IP Telephony
M. Bearden, L. Denby, B. Karagali, J. Meloche, D. T. Stott, Avaya Labs Research, USA

G07-2 Perceived Speech Quality Prediction for Voice over IP-based Networks
Lingfen Sun, Emmanuel C. Ifeachor, University of Plymouth, UK

G07-3 Performance Comparison between VBR Speech Coders for Adaptive VoIP Applications
F. Bertelli, S. Casale, G. Ruggeri, University of Catania, Italy

G07-4 A Passive Method for Monitoring Voice-over-IP Call Quality with ITU-T Objective Speech Quality Measurement Methods
Adrian E. Conway, Verizon, USA

G08 IP Telephony—Issues and Technology
Wednesday 01 May 2002—8:50 am

G08-1 A Framework for 911 Service in a PBX LAN
Karthik Venkataraman, David Johnston, Deep Medhi, University of Missouri at Kansas City, USA

G08-2 A Platform Architecture to Support the Deployment of Distributed Applications
Tonghong Li, Andreas Hoffman, Marc Born, Ina Schieferdecker, GMD FOKUS, Germany
H. NEXT-GENERATION INTERNET

H01 Next Generation Internet Bandwidth Management
Monday 29 April 2002—8:50 am

H01-1 A New Bandwidth Sharing Scheme for Non-Responsive Multicast Flows
Fethi Filali, Walid Dabbous, INRIA, France

H01-2 An Early Bandwidth Notification (EBN) Architecture for Dynamic Bandwidth Environment
Debojyoti Dutta, USC / ISI, USA; Yongguang Zhang, HRL Laboratories, L.L.C., USA

H01-3 Prefix Caching Assisted Periodic Broadcast for Streaming Popular Videos
Yang Guo, Don Towsley, University of Massachusetts at Amherst, USA; Subhabrata Sen, AT&T Labs–Research, USA

H02 Next Generation Internet Performance
Monday 29 April 2002—10:40 am

H02-1 Feature Interactions in Services for Internet Personal Appliances
Mario Kolberg, Evan Magill, University of Stirling, UK; Dave Marples, Simon Tsang, Telcordia Technologies, USA

H02-2 Efficient Simulation of Delay in TCP/IP Networks Using DPR-based Splitting
Ozdemir Akin, J. Keith Townsend, North Carolina State University, USA

H02-3 On the Computation of End-to-End Delay in a Network of GPS Servers with Long-Range Dependent Traffic
Nelson L. S. da Fonseca, Flavio de M. Pereira, Dalton S. Pereira, State University of Campinas, Brazil

H02-4 On the Transition to a Low Latency TCP/IP Internet
Bartek Wydrowski, Moshe Zukerman, The University of Melbourne, Australia

H02-5 On The Effectiveness of Push-out Mechanisms for the Discard of TCP Packets
Kiefer V. Cardoso, Jose F. de Rezende, Federal University of Rio de Janeiro, Brazil
Nelson L. S. Da Fonseca, State University of Campinas, Brazil

H03 Next Generation Internet Service Infrastructure
Monday 29 April 2002—1:40 pm

H03-1 A Unifying Infrastructure for Internet Services
Jaideep Chandrashekar, Zhi-li Zhang, University of Minnesota, USA; Y. Thomas Hou, Fujitsu Laboratories of America, USA

H03-2 Name-to-Address Translation Algorithms for Zeroconf Networks
Cuneyt Akinlar, A. Udaya Shankar, University of Maryland, USA
Sarit Mukherjee, David Braun, Panasonic Technologies Inc., USA

H04 Next Generation Internet Operations and Management
Monday 29 April 2002—3:30 pm

H04-1 Usage-based Pricing Law to Charge IP Network Services with Performance Guarantees
Nicola Blefari-Melazzi, Dario Di Sorte, Gianluca Reali, University of Perugia, Italy

H04-2 Router-Assisted Layered Multicast
Zai Chen Zhang, Victor O. K. Li, The University of Hong Kong, China

H04-3 Selection of Candidate Cores for Core-based Multicast Routing Architectures
Hwa-Chun Lin, Zhe Hong Lin, National Tsing Hua University, Taiwan

H04-4 Enabling Dynamic Market-Managed QoS Interconnection in the Next Generation Internet
by a Modified BGP Mechanism
Junseok Hwang, Syracuse University, USA; Jörm Altmann, Huw Oliver, Alfonso Suarez, Hewlett-Packard Laboratories, UK

AUTHOR INDEX