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17:00 - 17:30

Workshops Monday - End of the technical program

Tuesday, October 27

08:30 - 09:00

Registration

09:00 - 09:30

Opening and Welcome

Rooms: Gulf Room, Palm Room, Bay Room

09:30 - 10:30

Keynote 1: Ethervation: Innovation of and on the Ethernet platform

Prof. Robert Metcalfe, The University of Texas at Austin, USA
Prof. Robert Metcalfe, The University of Texas at Austin, USA

Rooms: Gulf Room, Palm Room, Bay Room

Abstract: Innovation sometimes advances in leaps and bounds when robust "platforms" appear. Ethernet's story going back 42 years involves two robust platforms: CMOS according to Moore's Law and TCP/IP/Ethernet according to, well OK yes, Metcalfe's Law. Ethernet began as a Local Computer Network (later LAN) in 1973. Back then it ran at 2.94Mbps and coaxially connected PCs in a building. Now it runs up to 100Gbps in the LAN, has returned to its Alohanet wireless roots as Wi-Fi, and is moving down to serve the coming Internet of Things. Ethernet platform innovation is paced by semiconductors. But then there are the many innovations that have taken place on top of the evolving Ethernet platform. The TCP/IP/Ethernet Internet has gone web, video, mobile, social, cloud, embedded — from mainframes to minicomputers to workstations to PCs to cellphones to things. Some of this innovation can be attributed to the venerable Ethernet business model, which is based on packet switching, de jure standards (IEEE), owned implementations, fierce competition, interoperability, rapid evolution, backward compatibility, build it and they will come. Ethernet is the answer; what is the question?

10:30 - 11:00

Coffee Break

11:00 - 12:30

1: Plenary session: Best Paper Candidates

Rooms: Gulf Room, Palm Room, Bay Room

Beware of the Hidden! How Cross-traffic Affects Quality Assurances of Competing Real-time Ethernet Standards for In-Car Communication

Till Steinbach (Hamburg University of Applied Sciences, Germany); Hyung-Taek Lim (BMW Group Research and Technology, Germany); Franz Korf and Thomas C. Schmidt (Hamburg University of Applied Sciences, Germany); Daniel Herrscher (BMW Group Research and Technology, Germany); Adam Wolisz (TUB, Germany)

pp. 1-9

Exploring Interconnect Energy Savings Under East-West Traffic Pattern of MapReduce Clusters
Renan Fischer e Silva (Universitat Politecnica de Catalunya & Barcelona Supercomputing Center, Spain); Paul M. Carpenter (Barcelona Supercomputing Center, Spain)
pp. 10-18

Collaborative On-demand Wi-Fi Sharing
Hanno Wirtz, Torsten Zimmermann, Martin Serror and Klaus Wehrle (RWTH Aachen University, Germany)
pp. 19-27

12:30 - 13:30

Lunch

13:30 - 15:30

2A: Information Centric Networks

Room: Gulf Room

Content Discovery in Wireless Information-Centric Networks
Carlos Anastasiades, Arun Sittampalam and Torsten Ingo Braun (University of Bern, Switzerland)
pp. 28-36

Modelling the Pending Interest Table Occupancy in CCN with Interest Timeout and Retransmission
Amuda James Abu and Brahim Bensaou (The Hong Kong University of Science and Technology, Hong Kong)
pp. 37-45

Performance Analysis of Probabilistic Caching Scheme Using Markov Chains
Saran Tarnoi (National Institute of Informatics, Japan); Vorapong Suppakitpaisarn (The University of Tokyo & JST, ERATO, Kawarabayashi Large Graph Project, Japan); Wuttipong Kumwilaisak (King Mongkut's University of Technology, Thonburi, Thailand); Yusheng Ji (National Institute of Informatics, Japan)
pp. 46-54

Joint Optimization of Content Replication and Traffic Engineering in ICN
Zhen Feng, Mingwei Xu, Yuan Yang, Qi Li and Yu Wang (Tsinghua University, P.R. China); Qing Li (Graduate School at Shenzhen, Tsinghua University, P.R. China); Börje Ohlman (Ericsson, Sweden); Meng Chen (Tsinghua University, P.R. China)
pp. 55-63

Persistent Caching in Information-Centric Networks
Carlos Anastasiades, Andre Gomes, Rene Gadow and Torsten Ingo Braun (University of Bern, Switzerland)
pp. 64-72

2B: Security

Room: Palm Room

Coordination Supports Security: A New Defence Mechanism Against Interest Flooding in NDN
Hani Salah (TU Darmstadt, Germany); Julian Wulfheide (Technische Universität Darmstadt, Germany); Thorsten Strufe (TU Dresden, Germany)
pp. 73-81

ELDA: Towards Efficient and Lightweight Detection of Cache Pollution Attacks in NDN
Zhiwei Xu (University of Chinese Academy of Sciences & Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Bo Chen (The Pennsylvania State University, USA); Ninghan Wang (University of Chinese Academy of Sciences & Institute of Computing Technology,

Chinese Academy of Sciences, P.R. China); Yujun Zhang and Zhongcheng Li (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China)
pp. 82-90

Rebound: Decoy Routing on Asymmetric Routes Via Error Messages
Daniel Ellard (Raytheon BBN Technologies, USA); Alden Jackson (Self, USA); Christine Jones (BBN, USA); Victoria Ursula Manfredi (BBN Technologies, USA); Timothy Strayer (Raytheon BBN Technologies, USA); Bishal Thapa (Raytheon BBN Technology, USA); Megan Van Welie (Raytheon BBN Technologies, USA)
pp. 91-99

Growing a Web of Trust
Benjamin Schiller and Thorsten Strufe (TU Dresden, Germany); Dirk Kohlweyer (Bielefeld University, Germany); Jan Seedorf (NEC Europe Ltd., Germany)
pp. 100-108

Using Fake Sinks and Deceptive Relays to Boost Base-station Anonymity in Wireless Sensor Network
Nikolaos Baroutis (University of Maryland, Baltimore County, USA); Mohamed Younis (University of Maryland Baltimore County, USA)
pp. 109-116

2C: Wireless Sensor Networks

Room: Bay Room

Toward a Robust Sparse Data Representation for Wireless Sensor Networks
Mohammad Abu Alsheikh (Nanyang Technological University, Singapore); Shaowei Lin (Institute for Infocomm Research, Singapore); Hwee Pink Tan (Singapore Management University & TCS-SMU iCity Lab, Singapore); Dusit Niyato (Nanyang Technological University, Singapore)
pp. 117-124

Animal Monitoring with Unmanned Aerial Vehicle-Aided Wireless Sensor Networks
Jun Xu, Gürkan Solmaz, Rouhollah Rahmatizadeh, Damla Turgut and Ladislau Bölöni (University of Central Florida, USA)
pp. 125-132

Reliable Surveillance in Ring Deployed Wireless Sensor Networks
Mohammed Elmorsy and Ehab S. Elmallah (University of Alberta, Canada)
pp. 133-140

C-SDF: Practical Solar-aware Distributed Flow Control
Immanuel Schweizer and Tobias Petry (Technische Universität Darmstadt, Germany); Max Muehlhaeuser (Technical University Darmstadt, Germany)
pp. 141-148

Scheduling Multiple Mobile Sinks in Underwater Sensor Networks
Fahad Khan (University of Central Florida & University of Engineering & Technology Lahore, USA); Saad Khan (University of Central Florida & University of Engineering and Technology Lahore, USA); Damla Turgut and Ladislau Bölöni (University of Central Florida, USA)
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15:30 - 17:00

Demonstrations with Coffee

Room: Island Ballroom

Video-Based Overtaking Assistance Now A Reality
Subhadeep Patra and Sergio M. Tornell (Universitat Politècnica de València, Spain); Carlos T. Calafate (Universidad Politécnica de Valencia, Spain); Juan-Carlos Cano (Universidad Politecnica de Valencia, Spain); Pietro Manzoni (Universidad Politécnica de Valencia, Spain)

ProFuN TG: Programming Sensornets with Task Graphs for Increased Reliability and Energy-Efficiency
Atis Elsts (SICS Swedish ICT, Sweden); Farshid Hassani Bijarbooneh, Martin Jacobsson and Konstantinos Sagonas (Uppsala University, Sweden)

WiFi Offloading and Socially Aware Prefetching on Augmented Home Routers
George Petropoulos (Intracom SA Telecom Solutions, Greece); Andri Lareida (Universität Zürich, Switzerland); Sergios Soursos (Intracom SA Telecom Solutions, Greece); Michael Seufert (University of Würzburg, Germany); Valentin Burger (University of Wuerzburg, Germany); Burkhard Stiller (University of Zürich & ETH Zürich, TIK, Switzerland)

Live Demonstration of Application Layer Traffic Monitoring At 100 Gbps
Viktor Puš (CESNET, Czech Republic); Lukáš Kekely (CESNET a. l. e., Czech Republic); Denis Matoušek (INVEA-TECH a. s., Czech Republic); Jan Kučera (CESNET, Czech Republic)

Demonstration of Rebound: Decoy Routing on Asymmetric Routes Via Error Messages
Daniel Ellard (Raytheon BBN Technologies, USA); Bishal Thapa (Raytheon BBN Technology, USA); Christine Jones (BBN, USA); Megan Van Welie and Timothy Strayer (Raytheon BBN Technologies, USA); Victoria Ursula Manfredi (BBN Technologies, USA)

Demo: Prototyping Next-Generation In-Car Backbones Using System-Level Network Simulation
Till Steinbach, Philipp Meyer, Stefan Buschmann, Franz Korf and Thomas C. Schmidt (Hamburg University of Applied Sciences, Germany)

DEMO: The Need for Wireless Clock Drift Estimation and Its Acceleration on a Heterogeneous Sensor Node
Andreas Engel and Andreas Koch (Darmstadt University of Technology, Germany)

WiFi Multicast to Very Large Groups - Experimentation on the ORBIT Testbed
Varun Gupta, Raphael Norwitz, Savvas Petridis, Craig Gutterman and Gil Zussman (Columbia University, USA); Yigal Bejerano (Bell-Labs, Alcatel-Lucent, USA)

Demonstration of A Novel Storage Covert Channel on Android Smartwatch Using Status Bar Notifications
Kyle Denney, A. Selcuk Uluagac, Kemal Akkaya and Nico Saputro (Florida International University, USA)

Posters with Tea

Room: Island Ballroom

D-RPL: Overcoming Memory Limitations in RPL Point-To-Multipoint Routing
Csaba Kiraly (Bruno Kessler Foundation, Italy); Timofei Istomin, Oana Iova and Gian Pietro Picco (University of Trento, Italy)
pp. 157-160

JitVector: Just-in-Time Code Generation for Network Packet Classification
Samuel Brack (Humboldt-University of Berlin, Germany); Sven Hager and Björn Scheuermann (Humboldt University of Berlin, Germany)
pp. 161-164

Towards Identifying Large-scale BGP Events
Meng Chen and Mingwei Xu (Tsinghua University, P.R. China); Xirui Song (Beijing University of Posts and Telecommunications, P.R. China); Yuan Yang (Tsinghua University, P.R. China)
pp. 165-168

SDN Shim: Controlling Legacy Devices
Daniel J. Casey and Barry E. Mullins (Air Force Institute of Technology, USA)
pp. 169-172

An Analytical Model to Achieve Elasticity for Cloud-based Firewalls
Khaled Salah (Khalifa University of Science, Technology and Research (KUSTAR), UAE)
pp. 173-176

Tracemax: A Novel Single Packet IP Traceback Strategy for Data-Flow Analysis
Peter Hillmann, Frank Tietze and Gabi Dreo Rodosek (Universität der Bundeswehr München, Germany)
pp. 177-180

Coverage Preservation in Energy Harvesting Wireless Sensor Networks for Rare Events
David C. Harrison, Winston K.G. Seah and Ramesh Rayudu (Victoria University of Wellington, New Zealand)
pp. 181-184

Incorporating Multiple Cluster Models for Network Traffic Classification
Anil Kumar Katta (Texas A & M University Commerce, USA); Jinoh Kim and Sang Suh (Texas A&M University-Commerce, USA); Ganho Choi (Sysmate Inc., Korea)
pp. 185-188

Using a Mobile Vehicle for Road Condition Surveillance by Energy Harvesting Sensor Nodes
Abbas Mehrabi (Gwangju Institute of Science and Technology, Gwangju, Korea); Kiseon Kim (GIST - Gwangju, Reoublic of Korea, Korea)
pp. 189-192

Towards Exploring the Benefits of Scope-Flooding in Information-Centric Networks
Andriana Ioannou (Trinity College of Dublin, Ireland); Stefan Weber (Trinity College Dublin, Ireland)
pp. 193-196

Fossa: Using Genetic Programming to Learn ECA Rules for Adaptive Networking Applications
Alexander Frömmgen (TU Darmstadt, Germany); Robert Rehner and Max Lehn (Technische Universität Darmstadt, Germany); Alejandro Buchmann (Technische Universitat Darmstadt, Germany)
pp. 197-200

An Analytical Model for Bounded WSNs with Unreliable Cluster Heads and Links
Fredrick A. Omondi (Middlesex University & University of Nairobi, United Kingdom); Enver Ever (Middle East Technical University Northern Cyprus Campus, Turkey); Purav Shah (Middlesex University & School of Science and Technology, United Kingdom); Orhan Gemikonakli (Middlesex University, United Kingdom)
pp. 201-204

Mobile Data Collection Using Multi-Channel Network Coding in Wireless Sensor Networks
Mansour Abdulaziz and Robert Simon (George Mason University, USA)
pp. 205-208

Viterbi Algorithm for Detecting DDoS Attacks
Wilson Bongiovanni (Institute of Technological Research, Brazil); Adilson Guelfi (UNOESTE / FIPT, Brazil); Elvis Pontes (University of Sao Paulo & Laboratory of Integrated Systems (LSI), Brazil); Anderson Silva (University of São Paulo, Brazil); Fen Zhou (University of Avignon, France); Sergio Kofuji (University of Sao Paulo, Brazil)
pp. 209-212

Characterizing Performance and Fairness of Big Data Transfer Protocols on Long-haul Networks
Se-young Yu, Nevil Brownlee and Aniket Mahanti (University of Auckland, New Zealand)
pp. 213-216

Avatar Mobility and Network Condition-aware 3D Game Over Wireless Networks
Donghyeok Ho and Hyungnam Kim (POSTECH, Korea); Hwangjun Song (POSTECH (Pohang University of Science and Technology), Korea)
pp. 217-220

Towards A Method of Estimating One-Way Delays Under Delay Asymmetry and Unknown Relative Clock Offset
Jun Liu (University of North Dakota, USA)
pp. 221-224

Towards a Context Aware Multipath-TCP
Richard Withnell and Christopher Edwards (Lancaster University, United Kingdom)
pp. 225-228

Topology Control with Application Constraints
Michael Stein, Géza Kulcsár, Immanuel Schweizer and Gergely Varró (Technische Universität Darmstadt, Germany); Andy Schürr (Darmstadt University of Technology, Germany); Max Muehlhaeuser (Technical University Darmstadt, Germany)
pp. 229-232

Efficient Multi-Group Formation and Communication Protocol for Wi-Fi Direct
Ahmed Amer Shahin (University of Maryland Baltimore County & Zagazig University, USA); Mohamed Younis (University of Maryland Baltimore County, USA)
pp. 233-236

Channel Assignment in Mobile Networks Based on Geometric Prediction and Random Coloring
Subhankar Ghosal and Sasthi C. Ghosh (Indian Statistical Institute, India)
pp. 237-240

Participatory-sensing-enabled Efficient Parking Management in Modern Cities
Sanket Gupte (University of Maryland, Baltimore County, USA); Mohamed Younis (University of Maryland Baltimore County, USA)
pp. 241-244

16:30 - 17:30

40th Anniversary Panel: LCN Today, Tomorrow, and Network Technologies Introduced

Bob Metcalfe, Harvey Freeman, Howard Salwen, Peter Martini

Rooms: Gulf Room, Palm Room, Bay Room

The LCN40 Conference is pleased to host an expert panel session titled "LCN Today, Tomorrow, and Network Technologies Introduced" with four of the conference's — and the industry's — notable pioneers. LCN is the oldest continually running computer networking conference in the world, so come hear from of the conference's pioneers. Topics will include LCN planning then and now, and a recollection of the network technologies introduced and discussed at LCN over the years. And, of course, a lively discussion with the audience! Our expert panel members will be: (i) Bob Metcalfe was the co-founder of 3Com Corporation, best known for its computer network infrastructure products utilizing IEEE 802.3 Ethernet technology, where he was CEO from 1979-2010. Dr. Metcalfe was the keynote speaker at LCN-3 and LCN-7, and will give the plenary keynote address at LCN40. (ii) Harvey Freeman was the founder of LANWORKS, a network equipment supplier in the 1980s and 1990s, where he was president from 1987-1997. Harvey was an LCN leader and organizer from LCN-3 to LCN-22. (iii) Howard Salwen was the founder of Proteon Networks, a Token-Ring LAN vendor in the earliest days of local computer networking; while at Proteon, he was Chairman from 1972-1999, CEO from 1972-1984, and CTO from 1984-1999. Howard was an LCN leader and participant from LCN-10 to LCN-30. (iv) Peter Martini is a Professor of Communication and Networked Systems at the University of Bonn. Dr. Martini has been an LCN leader and participant since LCN-14 and was a keynote speaker at LCN-36.

18:00 - 21:00

Conference Banquet

Wednesday, October 28

08:30 - 09:00

Registration

09:00 - 10:30

3A: Video Streaming and Applications

Rooms: Beach Room, Gulf Room

Dependency-Aware Distributed Video Transcoding in the Cloud
Mohammad Reza Zakerinasab and Mea Wang (University of Calgary, Canada)
pp. 245-252

Chance-Constrained QoS Satisfaction for Predictive Video Streaming
Ramy Atawia, Hatem Abou-zeid and Hossam S. Hassanein (Queen's University, Canada); Aboelmagd Noureldin (RMC Canada, Canada)
pp. 253-260

RBCS: A Resilient Backbone Construction Scheme for Hybrid Peer-to-Peer Streaming
Giang Nguyen, Stefanie Roos and Thorsten Strufe (TU Dresden, Germany); Mathias Fischer (International Computer Science Institute, USA)
pp. 261-269

An ITS Solution Providing Real-Time Visual Overtaking Assistance Using Smartphones
Subhadeep Patra (Universitat Politècnica de València, Spain); Carlos T. Calafate (Universidad Politécnica de Valencia, Spain); Juan-Carlos Cano (Universidad Politecnica de Valencia, Spain); Pietro Manzoni (Universidad Politécnica de Valencia, Spain)
pp. 270-278

3B: Transport Protocols and Energy Efficiency

Rooms: Palm Room, Bay Room

FLOWER - Fuzzy Lower-than-Best-Effort Transport Protocol
Si Quoc Viet Trang (ISAE, France); Emmanuel Lochin (University of Toulouse - ISAE, France); Cédric Baudoin (Thales Alenia Space, France); Emmanuel Dubois and Patrick Gelard (CNES, France)
pp. 279-286

Latency and Fairness Trade-Off for Thin Streams Using Redundant Data Bundling in TCP
Bendik Opstad and Jonas Markussen (University of Oslo & Simula Research Laboratory, Norway); Iffat Ahmed (Simula Research Laboratory, Norway); Andreas Petlund (University of Oslo & Simula Research Laboratory, Norway); Carsten Griwodz (Simula Research Laboratory, Norway); Pål Halvorsen (Simula Research Laboratory & Department of Informatics, University of Oslo, Norway)
pp. 287-294

Improving TCP Performance in Data Center Networks with Adaptive Complementary Coding
Jiyan Sun, Yan Zhang, Ding Tang, Shuli Zhang and Zhen Xu (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China); Jingguo Ge (CNIC, CAS, P.R. China)
pp. 295-302

Frugal Topologies for Saving Energy in IP Networks
Mohammed Hussein and Gentian Jakllari (University of Toulouse, France); Beatrice Paillassa (University of Toulouse & Laboratory IRIT, France)
pp. 303-311

10:30 - 11:00

Coffee

11:00 - 12:30

4A: Wireless and Mobile Networks

Rooms: Beach Room, Gulf Room

Caching on the Move: Towards D2D-based Information Centric Networking for Mobile Content Distribution
Ganesh Chandrasekaran, Ning Wang and Rahim Tafazolli (University of Surrey, United Kingdom)
pp. 312-320

Data Bundling for Energy Efficient Communication of Wearable Devices
JungWoong Sung and Seung-Jae Han (Yonsei University, Korea)
pp. 321-328

DLINK: Dual Link Based Radio Frequency Fingerprinting for Wearable Devices
Girish Revadigar (School of Computer Science and Engineering, UNSW Australia & NICTA Australia, Australia); Chitra Javali (School of Computer Science and Engineering, UNSW Australia, Australia); Wen Hu (the University of New South Wales (UNSW) & CSIRO, Australia); Sanjay Jha (University of NSW, Australia)
pp. 329-337

Predictive Mobile IP Handover for Vehicular Networks
Alexander Magnano, Xin Fei and Azzedine Boukerche (University of Ottawa, Canada)
pp. 338-346

4B: Overlay Networks

Rooms: Palm Room, Bay Room

Augmenting Home Routers for Socially-Aware Traffic Management
Andri Lareida (Universität Zürich, Switzerland); George Petropoulos (Intracom SA Telecom Solutions, Greece); Valentin Burger (University of Wuerzburg, Germany); Michael Seufert (University of Würzburg, Germany); Sergios Soursos (Intracom SA Telecom Solutions, Greece); Burkhard Stiller (University of Zürich & ETH Zürich, TIK, Switzerland)
pp. 347-355

FRoDO: Friendly Routing Over Dunbar-based Overlays
Tobias Amft (University of Dusseldorf, Germany); Barbara Guidi (University of Pisa, Italy); Kalman Graffi (Heinrich Heine University Düsseldorf, Germany); Laura Ricci (University of Pisa, Italy)
pp. 356-364

Competitive Equilibrium and Stable Coalition in Overlay Environments
Shan Jiang, Jianxin Liao, Jun Gong and Jingyu Wang (Beijing University of Posts and Telecommunications, P.R. China); Tonghong Li (Technical university of Madrid, Spain)
pp. 365-372

Energy-efficient Overlay Networks for Mobile Devices with Buffered Relaying and Push Notifications
Thomas Bocek (University of Zurich, Switzerland); Burkhard Stiller (University of Zürich & ETH Zürich, TIK, Switzerland); Nico Rutishauser (University of Zurich, Switzerland)
pp. 373-381

12:30 - 13:29

Lunch Break

13:30 - 14:30

Keynote 2: Stormy Clouds - Security in Distributed Cloud Systems

Prof. Muriel Médard, Massachusetts Institute of Technology, Cambridge, Massachsetts, USA
Prof. Muriel Médard, Massachusetts Institute of Technology, Cambridge, Massachsetts, USA

Rooms: Gulf Room, Palm Room, Bay Room

As massively distributed storage becomes the norm in cloud networks, they contend with new vulnerabilities imputed by the presence of data in different, possibly untrusted nodes. In this talk, we consider two such types of vulnerabilities. The first one is the risk posed to data stored at nodes that are untrusted. We show that coding alone can be substituted to encryption, with coded portions of data in trusted nodes acting as keys for coded data in untrusted ones. In general, we may interpret keys as representing the size of the list over which an adversary would need to generate guesses in order to recover the plaintext, leading to a natural connection between list decoding and secrecy. Under such a model, we show that algebraic block maximum distance separable (MDS) codes

can be constructed so that lists satisfy certain secrecy criteria, which we define to generalize common perfect secrecy and weak secrecy notions. The second type of vulnerability concerns the risk of passwords' being guessed over some nodes storing data, as illustrated by recent cloud attacks. In this domain, the use of guesswork as a metric shows that the dominant effect on vulnerability is not necessarily from a single node, but that it varies in time according to the number of guesses issued. We also introduce the notion of inscrutability, as the growth rate of the average number of probes that an attacker has to make, one at a time, using his best strategy, until he can correctly guess one or more secret strings from multiple randomly chosen strings. Joint work with Ahmad Beirami, Joao Barros, Robert Calderbank, Mark Christiansen, Ken Duffy, Flavio du Pin Calmon, Luisa Lima, Paulo Oliveira, Stefano Tessaro, Mayank Varia, Tiago Vinhoza, Linda Zeger.

14:30 - 15:00

Invitation to LCN 2016

Rooms: Gulf Room, Palm Room, Bay Room

15:00 - 16:30

Posters with Coffee

Room: Island Ballroom

Measuring and Modeling Performance of WLAN Communication for Multistatic Sonar Applications

Sascha A. Jopen (Fraunhofer FKIE & University of Bonn, Germany); Arne Schulz (Bundeswehr Technical Center for Ships and Naval Weapons, Technology & Research, Germany); Raphael Ernst (Fraunhofer FKIE, Germany)

pp. 382-385

VirtualStack: A Framework for Protocol Stack Virtualization At the Edge

Jens Heuschkel (Technical University of Darmstadt Telecooperation, Germany); Immanuel Schweizer (Technische Universität Darmstadt, Germany); Max Muehlhaeuser (Technical University Darmstadt, Germany)

pp. 386-389

Reference Equipment of Cross-Layer Control for Live Video Transmission on Various Physical Links

Shuhei Oda, Masaaki Kurozumi and Yosuke Endo (Japan Broadcasting Corporation, Japan)

pp. 390-393

ULLA-X: A Unified Programmatic Middleware for On-Demand Network Reconfiguration

Avishek Patra, Andreas Achtzehn and Petri Mähönen (RWTH Aachen University, Germany)

pp. 394-397

Challenges for 100 Gbit/s End to End Communication: Increasing Throughput Through Parallel Processing

Steffen Büchner (Brandenburgische Technische Universität Cottbus-Senftenberg, Germany); Jörg Nolte (BTU Cottbus, Germany); Rolf Kraemer (IHP Microelectronics, Frankfurt/Oder, Germany); Lukasz Lopacinski (BTU Cottbus, Germany); Reinhardt Karnapke (Technische Universität Berlin, Germany)

pp. 398-401

Cooperative Spectrum Mobility in Heterogeneous Opportunistic Networks Using Cognitive Radio

Avirup Das (University of Calcutta, India); Nabanita Das and Sasthi C. Ghosh (Indian Statistical Institute, India); Abhirup Das Barman (CNIT, Photonic Networks National Laboratory, Italy)

pp. 402-405

Method for Providing Secure and Private Fine-grained Access to Outsourced Data

Mosarrat Jahan (University of New South Wales, Australia); Mohsen Rezvani (UNSW, Australia); Aruna Seneviratne (University of New South Wales, Australia); Sanjay Jha (University of NSW, Australia)

pp. 406-409

O-ACK: An Adaptive Wireless MAC Protocol Exploiting Opportunistic Token-Passing and Ack Piggybacking
Shegufta Ahsan (University of Illinois at Urbana Champaign, USA); Nitin Vaidya (University of Illinois at Urbana-Champaign, USA)
pp. 410-413

a-kTC: Integrating Topology Control Into the Stack
Immanuel Schweizer, Ralf Zimmermann and Michael Stein (Technische Universität Darmstadt, Germany); Max Muehlhaeuser (Technical University Darmstadt, Germany)
pp. 414-417

SEARS: Space Efficient and Reliable Storage System in the Cloud
Ying Li (Stony Brook University, USA); Katherine Guo (Bell Labs, USA); Xin Wang (Stony Brook University, USA); Emina Soljanin (Bell Labs, Alcatel - Lucent, USA); Thomas Woo (Bell Labs, USA)
pp. 418-421

LAC: Introducing Latency-Aware Caching in Information-Centric Networks
Giovanna Carofiglio (Cisco Systems, France); Leonce Mekinda (Orange Labs & Telecom Paristech, France); Luca Muscariello (Orange Labs Networks, France)
pp. 422-425

Performance Evaluation of Joint Transmission Coordinated-MultiPoint in Dense Very High Throughput WLANs Scenario
Iyad Lahsen Cherif (Paris Sud, France); Lynda Zitoune (ESIEE-Paris, France); Véronique Vèque (University of Paris-Sud 11, France)
pp. 426-429

Cache Coherence in Machine-to-Machine Information Centric Networks
Maroua Meddeb (University of Manouba & HANA Group Lab, Tunisia); Amine Dhraief (University of Manouba, Tunisia); Abdelfettah Belghith (University of Manouba & National School of Computer Sciences ENSI, Tunisia); Thierry Monteil (LAAS-CNRS, University of Toulouse, France); Khalil Drira (LAAS-CNRS, France)
pp. 430-433

A Partial-decentralized Coflow Scheduling Scheme in Data Center Networks
Shuli Zhang, Yan Zhang, Ding Tang and Zhen Xu (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China); Jingguo Ge (CNIC, CAS, P.R. China); Zhijun Zhao (Chinese Academy of Sciences, P.R. China)
pp. 434-437

OrLiOn: Optimized Route Planning for the Localization of Indoor Nodes From Outdoor Environment
Alina Rubina (Technical University of Ilmenau, Germany); Oleksandr Artemenko and Andreas Mitschele-Thiel (Ilmenau University of Technology, Germany)
pp. 438-441

Can Multipath TCP Save Energy? A Measuring and Modeling Study of MPTCP Energy Consumption
Fabian Kaup (TU Darmstadt, Germany); Matthias Wichtlhuber (Technische Universität Darmstadt, Germany); Stefan Rado and David Hausheer (TU Darmstadt, Germany)
pp. 442-445

Performance of a Tiered Architecture to Support End-Host Mobility in a Locator Identity Split Environment
Avinash Mungur (University of Mauritius, Mauritius); Christopher Edwards (Lancaster University, United Kingdom)
pp. 446-449

Revisiting the Controller Placement Problem
Md Tanvir Ishtaique ul Huque (University of New South Wales, Australia); Guillaume Jourjon (NICTA, Australia); Vincent Gramoli (University of Sydney, Australia)
pp. 450-453

Content Retrieval Method in Cooperation with CDN and ICN-based In-network Guidance Over IP Network
Yutaro Inaba, Hideki Tode and Yosuke Tanigawa (Osaka Prefecture University, Japan)
pp. 454-457

Evaluation of Topology Optimization Objectives
Sinan Y Hanay (NICT, Japan); Shin'ichi Arakawa and Masayuki Murata (Osaka University, Japan)
pp. 458-461

A Step Towards a Protocol-Independent Measurement Framework for Dynamic Networks
Nils Richerzhagen (Technische Universität Darmstadt, Germany); Tao Li (TU Dresden, Germany); Dominik Stingl, Björn Richerzhagen and Ralf Steinmetz (Technische Universität Darmstadt, Germany); Silvia Santini (TU Dresden, Germany)
pp. 462-465

Cooperative Traffic Management for Co-existing Overlays
Ziteng Cui, Jianxin Liao, Jingyu Wang, Qi Qi and Jing Wang (Beijing University of Posts and Telecommunications, P.R. China)
pp. 466-469

Efficient Camera Selection for Maximized Target Coverage in Underwater Acoustic Sensor Networks
Bilal Gonen (University of West Florida, USA); Kemal Akkaya (Florida International University, USA); Fatih Senel (Antalya International University, Turkey)
pp. 470-473

Performance Evaluation of Delay-Tolerant Wireless Friend-to-Friend Networks for Undetectable Communication
Ana Barroso and Matthias Hollick (Technische Universität Darmstadt & Secure Mobile Networking Lab, Center for Advanced Security Research Darmstadt, Germany)
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SSIDs in the Wild: Extracting Semantic Information From WiFi SSIDs
Suranga Seneviratne (NICTA, Australia); Fangzhou Jiang (NICTA & University of New South Wales, Australia); Mathieu Cunche (INSA-Lyon / INRIA, France); Aruna Seneviratne (University of New South Wales, Australia)
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Ramona Trestian and Quoc-Tuan Vien (Middlesex University, United Kingdom); Purav Shah (Middlesex University & School of Science and Technology, United Kingdom); Glenford E Mapp (MIddlesex University & Cantego Limited, United Kingdom)
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The (in)security of Topology Discovery in Software Defined Networks
Talal Alharbi (The University of Queensland, Australia); Marius Portmann (University of Queensland, Australia); Farzaneh Pakzad (The University of Queensland, Australia)
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Unknown Pattern Extraction for Statistical Network Protocol Identification
Yu Wang, Chao Chen and Yang Xiang (Deakin University, Australia)
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5A: Routing

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Nazim U Ahmed and Kamil Sarac (University of Texas at Dallas, USA)
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Efficient One-to-Many Broadcasting for Resource-constrained Wireless Networks
James Pope (George Mason University & C4I Center, USA); Robert Simon (George Mason University, USA)
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COSC: Paths with Combined Optimal Stability and Capacity in Opportunistic Networks
Shiraz Qayyum, Peizhao Hu and Mohan J Kumar (Rochester Institute of Technology, USA)
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Fast Detection of Compact Topology Representation for Wireless Networks
Yigal Bejerano (Bell-Labs, Alcatel-Lucent, USA); Katherine Guo (Bell Labs, USA); Thyaga Nandagopal (National Science Foundation, USA)
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Congestion Modeling and Management Techniques for Predictable Disruption Tolerant Networks
Juan Fraire (Universidad Nacional de Córdoba, Argentina); Pablo Madoery (National University of Córdoba, Argentina); Jorge M Finochietto (National University of Córdoba & CONICET, Argentina); Edward Birrane, III (Johns Hopkins University Applied Physics Laboratory & University of Maryland, Baltimore County, USA)
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5B: Large Scale Networks and Big Data

Rooms: Palm Room, Bay Room

A Lossless Switch for Data Acquisition Networks
Grzegorz Jereczek (CERN & Maynooth University, Switzerland); Giovanna Lehmann-Miotto (CERN, Switzerland); David Malone (Maynooth University, Ireland); Mirosław Walukiewicz (Intel, Poland)
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RODA: A Reconfigurable Optical Data Center Network Architecture
Amitangshu Pal and Krishna Kant (Temple University, USA)
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Capacitated Cloudlet Placements in Wireless Metropolitan Area Networks
Zichuan Xu (Australian National University, Australia); Weifa Liang (The Australian National University, Australia); Wenzheng Xu (Sichuan University & Australian National University, P.R. China); Mike Jia (Australian National University, Australia); Song Guo (The University of Aizu, Japan)
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Leveraging Network Structure in Centrality Evaluation of Large Scale Networks
Sima Das and Sajal K. Das (Missouri University of Science and Technology, USA)
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On Periodic Scheduling of Fixed-Slot Bandwidth Reservations for Big Data Transfer
Yongqiang Wang (Northwest University, P.R. China); Chase Q Wu (New Jersey Institute of Technology & Oak Ridge National Laboratory, USA); Aiqin Hou, Wenyu Peng, Shuting Xu and Meng Shi (Northwest University, P.R. China)
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