

Table of Contents – Part II

Video Streaming

Quality Adaptation in P2P Video Streaming Based on Objective QoE Metrics	1
<i>Julius Rückert, Osama Abboud, Thomas Zinner, Ralf Steinmetz, and David Hausheer</i>	
Playback Policies for Live and On-Demand P2P Video Streaming	15
<i>Fabio V. Hecht, Thomas Bocek, Flávio Roberto Santos, and Burkhard Stiller</i>	
SmoothCache: HTTP-Live Streaming Goes Peer-to-Peer	29
<i>Roberto Roverso, Sameh El-Ansary, and Seif Haridi</i>	
Leveraging Video Viewing Patterns for Optimal Content Placement	44
<i>K.-W. Hwang, D. Applegate, A. Archer, V. Gopalakrishnan, S. Lee, V. Misra, K.K. Ramakrishnan, and D.F. Swayne</i>	

Peer to Peer

Enhancing Traffic Locality in BitTorrent via Shared Trackers	59
<i>Haiyang Wang, Feng Wang, Jiangchuan Liu, and Ke Xu</i>	
A Task-Based Model for the Lifespan of Peer-to-Peer Swarms	71
<i>Yong Zhao, Zhibin Zhang, Ting He, Alex X. Liu, Li Guo, and Binxing Fang</i>	
Using Centrality Metrics to Predict Peer Cooperation in Live Streaming Applications	84
<i>Glauber D. Gonçalves, Anna Guimarães, Alex Borges Vieira, Ítalo Cunha, and Jussara M. Almeida</i>	
Content Publishing and Downloading Practice in BitTorrent	97
<i>Seungbae Kim, Jinyoung Han, Taejoong Chung, Hyun-chul Kim, Ted “Taekyoung” Kwon, and Yanghee Choi</i>	

Interdomain

Towards a Statistical Characterization of the Interdomain Traffic Matrix	111
<i>Jakub Mikians, Amogh Dhamdhere, Constantine Dovrolis, Pere Barlet-Ros, and Josep Solé-Pareta</i>	

Characterizing Inter-domain Rerouting after Japan Earthquake 124
Yujing Liu, Xiapu Luo, Rocky K.C. Chang, and Jinshu Su

Measuring the Evolution of Internet Peering Agreements 136
Amogh Dhamdhere, Himalatha Cherukuru, Constantine Dovrolis, and Kc Claffy

Obscure Giants: Detecting the Provider-Free ASes 149
Syed Hasan and Sergey Gorinsky

Security

Detecting Stealthy Backdoors with Association Rule Mining 161
Stefan Hommes, Radu State, and Thomas Engel

Security Adoption in Heterogeneous Networks: The Influence of
Cyber-Insurance Market 172
Zichao Yang and John C.S. Lui

Secure Client Puzzles Based on Random Beacons 184
Yves Igor Jerschow and Martin Mauve

Heterogeneous Secure Multi-Party Computation 198
Mentari Djatmiko, Mathieu Cunche, Roksana Boreli, and Aruna Seneviratne

Cooperation and Collaboration

Competition in Access to Content 211
Tania Jiménez, Yezekeael Hayel, and Eitan Altman

Modelling the Tradeoffs in Overlay-ISP Cooperation 223
Raul Landa, Eleni Mykoniati, Richard G. Clegg, David Griffin, and Miguel Rio

Reducing the History in Decentralized Interaction-Based Reputation
Systems 238
Dimitra Gkorou, Tamás Vinkó, Nitin Chiluka, Johan Pouwelse, and Dick Epema

On the Problem of Revenue Sharing in Multi-domain Federations 252
Isabel Amigo, Pablo Belzarena, and Sandrine Vaton

DTN and Wireless Sensor Networks

On the Impact of a Road-Side Infrastructure for a DTN Deployed on a Public Transportation System	265
<i>Sabrina Gaito, Dario Maggiorini, Christian Quadri, and Gian Paolo Rossi</i>	
Estimating File-Spread in Delay Tolerant Networks under Two-Hop Routing	277
<i>Arshad Ali, Eitan Altman, Tijani Chahed, Dieter Fiems, Manoj Panda, and Lucile Sassatelli</i>	
A Distributed Smart Application for Solar Powered WSNs	291
<i>T.V. Prabhakar, S.N. Akshay Uttama Nambi, R. Venkatesha Prasad, S. Shilpa, K. Prakruthi, and Ignas Niemegeers</i>	
A Two-Layer Approach for Energy Efficiency in Mobile Location Sensing Applications	304
<i>Yi-Yin Chang, Cheng-Yu Lin, and Ling-Jyh Chen</i>	

Wireless Networks I

Maximizing Lifetime of Connected-Dominating-Set in Cognitive Radio Networks	316
<i>Zhiyong Lin, Hai Liu, Xiaowen Chu, Yiu-Wing Leung, and Ivan Stojmenovic</i>	
Traffic-Aware Channel Assignment for Multi-radio Wireless Networks...	331
<i>Ryan E. Irwin, Allen B. MacKenzie, and Luiz A. DaSilva</i>	
QoE Analysis of Media Streaming in Wireless Data Networks	343
<i>Yuedong Xu, Eitan Altman, Rachid El-Azouzi, Salah Eddine Elayoubi, and Majed Haddad</i>	
Competition between Wireless Service Providers Sharing a Radio Resource	355
<i>Patrick Maillé, Bruno Tuffin, and Jean-Marc Vigne</i>	

Wireless Networks II

Relay Placement for Two-Connectivity	366
<i>Gruia Calinescu</i>	
A 2-Approximation Algorithm for Optimal Deployment of k Base Stations in WSNs	378
<i>Hui Wu and Sabbir Mahmud</i>	

A Semi-dynamic Evolutionary Power Control Game	392
<i>Majed Haddad, Eitan Altman, Julien Gaillard, and Dieter Fiems</i>	
Gossip-Based Counting in Dynamic Networks	404
<i>Ruud van de Bovenkamp, Fernando Kuipers, and Piet Van Mieghem</i>	
Author Index	419

Table of Contents – Part I

Content-Centric Networking

Efficient User-Assisted Content Distribution over Information-Centric Network	1
<i>HyunYong Lee and Akihiro Nakao</i>	
On Inter-Domain Name Resolution for Information-Centric Networks . . .	13
<i>Konstantinos V. Katsaros, Nikos Fotiou, Xenofon Vasilakos, Christopher N. Ververidis, Christos Tsilopoulos, George Xylomenos, and George C. Polyzos</i>	
Cache “Less for More” in Information-Centric Networks	27
<i>Wei Koong Chai, Diliang He, Ioannis Psaras, and George Pavlou</i>	
Collaborative Forwarding and Caching in Content Centric Networks . . .	41
<i>Shuo Guo, Haiyong Xie, and Guangyu Shi</i>	

Social Networks

Crawling and Detecting Community Structure in Online Social Networks Using Local Information	56
<i>Norbert Blenn, Christian Doerr, Bas Van Kester, and Piet Van Mieghem</i>	
Distributed Content Backup and Sharing Using Social Information	68
<i>Jin Jiang and Claudio E. Casetti</i>	
Trans-Social Networks for Distributed Processing	82
<i>Nuno Apolónia, Paulo Ferreira, and Luís Veiga</i>	
Context-Sensitive Sentiment Classification of Short Colloquial Text	97
<i>Norbert Blenn, Kassandra Charalampidou, and Christian Doerr</i>	

Reliability and Resilience

Resilience in Computer Network Management	109
<i>Marcelo F. Vasconcelos and Ronaldo M. Salles</i>	
An Experimental Study on the Impact of Network Segmentation to the Resilience of Physical Processes	121
<i>Béla Genge and Christos Siaterlis</i>	

On the Vulnerability of Hardware Hash Tables to Sophisticated Attacks 135
Udi Ben-Porat, Anat Bremner-Barr, Hanoch Levy, and Bernhard Plattner

Degree and Principal Eigenvectors in Complex Networks 149
Cong Li, Huijuan Wang, and Piet Van Mieghem

Virtualization and Cloud Services

Resilient Virtual Network Design for End-to-End Cloud Services 161
Isil Burcu Barla, Dominic A. Schupke, and Georg Carle

Dynamic Scaling of Call-Stateful SIP Services in the Cloud 175
Nico Janssens, Xueli An, Koen Daenen, and Claudio Forlivesi

Remedy: Network-Aware Steady State VM Management for Data Centers 190
Vijay Mann, Akanksha Gupta, Partha Dutta, Anilkumar Vishnoi, Parantapa Bhattacharya, Rishabh Poddar, and Aakash Iyer

Building a Flexible and Scalable Virtual Hardware Data Plane 205
Junjie Liu, Yingke Xie, Gaogang Xie, Layong Luo, Fuxing Zhang, Xiaolong Wu, Qingsong Ning, and Hongtao Guan

IP Routing

Permutation Routing for Increased Robustness in IP Networks 217
Hung Quoc Vo, Olav Lysne, and Amund Kvalbein

Routing On Demand: Toward the Energy-Aware Traffic Engineering with OSPF 232
Meng Shen, Hongying Liu, Ke Xu, Ning Wang, and Yifeng Zhong

Minimization of Network Power Consumption with Redundancy Elimination 247
Frédéric Giroire, Joanna Moulhierac, Truong Khoa Phan, and Frédéric Roudaut

Sign What You Really Care about – Secure BGP AS Paths Efficiently 259
Yang Xiang, Zhiliang Wang, Jianping Wu, Xingang Shi, and Xia Yin

Network Measurement

Estimating Network Layer Subnet Characteristics via Statistical Sampling 274
M. Engin Tozal and Kamil Sarac

Sparsity without the Complexity: Loss Localisation Using Tree Measurements	289
<i>Vijay Arya and Darryl Veitch</i>	
Efficient and Secure Decentralized Network Size Estimation	304
<i>Nathan Evans, Bartłomiej Polot, and Christian Grothoff</i>	
A Panoramic View of 3G Data/Control-Plane Traffic: Mobile Device Perspective.....	318
<i>Xiuqiang He, Patrick P.C. Lee, Lujia Pan, Cheng He, and John C.S. Lui</i>	

Network Mapping

Towards a Robust Framework of Network Coordinate Systems	331
<i>Linpeng Tang, Zhiyong Shen, Qunyang Lin, and Junqing Xie</i>	
BSense: A Flexible and Open-Source Broadband Mapping Framework	344
<i>Giacomo Bernardi, Damon Fenacci, Mahesh K. Marina, and Dimitrios P. Pezaros</i>	
Validity of Router Responses for IP Aliases Resolution	358
<i>Santiago Garcia-Jimenez, Eduardo Magaña, Mikel Izal, and Daniel Morató</i>	
Semantic Exploration of DNS	370
<i>Samuel Marchal, Jérôme François, Cynthia Wagner, and Thomas Engel</i>	

LISP and Multi-domain Routing

On the Dynamics of Locators in LISP	385
<i>Damien Saucez and Benoit Donnet</i>	
A Local Approach to Fast Failure Recovery of LISP Ingress Tunnel Routers	397
<i>Damien Saucez, Juhoon Kim, Luigi Iannone, Olivier Bonaventure, and Clarence Filsfils</i>	
An Analytical Model for the LISP Cache Size	409
<i>Florin Coras, Albert Cabellos-Aparicio, and Jordi Domingo-Pascual</i>	
Path Computation in Multi-layer Multi-domain Networks	421
<i>Mohamed Lamine Lamali, Hélia Pouyllau, and Dominique Barth</i>	
Author Index	435