

ICDCS 2006

The 26th International Conference on Distributed Computing Systems

July 4-7, 2006 - Lisboa, Portugal

General Co-Chairs:

Haruhisa Ichikawa,
NTT Network Innovation Labs, Japan

Michel Raynal,
IRISA, Université de Rennes, France

Program Co-Chairs:

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Georgia Institute of Technology, USA

Luís Rodrigues,
Universidade de Lisboa, Portugal

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Tokyo Denki University, Japan

Ricardo Jiménez-Peris,
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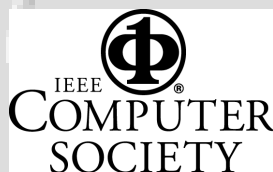
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Steering Committee Chair:

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<i>Message from the General Co-Chairs</i>	<i>Message from the Program Co-Chairs</i>
<p>Welcome to the 26th International Conference on Distributed Computing Systems (ICDCS-2006). It is our great pleasure and honor to hold ICDCS-2006 at University of Lisbon. On behalf of the ICDCS-2006 organizing committee, we would like to express our cordial welcome and high respect to all the participants.</p> <p>ICDCS was launched by the IEEE Computer Society Technical Committee on Distributed Processing (TCDP) in October 1979. It is the oldest and active conference in the field of distributed computing systems in the world, and this ICDCS-2006 is the 7th held in Europe. ICDCS has succeeded in consecutive growth of paper submissions and we received 545 paper submissions this year. The conference program is enriched by ten excellent workshops which will enhance the opportunity to find and discuss the state of the arts of topics related to the main theme of this conference.</p> <p>This conference would not have been possible without the dedicated work and support of many people and organizations. First of all, we would like to thank the Steering Committee Chair, Prof. Ming Ting (Mike) Liu, for his continuous guidance and support. We are grateful to the three distinguished keynote speakers, Prof. Amir Herzberg, Prof. Krishan Sabnani, and Prof. Willy Zwaenepoel, for accepting our invitation. We would like to express special thanks to Prof. Mustaque Ahamad and Prof. Luís Rodrigues, Program Co-Chairs, for their excellent job. They and all Program Vice-Chairs and members deserves for their careful evaluation and selections of papers.</p> <p>Prof. Makoto Takizawa and Prof. Ricardo Jiménez Peris, Workshop Co-Chairs, have organized an attractive collection of ten excellent workshops. Prof. Ten H. Lai, International Liaison Chair; Prof. Filipe Araújo, Treasurer; Prof. Anish Arora and Prof. Joseph E. Urban, Award Co-Chairs; Prof. José Rufino, Local Arrangement Chair; Prof. António Casimiro, Publicity Chair; Prof. Chita Das, TCDP Chair, Prof. Hugo Miranda, Registration Chair, all have contributed significantly to the success of the conference. Last but not the least, we would like to express our appreciation to Fundação da Faculdade de Ciências da Universidade de Lisboa, for their kind co-sponsorship to provide rooms and equipment required for the conference.</p> <p>Thank you all for attending the 26th International Conference on Distributed Computing Systems. We wish you will enjoy the conference and Lisbon.</p> <p>Michel Raynal, IRISA, Université de Rennes, France Haruhisa Ichikawa, NTT, Japan ICDCS 2006 General Co-Chairs</p>	<p>Welcome to the 26th International Conference on Distributed Computing (ICDCS). It has been our pleasure to work with a wonderful program committee to select an outstanding set of papers for the conference program. As new and emerging areas continue to expand the scope of distributed computing, the papers in the program include latest research results in both familiar as well as new areas of the field. As in the past, ICDCS continues to be a highly selective conference and we were only able to accept less than 14% of the submitted papers. In addition to these papers, the program includes three keynote speeches by well known experts in distributed computing and a number of workshops. We sincerely hope that you will enjoy not only the technical program but also your visit to the wonderful city of Lisboa.</p> <p>ICDCS receives a large number of submissions and we are most thankful to the researchers who submitted their research results to this conference. We received a total of 545 papers. Selecting a small percentage of these papers for the technical program of the conference was no easy task. We were ably assisted by twelve area vice chairs who put together area program committees that included over two hundred members with a diverse range of expertise. All papers were carefully reviewed and for each paper, we received three to five reviews. The program committee members discussed the reviews over email before a meeting in Lisboa where final selections were made. For those papers that had conflicting evaluations, additional reviews were prepared. Unfortunately due to timing constraints imposed by the duration of the conference, we were only able to accept 75 papers. Clearly, we tried our best to accommodate the highest quality papers in the program but many deserving papers could not be included in the final program.</p> <p>ICDCS continues to attract papers from traditional areas such as distributed algorithms and fault-tolerance as well as from new and growing areas such as wireless and sensor networks and security in distributed systems. In fact, we received a large number of papers in the broad networking area, including wireless and sensor networks. The papers in the program address both theory and practice of distributed computing and capture the diverse range of research challenges that must be addressed to realize the full potential of distributed computing systems.</p> <p>We used the Microsoft Conference Management Tool. Although no such system is without any problems, we are thankful for the CMT team's timely assistance when we had questions. We would also like to thank Steering Committee Chair Mike Liu and General Co-Chairs Haruhisa Ichikawa and Michel Raynal. They provided guidance and assistance that was extremely useful. We are indebted to organizers of ICDCS 2005. In particular, Anish Arora and Ten H. Lai shared their experiences with us which made our task much easier. We also want to thank Ricardo Jiménez-Peris and Makoto Takizawa, the workshop co-chairs, and José Rufino, in charge of local arrangements, for their help in coordinating the overall program. Finally, we would also like to thank Silvia Ceballos, from IEEE Computer Society, for her help in the publication of the proceedings.</p> <p>Thanks again for attending the 26th ICDCS and we wish you a productive meeting.</p> <p>Mustaque Ahamad, Georgia Institute of Technology, USA Luis Rodrigues, Universidade de Lisboa, Portugal ICDCS 2006 Program Committee Co-Chairs</p>

Keynote 1: P2P, DSM, and Other Products of the Complexity Factory

Willy Zwaenepoel, EPFL, Switzerland

In order to get your paper accepted at a major conference, the idea you develop in the paper must be complex, preferably even incomprehensible to all but the few experts. In order to have your idea have any impact in a real system, it must be simple and comprehensible to the above-average programmer in industry. The obvious net result of this contradiction is that very few papers at major conferences have any impact in real systems. This talk will explore some examples of this dilemma, some counterexamples of ideas that were successfully transferred to practice, and some ideas on how we can perhaps improve the situation.

Keynote 2: Key Technologies and Architectures for Next Generation Network

Krishan Sabnani, Bell Labs, USA

Within the next decade, all circuit-switched networks and packet-switched networks will converge into a few networks with an IP/MPLS core. These converged networks will transport best-effort data, voice, video, and their blended combinations. There are a number of technical challenges in building converged networks. For example: Processing for each access technology will be terminated in an edge access box such as DSLAM for broadband DSL, while keeping the core of the network agnostic. The complex radio access networks in today's cellular networks will be replaced by a collection of access routers. A promising approach developed at Bell Labs called Base Station Router aggregates several functions in one access router and significantly simplifies architecture of cellular networks.

Current IP networks are not suitable for the IP/MPLS cores for these converged networks; they are best-effort, poorly managed, and not secure. For carrier-grade performance, these cores will need to provide QoS-support, manageability, and high security. We are working on providing a unique way of building such carrier-class core IP/MPLS networks, which we call the SoftRouter approach. In this approach, routers are disaggregated into simple forwarding elements and shared control elements. This approach also enables easy addition of new functions to the IP networks.

Traffic in the Internet will grow to several terabits per second. We are building a scalable optical switching fabric based on tunable lasers and distributed scheduling techniques. This approach would enable the construction of routers with switching capacity of several tens of terabits per second.

In addition to providing carrier-grade transport and manageability, these converged networks must handle blended applications effectively. Common application-level functions such as single sign-on, personalization, and global roaming will be provided by a common overlay that we call the service- enablement layer. I will discuss an important application-level capability called always-on, which reduces startup time for applications to a few seconds instead of several minutes.

Keynote 3: Preventing Spoofing, Phishing and Spamming by Secure Usability and Cryptography

Amir Herzberg, Bar Ilan University, Israel

Spoofing, phishing and spamming are of the worst security problems in the Internet. We explain vulnerabilities of the current email and web systems, causing the proliferation of such attacks. We then discuss some recent proposals to improving security against these threats and security systems: some of them promising, other less so. Some solutions involve secure usability, some use (simple) cryptographic protocols, and some involve both areas.

8:45	Welcome Address		
9:00 – 10:00	Keynote 1: <i>Professor Willy Zwaenepoel, EPFL, Switzerland</i>		
10:00 – 10:30	Coffee break		
10:30 – 12:00	<p>Session 1A: Middleware</p> <p>Chair: <i>Roy Friedman, Technion, Israel</i></p> <p>Analysis of the Message Waiting Time for the FioranoMQ JMS Server <i>Michael Menth, Robert Henjes, University of Würzburg, Germany</i></p> <p>Highly Available Long Running Transactions and Activities for J2EE Applications <i>Francisco Perez-Sorrosal, Universidad Politecnica de Madrid, Spain; Jaksu Vuckovic, Università di Bologna, Italy; Marta Patiño-Martínez, Ricardo Jiménez-Peris, Universidad Politecnica de Madrid, Spain</i></p> <p>A Bridging Framework for Universal Interoperability in Pervasive Systems <i>Jin Nakazawa, Keio University, Japan; W. Keith Edwards, Umakishore Ramachandran, Georgia Institute of Technology, USA; Hideyuki Tokuda, Keio University, Japan</i></p>	<p>Session 1B: Network Optimization</p> <p>Chair: <i>Ozalp Babaoglu, Università di Bologna, Italy</i></p> <p>A Loss and Queuing Delay Controller for Router Buffer Management <i>Long Le, Kevin Jeffay and F. Donelson Smith, University of North Carolina at Chapel Hill, USA</i></p> <p>The Confluent Capacity of the Internet: Congestion vs. Dilation <i>Jiangzhuo Chen, Madhav Marathe, Virginia Tech, USA; Rajmohan Rajaraman, Northeastern University, USA; Ravi Sundaram, Virginia Tech, USA</i></p> <p>FastFlow: Architecture and Algorithm for Accurate Traffic Flow Characterization <i>S. Kundu, B. Chakravarty, K. Basu, S. Das, University of Texas at Arlington, USA</i></p>	<p>Session 1C: Autonomic Computing</p> <p>Chair: <i>Jorge Cardoso, Universidade de Madeira, Portugal</i></p> <p>Autonomic Management of Stream Processing Applications via Adaptive Bandwidth Control <i>Dimitrios Pendarakis, IBM T.J. Watson Research Center, USA; Jeremy Silber, Google USA; Laura Wynter, IBM T.J. Watson Research Center, USA</i></p> <p>SysProf: Online Distributed Behavior Diagnosis through Fine-grain System Monitoring <i>Sandip Agarwala, Karsten Schwan, Georgia Institute of Technology, USA</i></p> <p>A Hierarchical Optimization Framework for Autonomic Performance Management of Distributed Computing Systems <i>Nagarajan Kandasamy, Drexel University, USA; Mohit Khandekar, Vanderbilt University, USA; Sherif Abdelwahed, Drexel University, USA</i></p>
12:00 – 13:30	Lunch		
13:30 – 15:00	<p>Session 2A: Security</p> <p>Chair: <i>Miguel Correia, Universidade de Lisboa, Portugal</i></p> <p>Loud And Clear: Human-Verifiable Authentication Based on Audio <i>Michael Goodrich, Michael Sirivianos, John Solis, Gene Tsudik, Ersin Uzun, University of California, Irvine, USA</i></p> <p>Design and Performance Evaluation of a Proxy-based Java Rewriting Security System <i>Young Song, Ying Xu, Brett Fleisch, University of California, Riverside, USA</i></p> <p>Store, Forget, and Check: Using Algebraic Signatures to Check Remotely Administered Storage <i>Thomas Schwarz, Santa Clara University, USA; Ethan L. Miller, University of California at Santa Cruz, USA</i></p>	<p>Session 2B: Peer-to-Peer I</p> <p>Chair: <i>Lakshmesh Ramaswamy, University of Georgia, USA</i></p> <p>WhoPay: A Scalable and Anonymous Payment System for Peer-to-Peer Environments <i>Kai Wei, University of California, Berkeley, USA; Yih-Farn Chen, AT&T Labs-Research, USA; Alan Smith, University of California, Berkeley, USA; Binh Vo, MIT, USA</i></p> <p>Robust Accounting in Decentralized P2P Storage Systems <i>Ivan Osipkov, Peng Wang, Nick Hopper, Yongdae Kim, University of Minnesota, USA</i></p> <p>Elastic Routing Table with Probable Performance for Congestion Control in DHT Networks <i>Haiying Shen, Cheng-Zhong Xu, Wayne State University, USA</i></p>	<p>Session 2C: Fault-Tolerance</p> <p>Chair: <i>Jörg Kaiser, University of Magdeburg, Germany</i></p> <p>Computing in the Presence of Timing Failures <i>Gadi Taubenfeld, The Interdisciplinary Center, Israel</i></p> <p>Failures Classification and Analysis of the Java Virtual Machine <i>Domenico Cotroneo, Salvatore Orlando, Stefano Russo, Università degli Studi di Napoli Federico II, Italy</i></p> <p>Efficient Incremental Optimal Chain Partition of Distributed Program Traces <i>Selma Ikiç, Vijay K. Garg, University of Texas at Austin, USA</i></p>
15:00 – 15:30	Coffee break		
15:30 – 17:00	<p>Session 3A: Distributed Processing I</p> <p>Chair: <i>Michel Raynal, IRISA, France</i></p> <p>An Empirical Evaluation of Work Stealing with Parallelism Feedback <i>Kunal Agrawal, Yuxiong He, Charles Leiserson, MIT, USA</i></p> <p>Load Unbalancing to Improve Performance under Autocorrelated Traffic <i>Qi Zhang, Ningfang Mi, College of William and Mary, USA; Alma Riska, Seagate Research, USA; Evgenia Smirni, College of William and Mary, USA</i></p> <p>ParRescue: Scalable Parallel Algorithm and Implementation for Biclustering over Large Distributed Datasets <i>Jianhong Zhou, Ashfaq Khokhar, University of Illinois at Chicago, USA</i></p>	<p>Session 3B: Publish-Subscribe</p> <p>Chair: <i>Annika Hinze, University of Waikato, New Zealand</i></p> <p>A Semantic Overlay for Self-* Peer-to-Peer Publish/Subscribe <i>Emmanuelle Anceaume, IRISA, France; Ajoy Datta, University of Nevada Las Vegas, USA; Maria Gradinariu, IRISA, France; Gwendal Simon, France Telecom R&D, France; Antonino Virgillito, Università di Roma "La Sapienza", Italy</i></p> <p>PastryStrings: A Comprehensive Content-Based Publish/Subscribe DHT Network <i>Ioannis Aekaterinidis, Peter Triantafillou, University of Patras, Greece</i></p> <p>Utility Optimization for Event-Driven Distributed Infrastructures <i>Cristian Lumezanu, University of Maryland, USA; Sumeer Bhola, Mark Astley, IBM T.J. Watson Research Center, USA</i></p>	<p>Session 3C: Web and Collaborative Systems</p> <p>Chair: <i>Philip K. McKinley, Michigan State University, USA</i></p> <p>Controlling Quality of Service in Multi-Tier Web Applications <i>Yixin Diao, Joseph Hellerstein, Sujay Parekh, Hidayatullah Shaikh, Maheswaran Surendra, IBM Thomas J. Watson Research Center, USA</i></p> <p>File System Support for Collaboration in the Wide Area <i>Vasile Gaburici, Peter Keleher, Bobby Bhattacharjee, University of Maryland, USA</i></p> <p>A Secure and Efficient Large Scale Distributed System for Object Sharing <i>Giorgio Zanin, Alessandro Eei, Luigi Vincenzo Mancini, Università di Roma "La Sapienza", Italy</i></p>
17:00 – 17:30	Break		
17:30 – 18:30	Panel: Role of P2P in Network Architecture and Security		
19:00 – 20:30	Panelists: <i>Baochun Li, Dan Rubenstein, Katherine Guo (Chair) and Mustaque Ahmad</i>		
19:00 – 20:30	Reception		

9:00 – 10:00	Keynote 2: Krishan Sabnani, Bell Labs, USA		
10:00 – 10:30	Coffee break		
10:30 – 12:00	<p>Session 4A: Distributed Processing II</p> <p>Chair: Makoto Takizawa, Tokyo Denki University, Japan</p> <p>Distributed Computing for Efficient Hyperspectral Imaging Using Fully Heterogeneous Networks of Workstations <i>Antonio Plaza, Javier Plaza, David Valencia, University of Extremadura</i></p> <p>On Scheduling Expansive and Reductive Dags for Internet-Based Computing <i>Gennaro Cordasco, Univ. of Salerno, Italy; Grzegorz Malewicz, Google, Inc., USA; Arnold Rosenberg, Univ. of Massachusetts, USA</i></p> <p>Reputation-Based Scheduling on Unreliable Distributed Infrastructures <i>Jason Somsek, Mukesh Nathan, Abhishek Chandra, Jon Weissman, University of Minnesota, USA</i></p>	<p>Session 4B: Storage</p> <p>Chair: João Pereira, IST, Portugal</p> <p>On Store Placement for Response Time Minimization in Parallel Disks <i>Akshat Verma, Ashok Anand, IBM India Research Laboratory, India</i></p> <p>PRINS: Optimizing Performance of Reliable Internet Storages <i>Qing Yang, Weijun Xiao, Jin Ren, University of Rhode Island, USA</i></p> <p>Genesis: A Scalable Self-evolving Root-cause Analysis Framework for Storage Systems <i>Kristal Pollack, University of California, Santa Cruz, USA; Sandeep Uttamchandani, IBM Almaden Research Center, USA</i></p>	<p>Session 4C: Byzantine Fault-Tolerance</p> <p>Chair: Cheng-Zhong Xu, Wayne State University, USA</p> <p>Tolerating Byzantine Faulty Clients in a Quorum System <i>Barbara Liskov, MIT CSAIL, USA; Rodrigo Rodrigues, INESC-ID / Instituto Superior Técnico, Portugal</i></p> <p>Sharing Memory between Byzantine Processes using Policy-Enforced Tuple Spaces <i>Alysson Bessani, Univ. Federal de Santa Catarina, Brazil; Miguel Correia, LaSIGE, Universidade de Lisboa, Portugal; Joni Fraga, Univ. Federal de Santa Catarina, Brazil; Lau Cheuk Lung, Pontificia Universidade Católica do Paraná, Brazil</i></p> <p>Practical Byzantine Group Communication <i>Vadim Drabkin, Roy Friedman, Alon Kama, Technion, Israel</i></p>
12:00 – 13:30	Lunch		
13:30 – 15:00	<p>Session 5A: Countering Attacks</p> <p>Chair: Rodrigo Rodrigues, IST, Portugal</p> <p>Spoof Detection for Preventing DoS Attacks against DNS Servers <i>Fanglu Guo, Jiawu Chen, Tzi-cker Chiueh, Stony Brook University, USA</i></p> <p>Provenance-Aware Tracing of Worm Break-in and Contaminations: A Process Coloring Approach <i>Xuxian Jiang, Aaron Walters, Purdue University, USA; Florian Buchholz, James Madison Univ., USA; Dongyan Xu, Purdue University, USA; Yi-Min Wang, Microsoft Research, USA; Eugene Spafford, Purdue University, USA</i></p> <p>A DoS Resilient Flow-level Intrusion Detection Approach for High-speed Networks <i>Yan Gao, Zhichun Li, Yan Chen, Northwestern University, USA</i></p>	<p>Session 5B: Consistency and Cache Management</p> <p>Chair: Maria Gradinariu, IRISA, France</p> <p>Maintaining Strong Cache Consistency for Domain Name System <i>Xin Chen, Ask.com, USA; Haining Wang, College of William and Mary, USA; Shansi Ren, Xiaodong Zhang, Ohio State University, USA</i></p> <p>Application-Tailored Cache Consistency for Wide-Area File Systems <i>Ming Zhao, Renato Figueiredo, University of Florida, USA</i></p> <p>COCA: A Locality-Aware Cooperative Cache Management Protocol to Improve Network File System Performance <i>Song Jiang, Kei Davis, Los Alamos National Laboratory, USA; Fabrizio Petrini, Pacific Northwest National Laboratory, USA; Xiaoning Ding, Xiaodong Zhang, Ohio State University, USA</i></p>	<p>Session 5C: Content Delivery</p> <p>Chair: Karl Aberer, EPFL, Switzerland</p> <p>Efficient Formation of Edge Cache Groups for Dynamic Content Delivery <i>Lakshmi Ramaswamy, University of Georgia, USA; Ling Liu, Jianjun Zhang, Georgia Tech, USA</i></p> <p>Content-based Dissemination of Fragmented XML Data <i>Chee Yong Chan, Yuan Ni, National University of Singapore, Singapore</i></p> <p>Crew: A Gossip-based Flash-Dissemination System <i>Mayur Deshpande, Bo Xing, Iosif Lazardis, Bijit Hore, Nalini Venkatasubramanian, Sharad Mehrotra, University of California, Irvine, USA</i></p>
15:00 – 15:30	Coffee break		
15:30 – 17:30	<p>Session 6A: Routing in MANETs</p> <p>Chair: Antonio Corradi, Università di Bologna, Italy</p> <p>Analysis of Clustering and Routing Overhead for Clustered Mobile Ad Hoc Networks <i>Mingqiang Xue, Inn-Inn Er, Winston Seah, National University of Singapore, Singapore</i></p> <p>Mitigating the Flooding Waves Problem in Energy-Efficient Routing for MANETs <i>Sameh Gobriel, Daniel Mossé, Rami Melhem, University of Pittsburgh, USA</i></p> <p>High-Throughput Multicast Routing Metrics in Wireless Mesh Networks <i>Sabyasachi Roy, Dimitrios Koutsonikolas, Saumitra Das, Y. Charlie Hu, Purdue University, USA</i></p> <p>GMP: Distributed Geographic Multicast Routing in Wireless Sensor Networks <i>Shibo Wu, K. Selcuk Candan, Arizona State University, USA</i></p>	<p>Session 6B: Sensor networks</p> <p>Chair: Ouri Wolfson, University of Illinois at Chicago, USA</p> <p>Sluice: Secure Dissemination of Code Updates in Sensor Networks <i>Patrick Lanigan, Rajeev Gandhi, Priya Narasimhan, Carnegie Mellon University, USA</i></p> <p>Distributed Minimal Time Convergecast Scheduling in Wireless Sensor Networks <i>Shashidhar Gandham, University of Texas at Dallas, USA; Ying Zhang, Qingfeng Huang, Palo Alto Research Center (PARC) Inc., USA</i></p> <p>In-Network Outlier Detection in Wireless Sensor Networks <i>Joel Branch, Boleslaw Szymanski, Rensselaer Polytechnic Institute, USA; Chris Giannella, Ran Wolff, Hillol Kargupta, University of Maryland Baltimore County, USA</i></p> <p>POS: A Practical Order Statistics Service for Wireless Sensor Networks <i>Landon Cox, Duke University, USA; Miguel Castro, Antony Rowstron, Microsoft Research, Cambridge, United Kingdom</i></p>	<p>Session 6C: Networks</p> <p>Chair: Phillip Tsigas, Chalmers University, Sweden</p> <p>Overlay Multicast with Inferred Link Capacity Correlations <i>Ying Zhu, Baochun Li, University of Toronto, Canada</i></p> <p>On Estimating Tight Link Bandwidth Characteristics over Multi-Hop Paths <i>Seong-Ryong Kang, Texas A&M University, USA; Xiliang Liu, City University of New York, USA; Amit Bhati, Dmitri Loguinov, Texas A&M University, USA</i></p> <p>Interplay of ISPs: Distributed Resource Allocation and Revenue Maximization <i>Sam C.M. Lee, Wenjie Jiang, Dah-Ming Chiu, John C.S. Lui, The Chinese University of Hong Kong, Hong Kong</i></p> <p>Cycling Through a Dangerous Network: A Simple Efficient Strategy for Black Hole Search <i>Stefan Dobrev, Paola Flocchini, University of Ottawa, Canada; Nicola Santoro, Carleton University, Canada</i></p>
19:00 – 22:00	Banquet		

9:00 – 10:00	Keynote 3: Amir Herzberg, Bar Ilan University, Israel		
10:00 – 10:30	Coffee break		
10:30 – 12:00	<p>Session 7A: Secure Communication</p> <p>Chair: <i>Ricardo Jimenez-Peris, Universidad Politecnica de Madrid, Spain</i></p> <p>Fast data access over asymmetric channels using fair and secure bandwidth sharing <i>Sachin Agarwal, Deutsche Telekom Laboratories, Germany; Moshe Laifenfeld, Ari Trachtenberg, Murat Alanyali, Boston University, USA</i></p> <p>M2: Multicasting Mixes for Efficient and Anonymous Communication <i>Ginger Perng, Michael Reiter, Chenxi Wang, Carnegie Mellon University, USA</i></p> <p>Dynamic Access Control in a Content-based Publish/Subscribe System with Delivery Guarantees <i>Yuanyuan Zhao, IBM T. J. Watson Research Center, USA; Daniel C. Sturman, IBM Software Group, USA</i></p>	<p>Session 7B: Wireless Networks</p> <p>Chair: <i>Xiaodong Zhang, Ohio State University, USA</i></p> <p>On the Access Pricing and Network Scaling Issues of Wireless Mesh Networks <i>Ray K. Lam, Dah-Ming Chiu, John C.S. Lui, The Chinese University of Hong Kong, Hong Kong</i></p> <p>Modeling and Analysis of Generalized Slotted-Aloha MAC Protocols in Cooperative, Competitive and Adversarial Environments <i>Richard Ma, Vishal Misra, Dan Rubenstein, Columbia University, USA</i></p> <p>Detecting MAC Layer Back-off Timer Violations in Mobile Ad Hoc Networks <i>Venkata Nishanth Lolla, Lap Kong Law, Srikanth Krishnamurthy, Chinya Ravishankar, University of California, Riverside, USA; Dharmiah Manjunath, Indian Institute of Technology – Mumbai, India</i></p>	<p>Session 7C: Peer-to-Peer II</p> <p>Chair: <i>Sasu Tarkoma, Helsinki Institute for Information Technology, Finland</i></p> <p>Delay-Bounded Range Queries in DHT-based Peer-to-Peer Systems <i>Dongsheng Li, Jiannong Cao, Hong Kong Polytechnic University, Hong Kong; Xicheng Lu, National University of Defense Technology, China; Keith C. C. Chan, Hong Kong Polytechnic University, Hong Kong; Baosheng Wang, Jinshu Su, National University of Defense Technology, China; H.V. Leong, Alvin T. S. Chan, Hong Kong Polytechnic University, Hong Kong</i></p> <p>Search-and-Discover in Mobile P2P Network Databases <i>Ouri Wolfson, Pirouette Software Consulting, USA; Bo Xu, Huabei Yin, Hu Cao, University of Illinois at Chicago, USA</i></p> <p>Improving Traffic Locality in BitTorrent via Biased Neighbor Selection <i>Ruchir Bindal, Pei Cao, William Chan, Stanford University, USA; Jan Medved, George Suwala, Tony Bates, Amy Zhang, Cisco Systems, Inc., USA</i></p>
12:00 – 13:30	Lunch		
13:30 – 15:00	<p>Session 8A: Reliable and Secure Sensor Networks</p> <p>Chair: <i>Nuno Preguiça, Universidade Nova de Lisboa, Portugal</i></p> <p>Self-Protections for Sensor Networks <i>Dan Wang, Simon Fraser University, Canada; Qian Zhang, Hong Kong Univ, of Sci and Tech, Hong Kong; Jiangchuan Liu, Simon Fraser University, Canada</i></p> <p>Scalable and robust aggregation techniques for extracting statistical information in sensor networks <i>Hongbo Jiang, Shudong Jin, Case Western Reserve University, USA</i></p> <p>Fault-Tolerant Clustering in Ad Hoc and Sensor Networks <i>Fabian Kuhn, Microsoft Research Silicon Valley, USA; Thomas Moscibroda, Roger Wattenhofer, ETH Zurich, Switzerland</i></p>	<p>Session 8B: Streaming</p> <p>Chair: <i>Benoît Garbinato, University of Lausanne, Switzerland</i></p> <p>ASAP: an AS-Aware Peer-Relay Protocol for High Quality VoIP with Low Overhead <i>Shansi Ren, Lei Guo, Xiaodong Zhang, Ohio State University, USA</i></p> <p>Adaptive Control of Extreme-Scale Stream Processing Systems <i>Lisa Amini, Nevendu Jain, Anshul Sehgal, Jeremy Silber, Olivier Verscheure, IBM T. J. Watson Research Center, USA</i></p> <p>Greedy is Good: On Service Tree Placement for In-Network Stream Processing <i>Zoe Abrams, Stanford University, USA; Jie Liu, Microsoft Research Redmond, USA</i></p>	<p>Session 8C: Network Characterization</p> <p>Chair: <i>Henrique João Domingos, Universidade Nova de Lisboa, Portugal</i></p> <p>A Hierarchical Approach to Internet Distance Prediction <i>Rongmei Zhang, Y. Charlie Hu, Xiaojun Lin, Sonia Fahmy, Purdue University, USA</i></p> <p>Stable and Accurate Network Coordinates <i>Jonathan Ledlie, Peter Pietzuch, Margo Seltzer, Harvard University, USA</i></p> <p>Routing in Networks with Low Doubling Dimension <i>Ittai Abraham, Hebrew University of Jerusalem, Israel; Cyril Gavoille, University of Bordeaux, France; Andrew Goldberg, Microsoft Research Silicon Valley, USA; Dahlia Malkhi, Hebrew University of Jerusalem, Israel</i></p>
Conference Ends			

Workshops-at-a-Glance

Tuesday

July 4, 2006

8:00 – 10:00	MNSA	IWSAWC	ADSN	WWASN	IWDDS/DABI	DEBS	IBC	P2P/DAKS
Coffee Break								
10:30 – 12:30	MNSA	IWSAWC	ADSN	WWASN	IWDDS/DABI	DEBS	IBC	P2P/DAKS
Lunch								
13:30 – 15:30	MNSA	IWSAWC	ADSN	WWASN	IWDDS/DABI	DEBS	SIUMI	
Coffee Break								
16:00 – 18:00	MNSA	IWSAWC	ADSN	WWASN	IWDDS/DABI	DEBS	SIUMI	

ADSN: International Workshop on Assurance in Distributed Systems and Networks

IWDDS: International Workshop on Dynamic Distributed Systems

DABI: International Workshop on Distributed Applications for B2B Integration

DEBS: The 5th International Workshop on Distributed Event-Based Systems

IBC: Second International Workshop on Incentive-Based Computing

MNSA: The 8th International Workshop on Multimedia Network Systems and Applications

IWSAWC: The 6th International Workshop on Smart Appliances and Wearable Computing

SIUMI: Second International Workshop on Services and Infrastructure for the Ubiquitous and Mobile Internet

P2P/DAKS: Workshop on P2P Data and Knowledge Sharing

WWASN: Workshop on Wireless Ad hoc and Sensor Networks

Program-at-a-Glance

Wednesday

July 5, 2006

8:45 – 10:00	Welcome & Keynote 1: <i>Prof. Willy Zwaenepoel</i>								
Coffee Break									
10:30 – 12:00	Session 1A: Middleware		Session 1B: Network Optimization			Session 1C: Autonomic Computing			
Lunch									
13:30 – 15:00	Session 2A: Security		Session 2B: Peer-to-Peer I			Session 2C: Fault-Tolerance			
Coffee Break									
15:30 – 17:00	Session 3A: Distributed Processing I		Session 3B: Publish-Subscribe			Session 3C: Web and Collaborative Systems			
Break									
17:30 – 18:30	Panel								
Reception									

Thursday

July 6, 2006

9:00 – 10:00	Keynote 2: <i>Krishan Sabnani</i>								
Coffee Break									
10:30 – 12:00	Session 4A: Distributed Processing II		Session 4B: Storage			Session 4C: Byzantine Fault-Tolerance			
Lunch									
13:30 – 15:00	Session 5A: Countering Attacks		Session 5B: Consistency and Cache Management			Session 5C: Content Delivery			
Coffee Break									
15:30 – 17:30	Session 6A: Routing in MANETs		Session 6B: Sensor Networks			Session 6C: Networks			
Banquet									

Friday

July 7, 2006

9:00 – 10:00	Keynote 3: <i>Amir Herzberg</i>								
Coffee Break									
10:30 – 12:00	Session 7A: Secure Communication		Session 7B: Wireless Networks			Session 7C: Peer-to-Peer II			
Lunch									
13:30 – 15:00	Session 8A: Reliable and Secure Sensor Networks		Session 8B: Streaming			Session 8C: Network Characterization			
Conference Ends									