2009 Next Generation Internet Networks

(NGI 2009)

Aveiro, Portugal
1 – 3 July 2009

IEEE Catalog Number: CFP09596-PRT
ISBN: 978-1-4244-4244-7

Copyright © 2009 by the Institute of Electrical and Electronic Engineers, Inc
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

******This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP09596-PRT
ISBN 13:	978-1-4244-4244-7
Library of Congress No.:	2009901988

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Integration of Mobile Devices into Popular Peer-to-Peer Networks 1
Andreas Berl and Hermann de Meer

A Distributed Hash Table-based Approach for Providing a File System Neutral, Robust and Resilient Storage Infrastructure 10
George Parissis and Theodore Apostolopoulos

Network Coding Multicast in Satellite Networks 18
Fausto Vieira and João Barros

Computation of Multi-Constrained Paths in Multi-Domain MPLS-TE Networks 24
Gilles Bertrand, Samer Lahoud, Géraldine Texier and Miklós Molnár

Evaluation of Single Rate Multicast Congestion Control Schemes for MPEG-4 Video Transmission 32
Christos Bouras, Apostolos Gkamas and Georgios Kioumourtzis

Discriminating Internet Applications based on Multiscale Analysis 40
Eduardo Rocha, Paulo Salvador and António Nogueira

Performance of Wireless Heterogeneous Networks with Always-best-connected Users 47
Nassim Kaci, Patrick Maillé and Jean-Marie Bonnin

Option-based Dynamic Management of Wireless Spectrum 55
Loretta Mastroeni and Maurizio Naldi

Adaptive Packet Prioritisation for Wireless Sensor Networks 63
Laurence Hey and Erol Gelenbe

Multimedia Data Transport for Wireless Sensor Networks 70
João Almeida, António Grilo and Paulo Rogério Pereira

A Stochastic Clustering Algorithm for Swarm Compact Routing 78
Huaiyuan Ma, Otto J. Wittner and Bjarne E. Helvik

Distributed Ant Algorithm for Inter-Carrier Service Composition 86
Helia Pouyllau and Nabil Bachir Djarallah

Exploiting Power-Law Node Degree Distribution in Chord Overlays 94
Salma Ktari, Artur Hecker and Houda Labiod

Robust Load-balancing under Statistical Uncertainty: Models and Polynomial-time Algorithms 99
Anders Gunnar and Mikael Johansson

Router Assisted Overlay Multicast 106
Konstantinos Katsaros, Nikolaos Bartsotas and George Xylomenos

Performance Analysis of Sliding Window Based Erasure Correction for Real-Time Traffic 114
Tuomas Tirronen and Jorma Virtamo

A Versatile Control Plane for EPON-based FTTX Access Networks 122
Minh Thanh Ngo and Annie Gravey

A Single Channel Signalling Mechanism for Power/Rate Control in WLANs 130
Ali Ibrahim, Luca Muscariello and James Roberts

Traffic Engineering of Multiple Spanning Tree Routing Networks: the Load Balancing Case 138
Dorabella Santos, Amaro de Sousa, Filipe Alvelos, Mateusz Dzida, Michal Pióro and Michal Zagozdzon

Integration of Optical and Wireless Technologies in the Metro-Access: QoS Support and Mobility Aspects 146
David Remondo, Mario Nunes, Susana Sargento, Matteo Cesana, Ilario Filippini, Joan Triay, Anna Agustí, Marilet De Andrade, Lluis Gutierrez, Sebastia Sallent and Cristina Cervello-Pastor

Revisiting Internet Access Pricing for Loyal Customers: the Long-Term Interaction Case 154
Tuan Trinh and László Gyarmati

Quantifying the Restoration Capacity in Optical Mesh Networks 162
Claunir Pavan, Rui Manuel Morais and Armando Nolasco Pinto

Multilayer Optimization of Inverse-Multiplexed 100 Gb/s Ethernet Services over Optical Transport Networks 167
João Santos, João Pedro, Paulo Monteiro and João Pires

Network Middleware Design for Bridging Legacy Infrastructures and NGN 175
Nobutaka Matsumoto, Michiaki Hayashi and Hideaki Tanaka

On Traffic Characteristics of a Broadband Wireless Internet Access 184
Rastin Pries, Florian Wamser, Dirk Staehle, Klaus Heck and Phuoc Tran-Gia

Improving Vehicular Delay-Tolerant Network Performance with Relay Nodes 191
Vasco N. G. J. Soares, Farid Farahmand and Joel J. P. C. Rodrigues

ClubMED: Coordinated Multi-Exit Discriminator Strategies for Peering Carriers 196
Stefano Secci, Jean-Louis Rougier, Achille Pattavina, Fioravante Patrone and Guido Maier
SpeedDetect: A Simple TCP Extension for Handling Sudden Capacity Increase 204
Gergely Biczók, Gábor Németh, Péter Tarján, Ferenc Kubinszky and András Veres
On Movement-based Location Update. A Lookahead Strategy 213
Vicente Casares-Giner and Pablo García-Escalle
Performance Analysis of an Enhanced Distributed Access Mechanism in a Novel Multiservice OPS Architecture 221
Thaere Eido, Ferhan Pekergin and Tülin Atmaca
Providing Cost-effective QoS Monitoring in Multiservice Networks 228
Paulo Carvalho, Solange Rito Lima, André Ferreira, Emanuel Freitas and Filipe Leitão
Mobility of Sources and Listeners in IP Multicast-enabled Networks 236
João Mateiro, Susana Sargento, Augusto Neto and Nuno Ferreira
Introducing Neutral Access Networks 243
Alessandro Bogliolo
Powernet: Compact Routing on Internet-like Random Networks 249
Ilkka Norros
Author Index