

**The 7th IEEE International Symposium
on
Network Computing
and Applications**

IEEE NCA08

10-12 July 2008

Hotel Marlowe
Cambridge, MA USA

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Technical Program

Paper presenters are indicated in bold.

Thursday, 10 July 2008

8:00 - 8:45 Serrano Foyer	Registration / Continental Breakfast	
8:45 - 9:00 Serrano B/C	Opening Remarks	
9:00 - 9:45 Serrano B/C	Best Paper Session <i>APART: Low Cost Active Replication for Multi-tier Data Acquisition Systems</i> Paolo Romano (INESC-ID, Portugal), Diego Rughetti, Francesco Quaglia, and Bruno Ciciani (Sapienza Università di Roma, Italy)	Session Chair Erik Maehle <i>University of Lübeck</i> Lübeck, Germany
9:45 - 10:00 Serrano Foyer	Break	
10:00 - 11:00 Serrano B/C	Keynote Speaker <i>Mobility in Ad Hoc Wireless Networks: Friend or Foe</i> Jie Wu (National Science Foundation, USA)	Session Chair Dimiter Avresky <i>IRIANC</i> Boston, MA USA
11:00 - 12:30 Serrano B/C	Network Security <i>FOSeL: Filtering by helping an Overlay Security Layer to Mitigate DoS Attacks</i> Hakem Beitollahi and Geert Deconinck (Katholieke Universiteit Leuven, Belgium) <i>Execution Patterns in Automatic Malware and Human-Centric Attacks</i> Mohammed Gadelrab (LAAS-CNRS, Université de Toulouse, France), Anas Abou el Kalam (IRIT, ENSEEIHT, Université de Toulouse, France), and Yves Deswarte (LAAS-CNRS, Université de Toulouse, France) <i>Finite Memory: a Vulnerability of Intrusion-Tolerant Systems</i> Giuliana Veronese , Miguel Correia (Universidade de Lisboa, Portugal), Lau Cheuk Lung (Universidade Federal de Santa Catarina, Portugal), and Paulo Verissimo (Universidade de Lisboa, Portugal)	Session Chair Yves Deswarte <i>LAAS-CNRS</i> Toulouse, France
12:30 - 13:30 Serrano Foyer	Lunch	
13:30 - 14:30 Serrano B/C	Peer-to-Peer Systems and Publish/Subscribe Systems <i>FaSReD: Fast and Scalable Resource Discovery in Support of Multiple Resource Range Requirements for Computational Grids</i> Denvil Smith, Nian-Feng Tzeng , and Milad Ghantous (University of Louisiana at Lafayette, USA) <i>A Fast and Robust Content-based Publish/Subscribe Architecture</i> Hojjat Jafarpour , Sharad Mehrotra, and Nalini Venkatasubramanian (University of California, Irvine, USA)	Session Chair Bruno Ciciani <i>Sapienza Università di Roma</i> Rome, Italy

Quality of Service (QoS) Issues and Availability

Network Planning Optimization for Multimedia Networks

Priscila Solis Barreto and Paulo H. P. de Carvalho (Universidade de Brasilia, Brazil)

Session Chair

James Plank

University of Tennessee
Knoxville, TN USA

14:30 - 16:00 *User Profile-Based Authorization Policies for Network QoS Services*

Serrano B/C **Julio Royer**, Roberto Willrich (Santa Catarina Federal University, Brazil), and Michel Diaz (LAAS-CNRS, Université de Toulouse, France)

Multicoordinated Agreement Protocols for Higher Availability

Lasaro Camargos (Universidade Estadual de Campinas, Brazil), **Rodrigo Schmidt** (Ecole Polytechnique Fédérale de Lausanne, Switzerland), and Fernando Pedone (University of Lugano, Switzerland)

16:00 – 16:30
Serrano Foyer

Break

Distributed Dependable Storage

A New Minimum Density RAID-6 Code with a Word Size of Eight

James Plank (University of Tennessee, USA)

Session Chair

Geert Deconinck

Katholieke Universiteit
Leuven, Belgium

16:30 - 18:00 *Generalizing RDP Codes Using the Combinatorial Method*

Serrano B/C **Gang Wang**, Xiaoguang Liu, Sheng Lin, Guangjun Xie, and Jing Liu (Nankai University, China)

Flexible Parameterization of XOR based Codes for Distributed Storage

Peter Sobe (University of Luebeck, Germany) and Kathrin Peter (Zuse Institute Berlin, Germany)

Friday, 11 July 2008

8:00 - 8:30
Serrano Foyer

Continental Breakfast

Sensor Networks and Mobile Ad-Hoc Networks (MANETs)

Supporting Concurrent Task Deployment Wireless Sensor Networks

Song Guo, Chunxia Fan, and Thomas Little (Boston University, USA)

Session Chair

Yuan Yuan Yang

State University of New York
Stony Brook, USA

Failure, Disconnection and Partition Detection in Mobile Environment

8:30 - 10:30 **Denis Conan** (Institut TELECOM SudParis, UMR CNRS Samovar, France), Pierre Sens, Luciana Arantes, and Mathieu Bouillaguet (LIP6 - Université de Paris 6 - INRIA, France)

Cross-Layer Architecture for Differentiated Services in Ad Hoc Networks

Maria Fazio, **Maurizio Paone**, Dario Bruneo, and Antonio Puliafito (University of Messina, Italy)

Dynamic Routing Selection for Wireless Sensor Networks

Wang Ke and Thomas Little (Boston University, USA)

10:30 - 11:00
Serrano Foyer

Break

Applications in Networked Systems

Comparing Error Detection Techniques for Web Applications: An Experimental Study

Luis Silva (University of Coimbra, Portugal)

Fair-Queued Ethernet for Medical Applications

11:00 - 12:30
Serrano B/C

Stephan Pöhlsen (University of Lübeck, Germany), Frank Franz, Kai Kück, Jörg-Uwe Meyer (Drägerwerk AG, Germany), and Christian Werner (University of Lübeck, Germany): Presenter **Alexander Carôt** (University of Lübeck, Germany)

Impact of Next Generation Services on the Performance and Scalability of Web systems

Claudia Canali (University of Modena and Reggio Emilia, Italy), **Jose Daniel Garcia** (University Carlos III of Madrid, Spain), and Riccardo Lancellotti (University of Modena and Reggio Emilia, Italy)

Session Chair

Thomas Little
Boston University
Boston, MA USA

12:30 - 13:30
Serrano B/C

Lunch

Routing Mechanisms and Network Processors

Is the Popular R-tree Suited for Packet Classification?*

Christine Maindorfer and Thomas Ottmann (Albert-Ludwigs-Universität Freiburg, Germany)

13:30 - 15:00
Serrano B/C

A Linear Inter-Session Network Coding Scheme for Multicast

Min Yang and **Yuanyuan Yang** (State University of New York, Stony Brook, USA)

Application-Layer Packet Processing through Ethereal Memory

Fong Pong (Broadcom Corp., USA) and Nian-Feng Tzeng (University of Louisiana at Lafayette, USA)

Session Chair

Luis Silva
University of Coimbra
Coimbra, Portugal

Best Paper Session

15:00 - 15:45
Serrano B/C

Quicksilver Scalable Multicast (QSM)

Krzysztof Ostrowski, Ken Birman (Cornell University, USA), and Danny Dolev (The Hebrew University of Jerusalem, Israel) : Presenter **Daniel Margo** (Cornell University, USA)

Session Chair

Mladen Vouk
North Carolina State
University
Raleigh, NC USA

15:45 – 16:00
Serrano Foyer

Break

16:00 - 17:00
Serrano B/C

Keynote Session

The Akamai Approach to Achieving Performance and Reliability on the Internet

Harald Prokop (Akamai Technologies Inc., Cambridge, MA, USA)

Session Chair

Dimiter Avresky
IRIANC
Boston, MA USA

17:00 - 18:00

On your own

18:00 – 19:00
Serrano Foyer

Cocktails and Hors d'oeuvres

19:00 – 21:00
Serrano B/C

Banquet

Saturday, 12 July 2008

13:00 - 14:30
Serrano B **Adaptive Grid Computing Workshop**

See page 7 for
a detailed schedule

15:00 - 16:30
Serrano B **Trustworthy Network Computing Workshop**

8:00 - 8:30
Serrano Foyer **Continental Breakfast**

Protocol Verification and Validation

On the Application of Formal Methods for Specifying and Verifying Distributed Protocols

Marina Gelastou, **Chryssis Georgiou**, and Anna Philippou (University of Cyprus, Cyprus)

Approaching the Limits of FlexRay

8:30 - 10:00
Serrano B/C **Christoph Heller**, Josef Schalk, Stefan Schnee (EADS Deutschland GmbH, Germany), and Reinhard Reichel (Universität Stuttgart, Germany)

An Abstract Channel Specification and an Algorithm Implementing It Using Java Sockets

Chryssis Georgiou (University of Cyprus, Cyprus), Peter Musial (Naval Postgraduate School, USA), Alexander Shvartsman (University of Connecticut/MIT/VeroModo, Inc., USA), and **Elaine Sonderegger** (University of Connecticut, USA)

Session Chair

Mark Tuttle

Intel

Hudson, MA USA

10:00 - 10:30
Serrano Foyer **Break**

Short Papers 1

Multilayered Video Multiple Trees Multicast Protocol for Heterogeneous Ad Hoc Wireless Networks

Osamah Badarneh, Michel Kadoch (Université du Québec, Canada), and Ahmed ElHakeem (Concordia University, Canada)

An Improved Anti Collision Algorithm using Parity Bit in RFID System

10:30 - 11:50
Serrano B/C SungSoo Kim, YongHwan Kim, **SeongJoon Lee**, and KwangSeon Ahn (Kyungpook National University, Korea)

Feedback-controlled WLAN: Achieving Channel-Availability in Mesh Networks

Svilen Ivanov, Edgar Nett, André Herms (University of Magdeburg, Germany), Daniel Mahrenholz, and Stefan Schemmer (rt-solutions.de GmbH, Germany)

A New Recovery Escalation Algorithm with Load Balancing and Backup Resources Sharing in Path Protected WDM Optical Networks

Xiaobing Zheng, Lei Guo, Xingwei Wang, Yu Zhang, and Xuekui Wang (Northeastern University, China)

Session Chair

Osamah Badarneh

Université du Québec

Montreal Canada

11:50 - 13:00
Alexis Gallery **Lunch**

Short Papers 2

Analysis of Delay Time Distributions in Multistage Interconnection Networks Considering Multicast Traffic

Marcus Brenner and Armin Zimmermann (Technische Universität Berlin, Germany)

13:00 - 14:20
Serrano C

Supporting Cache Coherence in Mobile Cooperative Systems

Carla Berkenbrock and Celso Hirata (Instituto Tecnológico de Aeronáutica, Brazil)

Experiments of Large File Caching and Comparisons of Caching Algorithms

Brad Whitehead, **Chung-Horng Lung**, Amogelang Tapela, and Gopinath Sivarajah (Carleton University, Canada)

Improving Efficiency and Performance of Distributed File-Systems

Micah Galzia and **Hanan Lutfiyya** (University of Western Ontario, Canada)

Session Chair
Sean J. Geoghegan
University of Arkansas at
Little Rock
Little Rock, AR USA

14:20 - 14:50
Serrano Foyer

Break

Short Papers 3

Persistent Logical Synchrony

Francesc D. Muñoz-Escóí, **Rubén de Juan-Marín** (Universitat Politècnica de València, Spain), José Enrique Armendáriz-Íñigo, and José Ramón González de Mendivil (Universidad Pública de Navarra, Spain)

EPH: An Efficient and Robust Group Membership Topology for Distributed Systems

14:50 - 16:30
Serrano C

Ravi Madipadaga, Sabishaw Bhaskaran, and **Saikat Mukherjee** (Siemens Corporate Technology, Bangalore, India)

Supporting Linearizable Semantics in Replicated Databases

Luis Rodrigues, Nuno Carvalho (INESC-ID/IST, Portugal), and Emili Miedes (Universidad Politécnica de Valencia, Spain)

Randomized Work-Competitive Scheduling for Cooperative Computing on k -partite Task Graphs

Chadi Kari, Alexander Russell, and **Narasimha Shashidhar** (University of Connecticut, USA)

Learning Minimum Delay Paths in Service Overlay Networks

Hong Li, Lorne Mason, and **Michael Rabbat** (McGill University, Canada)

Session Chair

Luis Rodrigues
INESC-ID/IST
Lisboa, Portugal

Short Papers 4

Discovering New Trends in Web Robot Traffic Through Functional Classification

Derek Doran and Swapna Gokhale (University of Connecticut, USA)

16:30 - 17:30
Serrano C

Effect of Parallel TCP Stream Equalizer on Real Long Fat-pipe Network

Yutaka Sugawara, Takeshi Yoshino, Hiroshi Tezuka, Mary Inaba, and Kei Hiraki (University of Tokyo, Japan)

Sorting Based Data Centric Storage

Fenghui Zhang, Anxiao (Andrew) Jiang, and Jianer Chen (Texas A&M University, USA)

Session Chair

Yutaka Sugawara
University of Tokyo
Tokyo, Japan

17:30 - 17:40
Serrano C

Closing Remarks

Saturday, 12 July 2008

Adaptive Grid Computing Workshop

Identifying Failures in Grids through Monitoring and Ranking

Demetrios Zeinalipour-Yazti (Open University of Cyprus, Cyprus), Kyriacos Neocleous, **Chrysis Georgiou**, and Marios Dikaiakos (University of Cyprus, Cyprus)

13:00 - 14:30

Serrano B

Adaptive Checkpoint Replication for Supporting the Fault Tolerance of MPI Applications in the Grid

Andre Luckow and Bettina Schnor (University of Potsdam, Germany)

Autonomic Share Allocation and Bounded Prediction of Response Times in Parallel Job Scheduling for Grids

Angela Sodan (University of Windsor, Canada)

Session Chair

Andre Luckow

University of Potsdam
Potsdam, Germany

14:30 - 15:00

Serrano Foyer

Break

Trustworthy Network Computing Workshop

Designing Mechanisms for Reliable Internet-based Computing

Antonio Fernández Anta (Universidad Rey Juan Carlos, Spain), **Chrysis Georgiou** (University of Cyprus, Cyprus), and Miguel A. Mosteiro (Universidad Rey Juan Carlos, Spain and Rutgers University, USA)

15:00 - 16:30

Serrano B

Detecting Selective Forwarding Attacks in Wireless Sensor Networks Using Two-hops Neighbor Knowledge

Tran Hoang Hai and Eui-Nam Huh (Kyung Hee University, South Korea)

Secure Data Collection Scheme in Wireless Sensor Network With Mobile Sink
Amar Rasheed and **Rabi Mahapatra** (Texas A&M University, USA)

Session Chair

Michael Atighetchi

BBN
Cambridge, MA USA

Thanks to all the volunteers who made NCA08 a success.

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