

NETWORKS 2012

15th International Telecommunications Network Strategy and Planning Symposium

Rome, October 15th - 18th 2012

Presentation

Networks 2012 is the 15th in the series of the Networks symposia. Since the first conference in Paris (France) thirty years ago, the meetings are attracting world-class participants from all over the world, ranging from telecom operators and regulatory and standard bodies, through systems and software companies and research units from universities and industry, to systems integrators. The consecutive meetings have been held in Brighton, UK (1983), Innisbrook, USA (1986), Palma de Mallorca, Spain (1989), Kobe, Japan (1992), Sydney, Australia (1996), Sorrento, Italy (1998), Toronto, Canada (2000), Munich, Germany (2002), Vienna, Austria (2004), New Delhi, India (2006) and Budapest, Hungary (1994 and 2008) and the last one in Warsaw (2010). The conference will focus on all the technologies, methods, strategies, normative and politics that are necessary to deliver the promise of the Network of the Future. Specific issues involve network design and planning methods, routing, traffic flows, convergence related to wireline and wireless infrastructures and to the platforms for video (SD, HD, 3D) services.

Networks 2012 will try to investigate all the challenges in building networks with appropriate performance for the e-Society, with the aim of showing that each step is cost-justified and helps drive profitable growth. The difficult issues of scalability, end-to-end network performance, network management-and-service control, reliability, quality of service, security and interoperability, must be carefully analyzed, and solutions planned and implemented. Furthermore, following the current evolution of the information and telecommunication sectors, particularly relevant aspects will be addressed concerning the impact of Data Center locations and virtualization on network design and on the role of networks for the deployment of future Smart Cities. In addition, the crucial topic of energy saving will be also analyzed for its impact on the networks.

Networks 2012 occurs in a period characterized by a deep world financial crisis and therefore particular attention will be devoted to proposals regarding migration to Next Generation Networks that must take into account the supportability of investments for novel infrastructures and the best exploitation of current systems and transmission media whilst taking into account all the proposals to limit bandwidth bottlenecks. The overall aim will be to optimize resource dimensioning and pricing for success in supporting all new services.

Apart from technical sessions, Networks 2012 will also offer an Open Plenary Session and tutorials. The conference program will also include invited state-of-the-art presentations and lectures from both academia and industry. Social events are planned, such as a welcome reception, and gala dinner to provide additional opportunities for the exchanging of views. It is a great honour and pleasure for me to cordially invite you to participate in Networks 2012, the 15th International Telecommunications Network Strategy and Planning Symposium in Rome, Italy.



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NETWORKS 2012 General Chair

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- Di Yuan (SE)
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Site

The congress will take place in the CNR Central site Via dei Marrucini snc, Rome.

Gala dinner

The gala dinner reserved for delegates and those who bought the ticket will be held Tuesday, October 16, 2012 at 20.30 at Circolo Canottieri Lazio, Lungotevere Flaminio n° 25a Rome.

Secretariat

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Monday October 15th

Opening Session

Conference Room

- 9.00** Welcome from
 A. Luciano - *FUB President*
 M. Mayer - *AICT President*

Conference presentation

F. Matera - *General Chairman Networks 2012, FUB*

- 9.00** Welcome from Local and Government Representatives

10.40 Round Table “Trends and Investments in Networks to Accelerate Economic Growth”

12.30 Cocktail

13.00 Networks 2012 Delegates Registration

Technical SESSIONS

14.00 Technical Session Mo1 “Traffic Evolution and Economic Impact”

Conference Room

Mo1.1 Forecasting Techniques for Managing Mobile Data Network Capacity and Growth (Invited)

M.R. Bass, P.F Gagen - *Bell Labs, Alcatel-Lucent, USA*

Mo1.2 HSPA+ (2100 MHz) vs LTE (2600 MHz) Spectral Efficiency and Latency Comparison

B.H. McWilliams, Y. Le Pézennec - *Vodafone, Spain*, G. Collins - *Vodafone, United Kingdom*

Mo1.3 Economic Impact of QoS Differentiation for Streaming Flows in a Realistic 3G Networks

J.M. Belloc, V. Diascorn, F. Marache, S. Nicaisse, A. Druault-Vicard – *France Télécom - Orange, France*

Mo1.4 Mobile Virtual Network Operator

M. Balon - *France Télécom - Orange, Belgium*, B. Liao - *France Télécom - Orange, France*

Mo1.5 Long-Term Mobile Data Traffic Forecasts for the Western European Market

K. Stordahl, N.K. Elnegaard - *Telenor, Norway*

15.50 Coffee break

16.30 Technical Session Mo2 “Migration to NGN”

Conference Room

Mo2.1 RCS-e: a Signalling Challenge

K. Boulle, O. Cleuziou, J.P. Rodrigues - *Orange, France*

Mo2.2 IP Interconnection Testing Approach in a TISPAN IMS Environment

G. Horak - *Alcatel-Lucent, Austria*, C. Herhoffer - *Alcatel-Lucent, Germany*

Mo2.3 High-Speed Calculation Method for Large-Scale Multi-Layer Network Design Problem

T. Mikoshi, T. Takenaka - *Nihon University, Japan*, R. Sugiyama, A. Masuda, K. Shiimoto, A. Hiramatsu - *NTT, Japan*

Tuesday October 16th

9.00 Technical Session Tu1 “Local Wireless Networks”

Conference Room

Tu1.1 Mobility Management Solutions for IP Networks (Invited)

J. Woźniak - *Gdansk University of Technology, Poland*

Tu1.2 ProvinciaWiFi: a 1000 Hotspot Free, Public, Open Source Wi-Fi Network

M. Goretti, D. Guerri – *CASPUR, Italy*, F. Loriga - *Province of Rome, Italy*

Tu1.3 Femtocells Installed in Corporate and Enterprise Premises: an Operator's Perspective

S. D'Elia, M. Zangani, A. Casto, D. Etere, R. Marfisi - *Vodafone Italy, Italy*

Tu1.4 Mobility for Heterogeneous SmallNets

M. Perras - *InterDigital, Canada*, J. Cartmell - *InterDigital, USA*

9.00 Technical Session Tu2 “Transport Network”

Bisogno Room

Tu2.1 Tracks for Transport Network Architecture Optimization

O. Renais, J. Le Briand - *France Télécom - Orange, France*

Tu2.2 Embedded Tools for Network Delay Measurement

G. Cazzaniga, L. Ronchetti - *Alcatel-Lucent, Italy*

Tu2.3 Embedding Ring Structures in Large Fiber Networks

M.T. Kalsch, M.F. Koerkel, R. Nitsch - *T-Systems International, Germany*

Tu2.4 Protection Switching in Packet Transport Rings

C. Addeo, I. Busi - *Alcatel-lucent, Italy*

9.00 - 13.00 TUTORIAL

Pentagono Room

Valuing Flexibility in Telecom Infrastructure Projects Using Real Options Thinking

S. Verbrugge, M. Tahon - *UGent/IBBT, Department of Information Technology (INTEC), Belgium*

10.30 Coffee break

11.00 Technical Session Tu3 “Infrastructures for Mobile Networks”

Conference Room

Tu3.1 Optical Access Architectures for Backhauling of Broadband Mobile Networks (Invited)

A. Lometti, V. Sestito - *Alcatel-Lucent, Italy*

Tu3.2 Pareto Optimization for Radio-over-Fiber 4G Base Stations Backhauling

A. Haddad, M. Gagnaire - *Telecom ParisTech, France*

Tu3.3 Design of Weather Disruption-Tolerant Wireless Mesh Networks

J. Rak - *Gdansk University of Technology, Poland*

Tu3.4 Optimal Design of Pool-Areas in a Mobile Network Using the MSC Pool technology

G. Boulmier - *Orange Labs, France*, A. Kessentini - *Télécom ParisTech, France*

Tu3.5 A Method to Incentivize the Third Party Devices to Contribute in Network and Content Service

R. Zhang, S. Sun, F. Mao, B. Fu, J. Wang – *Nokia Siemens Networks, China*

11.00 Technical Special Session Tu4 “Future Internet IIP Initiative”

Bisogno Room

Tu4.1 Role of Network Virtualization in Designing Future Internet (Invited)

W. Burakowski - *Warsaw University of Technology, Poland*

Tu4.2 A Proposal of the IPv6 QoS System Implementation in Virtual Infrastructure

H. Tarasiuk, P. Wiśniewski - *Warsaw University of Technology, Poland*, S. Hanczewski, A. Kaliszan - *Poznan University of Technology, Poland*, R. Szuman, Ł. Ogródowczyk, I. Olszewski, M. Giertych - *Poznan Supercomputing and Networking Center, Poland*

Tu4.3 A Flexible Provisioning Module Optimizing Utilization of Resources for the Future Internet IIP Initiative

J. Gozdecki, M. Kantor, K. Wajda - *AGH University of Science and Technology, Poland*, J. Rak - *Gdansk University of Technology, Poland*

Tu4.4 Content Registry - the Distributed Database of Content Localization for the PI CAN Network

S. Nowak, M. Nowak, P. Pecka - *Institute of Theoretical and Applied Informatics, Poland*

Tu4.5 On Extending Open Source IMS Platform for Integrated IPTV and VoIP Services over IPv6

S. Janikowski, J. Mongay Batalla - *National Institute of Telecommunications, Poland*, M. Hoeft, K. Nowicki - *Gdańsk University of Technology, Poland*

13.00 Lunch

14.00 Remembrance of Fabio Neri

14.20 Technical Session Tu5 “Cloud Computing”

Conference Room

Tu5.1 Network Virtualization in the Cloud Computing Era (Invited)

G. Parladori, P. Donadio - *Alcatel-Lucent, Italy*

Tu5.2 Optimization of the decision process in Network and Server-aware algorithms

J. Mongay Batalla - *National Institute of Telecommunications, Poland*; A. Beben - *Warsaw University of Technology, Poland*; Y. Chen - *University of Bordeaux, France*

Tu5.3 Intra and Inter Domain Social Information Service (IIDSIS): Definition and Evaluation of a Supporting Architecture

F. Davide, F. Vatalaro - *University of Rome Tor Vergata, Italy*; F. Collovà - *Telecom Italia, Italy*; S. Puglia - *WLAB Srl, Italy*; B. Kirman - *University of Lincoln, United Kingdom*

14.20 Technical Session Tu6 “Traffic Engineering”

Bisogno Room

Tu6.1 From Constant Traffic Matrices to Hose Workload Model for VPN Tree Design

B. Thabti, A. Lourimi, H. Youssef – *University of Sousse, Tunisia*, A.R. Mahjoub, A. Meddeb – *Paris Dauphine University - France*

Tu6.2 Traffic Splitting Algorithms in Multipath Networks: Is the Present Practice Good Enough?

K. Németh, G. Rétvári - *Budapest University of Technology and Economics, Hungary*

Tu6.3 Spectrum Sharing in Heavy Loaded Networks

M. Fozooni, A. Abbasfar, A. Sani - *University of Tehran, Iran*

14.20 - 18.00 TUTORIAL

Pentagono Room

Flow and Capacity Design in Content-Oriented Networks

K. Walkowiak - *Wroclaw University of Technology, Poland*

15.30 Coffee break

16.00 Technical Session Tu7 "M2M"

Conference Room

Tu7.1 Towards a Hyper-Connected World (Invited)

M. Settembre - *Selex Elsag, Italy*

Tu7.2 "M2M" and Internet of Things: Concept, Technologies, Business Opportunities, Market Trends

F. Palozza - *Juniper, Italy*

Tu7.3 Signature Extraction for Event Forecasting in Wireless Sensor Networks

G. Öllös, R. Vida - *Budapest University of Technology and Economics, Hungary*

Tu7.4 A Wireless Sensor Network Deployment Model with Target Localization Constraints

S. Chamberland, L. Cobo, F. Murchid, A. Quintero - *École Polytechnique de Montreal, Canada*

20.30 Gala dinner

Wednesday October 17th

9.00 Technical Session We1 "Quality of Service"

Conference Room

We1.1 Italian QoS Monitoring Network: Impact on SLA Control (Invited)

L. Rea, E. Mammi - *Fondazione Ugo Bordoni, Italy*

We1.2 On the Characterization of QoS Perceived by End-Users of Mobile Voice Services

A. Rufini, E. Tarantino, M. Bianchi, G. Riva - *Fondazione Ugo Bordoni, Italy*, A. Masini - *University of Ferrara, Italy*

We1.3 Discrete Bit-Loading for OFDMA Downlink with QoS Consideration

A. Sani, A. Abbasfar - *University of Tehran, Iran*

We1.4 Voice over IP Quality of Service Key Performance Indicators Correlation Analysis

J. Balcerzak, S. Senecal - *Orange Labs, France*, G. Tyszka - *Orange Labs, Poland*

9.00 Technical Session We2 “Bandwidth Allocation”

Bisogno Room

We2.1 A Non-Cooperative Game Theory Model for Bandwidth Allocation in Network Virtualization

M. Said Seddiki, M. Frikha - *Higher School of Communication of Tunis, Tunisia*

We2.2 Sequential Algorithms for Exact and Approximate Max-Min Fair Bandwidth Allocation

W. Ogryczak, T. Sliwinski - *Warsaw University of Technology, Poland*

We2.3 Capacity Allocation in Multilevel Virtual Networks under Uncertainty

D. Gasior - *Wroclaw University of Technology, Poland*

We2.4 Fair Resources Allocation with Queue Management in PMP OFDMA Systems

M. Basly, H. Kochkar - *INSAT, Tunisia*, N. Hamdi, A. Bouallegue – *ENIT, Tunisia*

9.00 - 13.00 TUTORIAL

Pentagono Room

Ethernet Metro Networks: Understanding the Present to Envision the Future

G. Maier - *Politecnico di Milano, Italy*, A. Valenti - *Fondazione Ugo Bordoni, Italy*

10.30 Coffee break

11.00 Technical Session We3 “Network Planning”

Conference Room

We3.1 Mobile Data Explosion and Planning of Heterogeneous Networks (Invited)

M. El-Sayed, P. Gagen - *Bell Labs, Alcatel-Lucent, USA*

We3.2 On Joint Optimization of Link Rate Assignment and Transmission Scheduling in Wireless Mesh Networks

Y. Li - *Lund University, Sweden*, M. Pióro - *Lund University, Sweden and Warsaw University of Technology, Poland*, D. Yuan - *Linköping University, Sweden*, J. Su - *National University of Defence Technology, China*

We3.3 A Global Planning Model for Survivable Mobile Networks

E.A. Lemamou, S. Chamberland, P. Galinier - *École Polytechnique de Montréal, Canada*

We3.4 Fast Re-Authentication of Mobile Devices with EAP Re-Authentication Protocol (ERP)

R. Chrabąszcz, P. Pacyna - *AGH University of Science and Technology, Poland*

We3.5 Guaranteeing SLA Availability in Telecommunications Networks

A.J. Gonzalez, B.E. Helvik - *Norwegian University of Science and Technology, Norway*

11.00 Technical Session We4 “Optical Networks”

Bisogno Room

We4.1 Design of Long-Reach TDM/WDM Passive Optical Access Network

M. De Andrade, A. Buttabori, M. Tornatore, P. Boffi, P. Martelli, A. Pattavina - *Politecnico di Milano, Italy*, G. Gavioli – *Alcatel-Lucent, Italy*

We4.2 Optimal Design of Spectrally Sliced ASE Seeded WDM-PON System

S. Spolit, V. Bobrovs, S. Berezins, Ģ. Ivanovs - *Riga Technical University, Latvia*

We4.3 Performance Assessment of Congestion Resolution Scheduling in Asynchronous 3-Level Integrated Hybrid Optical Network (A-3LIHON)

G. Leli, C. Raffaelli - *University of Bologna, Italy*, M. Savi, N. Stol - *Norwegian University of Science and Technology, Norway*

We4.4 GPON Unbundling for Multioperator Access

D. Carmona, J. Prat – *Universitat Politècnica de Catalunya, Spain*, I. Tomkos - *Athens Information Centre, Greece*, M. Pilar Sanchez Marco – *Comisión del Mercado de las Telecomunicaciones, Spain*

We4.5 Low Cost Fiber-to-the-Node Access Network Design

L. Cobo, S. Chamberland, A. Ntareme - *École Polytechnique de Montreal, Canada*

We4.6 Dynamic Bandwidth Allocation with Void Filling and Multi-thread for Long Reach WDM/TDM PONs

A. Buttaroni, M. De Andrade, M. Tornatore - *Politecnico di Milano, Italy*

13.00 Lunch

14.00 Technical Session We5 “Network Energy Saving”

Conference Room

We5.1 Sleep Mode at the Edge: How Much Room is There? (Invited)

E. Bonetto, A. Finamore, M.M. Munafò - *Politecnico di Torino, Italy*, R. Fiandra - *Fastweb, Italy*

We5.2 Energy Efficiency in Optical Networks (Invited)

R. Bolla, R. Bruschi - *CNIT and University of Genova, Italy*, P. Donadio, G. Parladori - *Alcatel-Lucent, Italy*

We5.3 Traffic and Power-Aware Protection Scheme in Elastic Optical Networks (Invited)

J. López – *Huawei Technologies, Germany and Telefónica, Spain*, Y. Ye – *Huawei Technologies, Germany*, V. López, F. Jimenez, R. Duque - *Telefónica, Spain*, P. Krummrich – *TU Dortmund, Germany*, F. Musumeci, A. Pattavina – *CNIT and Politecnico di Milano, Italy*

We5.4 Impact of Energy-Aware Topology Design and Adaptive Routing at Different Layers in IP over WDM networks

A. Coiro, M. Listanti - *University of Rome "Sapienza", Italy*, A. Valenti - *Fondazione Ugo Bordonni, Italy*

14.00 Technical Session We6 “Multimedia Services”

Bisogno Room

We6.1 Identifying Sessions to Websites as an Aggregation of Related Flows

L. M. Torres, E. Magaña, M. Izal, D. Morato - *Universidad Pública de Navarra, Spain*

We6.2 Offloading Transport Networks: P2P and/or Caches?

M. Máté, R. Vida - *Budapest University of Technology and Economics, Hungary*, A. Császár, A. Mihály - *Ericsson Research, Hungary*

We6.3 Introduction of Media Gateway Control Functions in Java Call Control

M. Femminella, F. Giacinti, G. Reali - *University of Perugia, Italy*

We6.4 Image Encryption Based on Quantum Chaotic Map and FSM Transforms

S. Behnia - *Urmia University of Technology, Iran*, P. Ayubi – *Islamic Azad University, Iran*, W. Soltanpoor – *Mohaghegh Ardabili University, Iran*

16.00 Coffee break

16.30 Technical Session We7 “Digital Television”

Conference Room

We7.1 End-to-End Delay Percentiles for Video Traces Using a MAP2 Approximation

B. Anjum, H. Perros - *North Carolina State University, USA*

We7.2 QoE and QoS Comparison in an Anycast Digital Television Platform Operating on Passive Optical Network

A. Valenti, A. Rufini, S. Pompei, F. Matera - *Fondazione Ugo Bordonni, Italy*, S. Di Bartolo, C. Da Ponte, D. Del Buono, G.M. Tosi Belleffi - *Ministry of Economic Development, Italy*

Thursday October 18th

9.00 Technical Session Th1 “Network Monitoring and Control”

Bisogno Room

Th1.1 The Need for an Intelligent Measurement Plane: the Example of Time-Variant CDN Policies (Invited)

A. Finamore, V. Gehlen, M. Mellia, M. Munafò - *Politecnico di Torino, Italy*; S. Nicolini - *NEC Laboratories Europe*

Th1.2 Applying Over-Provisioning Centric Resource Control in Context-Sensitive Network

J. Castillo Lema – *Federal University of Ceará, Brazil and University of Coruña, Spain*, E. Cruz – *Federal University of Ceará, Brazil*, A.J. Venancio Neto - *Universidade Federal do Ceará, Brazil and Universidade de Aveiro, Portugal*, S. Sargento - *Universidade de Aveiro, Portugal*, E. Cerqueira - *Federal University of Para, Brazil*

Th1.3 A NetFPGA-Based Network Monitoring System with Multi-layer Timestamping: Rnetprobe

P. Orosz, T. Skopko, J. Imrek - *University of Debrecen, Hungary*

Th1.4 Connection Establishment in Time Critical Scenarios

B.A. Lajtha, G. Feher - *Budapest University of Technology and Economics, Hungary*

Th1.5 Heuristic Algorithm for Maximizing Streaming Rate in Overlay Multicast with Budget Constraint

M. Szostak, K. Walkowiak - *Wroclaw University of Technology, Poland*

11.00 Coffee break

11.30 Closing Session