

1st EuroNGI Conference on Next Generation Internet Networks - Traffic Engineering - NGI 2005

Technical program

Monday, April 18, 2005

9:00AM *Welcome address*

9:45AM *Introduction to EURO NGI*
Conference opening

9:45AM *Invited talk: Overview of research in the field of Internetworking*

10:30AM Ellen Zegura (Georgia Institute of Technology, USA; Editor-in-chief of IEEE/ACM Transactions on Networking)

10:30AM *Coffee Break*

11:00AM **QoS Routing** **Chair: Demetres Kouvatsos**

12:45PM

Dynamic Routing Among Several Intermittently Available Servers

Simon Martin (University of Newcastle), Isi Mitrani (University of Newcastle upon Tyne), Kevin Glazebrook (University of Edinburgh)

A New Path Probing Strategy for Inter-domain Multicast Routing

Antonio Costa (Universidade do Minho), Maria João Nicolau (University of Minho)

Two Additive-Constrained Path Selection in the Presence of Inaccurate State Information

YanXing Zheng (National University of Defense Technology), Turgay Korkmaz (University of Texas at San Antonio)

Distributed cost management in a selfish multi-operator BGP network

Barth Dominique (University of Versailles), Lelia Blin (university of Evry), Loubna Echabbi (University of Versailles), Sandrine Vial (University of Evry)

12:45AM *Lunch*

2:15PM

2:15PM **Optical Networks** **Chair: Andrzej Jajszczyk**

3:30PM

Class-based Minimum Interference Routing for Traffic Engineering in Optical Networks

János Tapolcai (Budapest University of Technology and Economics), Fodor Peter, Gábor Rétvári, Markosz Maliosz (Department of Telecommunications and Media Informatics, Budapest University of Technology and Econom), Tibor Cinkler (Budapest University of Technology and Economics)

Routing, Protection and Wavelength Assignment for Scheduled and Random Lightpath Demands in All Optical Transport Networks

Mohamed Koubaa (ENST)

Routing with Partially Disjoint Shared Path (PDSP) Protection

Tibor Cinkler (Budapest University of Technology and Economics), Diana Mesko, Gabor Viola (BUTE), János Tapolcai (Budapest University of Technology and Economics), Attila Mitsenkov (BME-TMIT)

3:30PM *Coffee Break*

4:00PM

4:00PM **Queuing Management** **Chair: Michal Pioro**

5:15PM

Sojourn times in finite-capacity Processor-Sharing queues

Sem Borst (CWI), Onno Boxma (Eindhoven University of Technology), Nidhi Hegde (France Telecom R & D)

Marginal Productivity Index Policies for Scheduling Multiclass Delay-/Loss-Sensitive Traffic

José Niño-Mora (Universidad Carlos III de Madrid)

Direct and Indirect Methods for Packet Loss Approximation in Buffered Systems

András Gulyás, Jozsef Biro (Budapest University of Technology and Economics)

5:15PM

Poster Session I

6:15PM

Tweak-it: BGP-based Interdomain Traffic Engineering for transit ASes

Steve Uhlig (Université catholique de Louvain (UCL)), Bruno Quoitin (Université catholique de Louvain (UCL))

Performance evaluation of short-cut Eulerian routing

Jean-Michel FOURNEAU (Université de Versailles St Quentin), Dominique Barth (University of Versailles-St Quentin), Pascal Berthome (LRI, University Paris XI), Sandrine Vial (University of Evry), Christian Laforest (LaMI, University of Evry)

Optimal Tree Structures for Large Service Networks

Jennie Palmer, Isi Mitrani (University of Newcastle upon Tyne)

Load balancing through efficient distributed content placement

Tim Wauters, Jan Coppens (INTEC - Ghent University), Bart Dhoedt, Piet Demeester (Ghent University)

A discrimination frequency based queueing fairness measure with regard to job seniority and service requirement

Werner Sandmann (University of Bamberg, Germany)

Multicast Versus Private Flows: an Efficient Pricing Scheme for Congestion Control

Patrick Maillé (GET/ENST Bretagne)

Simulation of semi-Markov processes and Markov chains ordered in level crossing

Fátima Ferreira (Universidade de Trás os Montes e Alto Douro e CEMAT), António Pacheco (Instituto Superior Técnico)

Delay Guarantee and Bandwidth Allocation for Network Services

Jyrki Joutsensalo (University of Jyväskylä), Timo Hämäläinen (University of Jyväskylä)

Two Approaches to Internet Traffic Engineering for End-to-End Quality of Service Provisioning

Kin-Hon Ho, Michael Howarth, Ning Wang, George Pavlou, Stylianos Georgoulas (University of Surrey)

Sensitivity of Backup Capacity Requirements to Traffic Distribution and Resilience Constraints

Michael Menth, Jens Milbrandt, Andreas Reifert (University of Wuerzburg)

An Adaptation Architecture to Improve User-Perceived QoS of Multimedia Services for Enterprise Remote Desktop Protocols

Marcin Lubonski (University of Technology, Sydney), Valérie Gay (University of Technology Sydney), Andy Simmonds (University of Technology, Sydney)

Inter-domain Routing in Multiprovider Optical Networks: Game Theory and Simulations

János Szigeti, Krisztina Lója, Tibor Cinkler (Budapest University of Technology and Economics)

Bandwidth Allocation and Pricing for Telecommunications Network

Jyrki Joutsensalo, Ari Viinikainen (University of Jyväskylä), Timo Hämäläinen, Mika Wikström (University of Jyväskylä)

Buffer sizes for large multiplexers: TCP queueing theory and instability analysis

Damon Wischik (University College London), Gaurav Raina (University of Cambridge)

Tuesday, April 19, 2005

8:30AM

MPLS Networks

Chair: Paola Iovanna

10:15AM

Combined Link Dimensioning and Weight Assignment of Minimum Weight Routing Networks

Carlos Lopes, Amaro de Sousa (Institute of Telecommunications, University of Aveiro), Luis Gouveia (Faculty of Sciences, University of Lisbon)

Ethernet Layer 2 Label Switched Paths (LSP)

Dimitri Papadimitriou (Alcatel), Emmanuel Dotaro (Alcatel, France), Martin Vigoureux (Alcatel CIT Research & Innovation)

State-dependent Optimal Routing in MPLS-based IP Networks with Heterogeneous Flow Holding Times

Peng He (University of Ottawa)

A Cost Transformation Based Routing Mechanism and Its Applications on Constraint-Routing Problems

Jian Wang (Florida International University)

10:15AM

10:45AM

Coffee Break

10:45AM *Invited talk: The role of intelligence in intelligence in next generation networks*
11:30AM Erol Gelenbe (Imperial College London, UK)

11:30AM **Traffic Management and Security** **Chair: Jim Roberts**
1:15 PM

Application of the Max-Min Fairness Principle in Telecommunication Network Design
Michal Pioro (Warsaw University of Technology)

A new direction for quality of service: Flow-aware networking
Sara Oueslati, James Roberts (France Telecom R&D)

A Lossless Compression Method of Internet Packet Headers
Raimir Holanda (Polytechnic University of Catalonia)

IPSec Hardware Resource Requirements Evaluation

Alberto Ferrante (University of Milan), Jeff Owen (ST Microelectronics NV), Vincenzo Piuri

1:15PM

2:45PM *Lunch*

2:45PM **Congestion & Admission Control** **Chair: Stefano Giordano**
4:30PM

A Square Root Formula for the Rate of Non-Persistent TCP Flows
Francois Baccelli (INRIA-ENS), David McDonald (University of Ottawa)

On Dropping Sequences for RED
Bruno Gaujal (INRIA), Arie Hordijk (University of Leiden)

Modeling the interaction of IEEE 802.3x hop-by-hop flow control with TCP end-to-end flow control
Richa Malhotra, Ronald van Haalen (Lucent Technologies), Michel Mandjes (CWI, University of Twente), Rudesindo Nunez-Queija (CWI, Eindhoven University of Technology)

Enhanced admission control solution for multicasting with DiffServ
Olli Alanen (University of Jyväskylä), Mikko Paakkonen (University of Jyväskylä), Mikko Ketola, Timo Hämäläinen (University of Jyväskylä), Jyrki Joutsensalo (University of Jyväskylä)

4:30PM

5:00PM *Coffee Break*

5:00PM **Poster Session II**
6:00PM

Performance Study of the Control and Forwarding Planes in a High Speed MPLS Network
Davide Adami (CNIT Pisa Research Unit, Dept. of Information Engineering, University of Pisa), Stefano Giordano, Michele Pagano, Matteo Repeti, Nora Carlotti (University of Pisa)

Simulative Performance Evaluation of a Mobile Peer-to-Peer File-Sharing System
Tobias Hoßfeld (University of Wuerzburg), Kurt Tutschku (Wuerzburg University), Frank-Uwe Andersen (Siemens ICM), Hermann de Meer, Jens Oberender (University of Passau)

Adaptive Scheme for Admission Control Policies in Multiservice Mobile Wireless Cellular Networks
David Garcia-Roger (Politechnical University of Valencia), Maria-Jose Domenech-Benlloch (Universidad Politecnica Valencia), Jorge Martinez-Bauset (Universidad Politècnica de Valencia), Vicent Pla (UPV Universitat Politècnica de València)

Equivalent Bandwidth based-study of a Multi-Service Optical Network
Mehdi Sabeur (Paris 6, INT), Daniel Popa (Institut National des Telecommunications), Tulin Atmaca (Institut National des Telecommunications)

A Delay-Based Approach for TCP Parallelization
Qiang Fu (University of Queensland)

Multi-Layer Bandwidth Recovery for Multimedia Communications: An Experimental Evaluation
Luca Valcarenghi (Scuola Superiore Sant'Anna di Studi Universitari e di Perfezionamento), Lorenzo Rossi (Scuola Superiore Sant'Anna), Francesco Paolucci, Filippo Cugini (CNIT), Piero Castoldi (Scuola Superiore Sant'Anna)

Measurement-Based Admission Control for a Flow-Aware Network
Yuming Jiang, Peder Emstad, Anne Nevin (Norwegian University of Science and Technology), Victor Nicola (University of Twente), Markus Fidler (RWTH Aachen University)

RCCMP: Reliable Congestion Controlled Multicast Protocol
Marta Solera-Delgado (University of Málaga)

Classification of Internet Users using Discriminant Analysis and Neural Networks
António Nogueira (Institute of Telecommunications/University of Aveiro), Rosário Oliveira (Technical University of Lisbon), Paulo Salvador (Institute of Telecommunications, University of Aveiro), Rui Valadas (University of Aveiro), António Pacheco (Instituto Superior Técnico)

Private Wars in Secret Life
Igor Margasiński (Warsaw University of Technology, Poland), Krzysztof Szczypiorski (Warsaw University of Technology), Krzysztof Brzeziński (Warsaw University of Technology, Poland)

A new protocol for group authentication providing partial anonymity
Zbigniew Kotulski (Warsaw University of Technology), Aneta Zwierko (Warsaw University of Technology, Faculty of Electronics and Information Technology)

Reliability Assessment of Rings and p-Cycles in DWDM Networks
Piotr Cholda (AGH University of Science and Technology), Andrzej Jajszczyk (AGH University of Science and Technology, Krakow)

Auction-Based Bandwidth Trading in a Competitive Hierarchical Market
Marina Bitsaki (University of Crete), George Stamoulis, Costas Courcoubetis (Athens University of Economics and Business)

Wednesday, April 20, 2005

8:30AM **Traffic Models and Characterization** Chair: Ilkka Norros

10:15AM *Evaluation of 'user-oriented' and 'black-box' traffic models for link provisioning*
Remco van de Meent, Michel Mandjes (University of Twente)

On-line estimation of the tail index for heavy-tailed distributions with application to WWW-traffic
Natalia Markovitch (Russian Academy of Sciences)

New Parameters and Metrics for Multiparty Communication
Lei Liang (University of Surrey)

Traffic Characterization for Traffic Engineering Purposes: Analysis of Funet Data
Ilmari Juva, Riikka Susitaival, Markus Peuhkuri, Samuli Aalto (Helsinki University of Technology)

10:15AM *Coffee Break*

10:45AM *Invited talk: Edge engineering: measurement and adaptive applications for the Next Generation Internet*
11:30AM Peter Key (Microsoft Research, UK)

11:30AM **Wireless Networks** Chair: Gabriele Kotsis

1:15 PM *Performance Modeling of a Wireless 4G Cell under a GPS Scheme with Hand Off*
Demetres D. Kouvatsos, Yue Li, Irfan Awan (University of Bradford)

Source Specific Multicast (SSM) Group Management Analysis Framework for the Next Generation Mobile Internet
Gopakumar Kurup, Ahmet Sekercioglu, Nallasamy Mani (Monash University)

Generic Communication Requirements of ITS-Related Mobile Services as Basis for Seamless Communications
Markus Fiedler (Blekinge Institute of Technology), Stefan Chevul (Blekinge Institute of Technology), Lennart Isaksson (Blekinge Institute of Technology), Peter Lindberg, Johan Karlsson (AerotechTelub, Växjö)

Auction-based Resource Allocation in UMTS High Speed Downlink Packet Access (HSDPA)
Manos Dramitinos, George Stamoulis, Costas Courcoubetis (Athens University of Economics and Business)

1:15PM *Lunch*
2:45PM

2:45PM
4:30PM

IP Networks Evolution **Chair: Daniel Kofman**

MTI: Integration of UNA and MTAII toward the Next Generation Internet

Mahnhoon Lee (University College of the Cariboo), Yongik Yoon (Sookmyung Women's University)

A Cooperative Approach to Interdomain Traffic Engineering

Bruno Quoitin (Université catholique de Louvain), Olivier Bonaventure (Université Catholique de Louvain)

MOON: a New Overlay Network Architecture for Mobility and QoS Support

Guido Albertengo, Claudio Pastrone (Politecnico di Torino), Giacomo Tolu (Politecnico do Torino)

Mixed TDM and packet technologies as a best compromise solution to ensure a cost-effective bandwidth use with the current traffic evolution

Ludovic Noirie (Alcatel)

4:30PM
4:45PM

Concluding Remarks