

The 2007 International Conference on Distributed Computing Systems

The Westin Harbour Castle • Toronto • Canada • June 25-29, 2007

Final Program

Monday, June 25

8:00	Workshops and Tutorial
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Tuesday, June 26

8:00	Conference and workshop registration and continental breakfast		
9:00	Opening remarks and awards		
9:30	Keynote address by Dr. Fred B. Schneider, Cornell University		
10:30	Break and refreshments		
11:00	Session 1A: Algorithms	Session 1B: Data Streaming	Session 1C: Sensor Networks: Sensing and Mobility
12:30	Lunch (on your own)		
2:00	Session 2A: Replication: Modeling and Self-Optimization	Session 2B: Peer-to-Peer Systems	Session 2C: Performance Issues in Wireless Networks
3:30	Break and refreshments		
4:00	Session 3A: Replication	Session 3B: Privacy in Distributed Systems	Session 3C: Network Protocols and Overlay Networks
5:30	Recess		
7:00	Reception		

Wednesday, June 27

8:00	Conference and workshop registration and continental breakfast		
9:00	Keynote address by Dr. M. Tamer Özsu, University of Waterloo		
10:00	Break and refreshments		
10:30	Session 4A: Theory	Session 4B: Peer-to-Peer Overlay Construction	Session 4C: Sensor Networks: Querying
12:00	Lunch (on your own)		
1:30	Session 5A: Distributed Data Management Algorithms	Session 5B: Security in Wireless and P2P	Session 5C: Connectivity in Wireless Networks
3:00	Break and refreshments		
3:30	Panel: Privacy and Security on the Internet		
5:30	Recess		
7:00	Banquet dinner		

Thursday, June 28

9:00	Conference and workshop registration and continental breakfast		
10:30	Session 6A: Networks	Session 6B: Peer-to-Peer Applications	Session 6C: Internet Computing and Applications
12:00	Lunch (on your own)		
1:30	Session 7A: Trust	Session 7B: Grids, Measurement and Characterization	Session 7C: Internet Streaming and IP TV
3:00	Break and refreshments		
3:30	Session 8A: Middleware	Session 8B: Theory and Resource Management	Session 8C: Sensor Networks: Security and Localization

Friday, June 29

	Workshops
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Monday, June 25

7:00-8:00 – Registration (*Harbour Foyer*)

8:00-9:00 – Breakfast (*Harbour Foyer*)

9:00-6:00 – Workshops

9:00-6:00 – Tutorial

Tuesday, June 26

8:00-9:00 – Registration and breakfast (*Harbour Foyer*)

9:00-9:30 – Opening remarks and awards (*Harbour Ballroom*)

9:30-10:30 – Keynote address: **Independence: Getting and Keeping It. Dr. Fred B. Schneider, Cornell University, USA** (*Harbour Ballroom*)

10:30-11:00 – Break (*Harbour Foyer*)

11:00-12:30 – Sessions 1A/1B/1C (*Harbour A/B/C*)

Session 1A: Algorithms

Session chair: Fabien Mathieu

- A Virtual Node-based Tracking Algorithm for Mobile Networks, Tina Nolte and Nancy Lynch
- Approximate Covering Detection among Content-Based Subscriptions using Space Filling Curves, Zhenhui Shen and Srikanta Tirthapura
- Exploiting Symbolic Techniques in Automated Synthesis of Distributed Programs, Borzoo Bonakdarpour and Sandeep S. Kulkarni

Session 1B: Data Streaming

Session chair: Xiaodong Zhang

- Streaming Algorithms for Robust, Real-time Detection of DDoS Attacks, Minos Garofalakis, Rajeev Rastogi and Krishan Sabnani
- Approximate Data Stream Joins in Distributed Systems, Vassil Kriakov, Alex Delis and George Kollios
- Fast Algorithms for Heavy Distinct Hitters using Associative Memories, Nagender Bandi, Divyakant Agrawal and Amr El Abbadi

Session 1C: Sensor Networks: Sensing and Mobility

Session chair: Tarek Abdelzaher

- Protocol Design and Optimization for Delay/Fault-Tolerant Mobile Sensor, Yu Wang, Hongyi Wu, Feng Lin and Nian-Feng Tzeng
- uSense: A Unified Asymmetric Sensing Coverage Architecture for Wireless Sensor Networks, Yu Gu, Joengmin Hwang, Tian He and David Hung-Chang Du
- Non-Threshold based Event Detection for 3D Environment Monitoring in Sensor Networks, Mo Li, Yunhao Lin and Lei Chen

12:30-2:00 – Lunch (on your own)

2:00-3:30 – Sessions 2A/2B/2C (*Harbour A/B/C*)

Session 2A: Modeling and Self-Optimization

Session chair: Cristiana Amza

- A Multiphased Approach for Modeling and Analysis of the BitTorrent Protocol, Vivek Rai, Swaminathan Sivasubramanian, Sandjai Bhulai, Pawel Garbacki and Maarten van Steen
- Efficient Execution of Continuous Incoherency Bounded Queries over Multi-Source Streaming Data, Manish Bhide, Krithi Ramamritham and Mukund Agrawal
- Automated Storage Reclamation Using Temporal Importance Annotations, Surendar Chandra, Ashish Gehani and Xuwen Yu

Session 2B: Peer-to-Peer Systems

Session chair: Y. Charlie Hu

- LagOver: Latency Gradeded Overlays, Anwitaman Datta, Ion Stoica and Mike Franklin
- Defragmenting DHT-based Distributed File Systems, Jeffrey Pang, Phillip Gibbons, Michael Kaminsky, Srinivasan Seshan and Haifeng Yu
- Flashback: A Peer-to-Peer Web Server for Flash Crowds, Mayur Deshpande, Abhishek Amit, Mason Chang, Nalini Venkatasubramanian, and Sharad Mehrotra

Session 2C: Performance Issues in Wireless Networks

Session chair: Ling Liu

- Selfishness, Not Always A Nightmare: Modeling Selfish MAC Behaviors in Wireless Mobile Ad Hoc Networks, Lin Chen and Jean Leneutre
- Optimizing Multicast Performance in Large Scale WLANs, Ai Chen, Dongwook Lee and Prasun Sinha
- An Asymmetric Quorum-base Power Saving Protocol for Clustered Ad Hoc Networks, Shan-Hung Wu, Chung-Min Chen and Ming-Syan Chen

3:30-4:00 – Break (*Harbour Foyer*)

4:00-5:30 – Sessions 3A/3B/3C (*Harbour A/B/C*)

Session 3A: Replication

Session chair: David Lie

- A High Throughput Atomic Storage Algorithm, Rachid Guerraoui, Dejan Kostić, Ron Levy and Vivién Quema
- Fusible Data Structures for Fault-Tolerance, Vijay K. Garg and Vinit Ogale
- Fault Tolerance in Multiprocessor Systems via Application Cloning, Philippe Bergheaud, Dinesh Subhraveti and Marc Vertes

Session 3B: Privacy in Distributed Systems

Session chair: Ashvin Goel

- Secure Event Dissemination in Publish-Subscribe Networks, Mudhakar Srivatsa and Ling Liu
- Temporal Privacy in Wireless Sensor Networks, Pandurang Kamat, Wenyuan Xu, Wade Trappe and Yanyong Zhang

- Compromising Location Privacy in Wireless Networks Using Sensors with Limited Information, Ye Zhu and Riccardo Bettati

Session 3C: Network Protocols and Overlay Networks

Session chair: Mahmoud Elhaddad

- Testing Security Properties of Protocol Implementations: a Machine Learning Based Approach, Guoqiang Shu and David Lee
- Protocol Design for Dynamic Delaunay Triangulation, Dong-Young Lee and Simon S. Lam
- Stabilizing Peer-to-Peer Spatial Filters, Sylvia Bianchi, Ajoy Datta, Pascal Felber and Maria Gradinariu

5:30-7:00 – Recess

7:00-9:00 – Reception (*Regatta*)

Wednesday, June 27

8:00-9:00 – Registration and breakfast (*Harbour Foyer*)

9:00-10:00 – Keynote address: Internet-Scale Data Distribution: Some Research Problems. Dr. M. Tamer Özsu, University of Waterloo, Canada (*Harbour Ballroom*)

10:00-10:30 – Break (*Harbour Foyer*)

10:30-12:00 – Sessions 4A/4B/4C (*Harbour A/B/C*)

Session 4A: Theory

Session chair: Srikanta Tirthapura

- Distributed Density Estimation Using Non-parametric Statistics, Yusuo Hu, Hua Chen, Jianguang Lou and Jiang Li
- Dynamic and Redundant Data Placement, Andre Brinkmann, Sascha Effert, F. Meyer auf der Heide and Christian Scheideler
- Stratification in P2P networks: Application to BitTorrent, Anh-Tuan Gai, Fabien Mathieu, Fabien de Montgolfier and Julien Reynier

Session 4B: Peer-to-Peer Overlay Construction

Session chair: Jie Wu

- Optimizing Peer Relationships in a Super-Peer Network, Pawel Garbacki, Dick Epema and Maarten van Steen
- Scale-Free Overlay Topologies with Hard Cutoffs for Unstructured Peer-to-Peer Networks, Hasan Guclu and Murat Yuksel
- Build One, Get One Free: Leveraging the Coexistence of Multiple P2P Overlay Networks, Balasubramanyam Maniymaran, Marin Bertier and Anne-Marie Kermarrec

Session 4C: Sensor Networks: Querying

Session chair: Donggang Liu

- EnviroMic: Towards Cooperative Storage and Retrieval in Audio Sensor Networks, Liqian Luo,

Qing Cao, Chengdu Huang, Tarek Abdelzaher, John Stankovic and Michael Ward

- Supporting Multi-Dimensional Range Query for Sensor Networks, Yu-Chi Chung, I-Fang Su and Chiang Lee
- Iso-Map: Energy-Efficient Contour Mapping in Wireless Sensor Networks, Mo Li and Yunhao Liu

12:00-1:30 – Lunch (on your own)

1:30-3:00 – Sessions 5A/5B/5C (*Harbour A/B/C*)

Session 5A: Distributed Data Management Algorithms

Session chair: Kishore Ramachandran

- D-Swoosh: A Family of Algorithms for Generic, Distributed Entity Resolution, Omar Benjelloun, Hector Garcia-Molina, Heng Gong, Hideki Kawai, Tait E. Larson, David Menestrina and Sutthipong Thavisomboon
- A Weighted Moving Average-Based Approach for Cleaning Sensor Data, Yongzhen Zhuang, Lei Chen, Xiaoyang, X. Sean Wang and Jie Lian
- Two-Tier Multiple Query Optimization for Sensor Networks, Shili Xiang, Hock Beng Lim, Kian-Lee Tan and Yongluan Zhou

Session 5B: Security in Wireless and P2P

Session chair: Baochun Li

- Resilient Cluster Formation for Sensor Networks, Donggang Liu
- Combating Double-Spending Using Cooperative P2P Systems, Ivan Osipkov, Eugene Y. Vasserman, Nicholas Hopper and Yongdae Kim
- Modeling Propagation Dynamics of Bluetooth Worms, Guanhua Yan and Stephan Eidenbenz

Session 5C: Connectivity in Wireless Networks

Session chair: Philip McKinley

- Asymptotic Connectivity in Wireless Networks Using Directional Antennas, Pan Li, Chi Zhang and Yuguang Fang
- Heuristic Approaches to Energy-Efficient Network Design Problem, Cigdem Sengul and Robin Kravets
- Efficient Backbone Construction Methods in MANETs Using Directional Antennas, Shuhui Yang, Jie Wu and Fei Dai

3:00-3:30 – Break (*Harbour Foyer*)

3:30-5:30 – Panel: Looking Ahead: A Ten-Year Outlook for Internet Security and Privacy. (*Harbour Ballroom*)

Organizer and moderator: Ashvin Goel, University of Toronto

Panelists: Ian Goldberg, University of Waterloo, Emin Gun Sirer, Cornell University, Anthony Joseph, UC Berkeley, David Lie, University of Toronto

5:30-7:00 – Recess

7:00-9:00 – Banquet dinner (*Harbour Ballroom*)

Thursday, June 28

9:00-10:00 – Registration and breakfast (Harbour Foyer)

10:30-12:00 – Sessions 6A/6B/6C (Harbour A/B/C)

Session 6A: Networks

Session chair: Ben Y. Zhao

- Conflict Managers for Self-stabilization without Fairness Assumption, Maria Gradinariu and Sébastien Tixeuil
- Differentiated Data Persistence with Priority Random Linear Codes, Yunfeng Lin, Baochun Li and Ben Liang
- Scheduling to minimize the worst-case loss rate, Mahmoud Elhaddad, Hammad Iqbal, Taieb Znati and Rami Melhem.

Session 6B: Peer-to-Peer Applications

Session chair: Anne-Marie Kermarrec

- mTreebone: A Hybrid Tree/Mesh Overlay for Application-Layer Live Video Multicast, Feng Wang, Yongqiang Xiong and Jiangchuan Liu
- Uniform Data Sampling from a Peer-to-Peer Network, Souptik Datta and Hillol Kargupta
- Understanding Instant Messaging Traffic Characteristics, Zhen Xiao, Lei Guo and John Tracey

Session 6C: Internet Computing and Applications

Session chair: Cathy Xia

- On Hit Inflation Techniques and Detection in Streams of Web Advertising Networks, Ahmed Metwally, Divyakant Agrawal, Amr El Abbadi and Qi Zheng
- Overlay Node Placement: Analysis, Algorithms and Impact on Applications, Sabyasachi Roy, Himabindu Pucha, Zheng Zhang, Y. Charlie Hu and Lili Qiu
- Communication-Efficient Tracking of Distributed Cumulative Triggers, Ling Huang, Minos Garofalakis, Anthony D. Joseph and Nina Taft

12:00-1:30 – Lunch (on your own)

1:30-3:00 – Sessions 7A/7B/7C (Harbour A/B/C)

Session 7A: Trust

Session chair: Riccardo Bettati

- AVMON: Optimal and Scalable Discovery of Consistent Availability Monitoring Overlays for Distributed Systems, Ramsés Morales and Indranil Gupta
- An Empirical Study of Collusion Behavior in the Maze P2P File-Sharing System, Qiao Lian, Zheng Zhang, Mao Yang, Ben Y. Zhao, Yafei Dai and Xiaoming Li
- Supporting Robust and Secure Interactions in Open Domains through Recovery of Trust Negotiations, Anna Cinzia Squicciarini, Alberto Trombetta and Elisa Bertino

Session 7B: Grids, Measurement and Characterization

Session chair: Tarek Abdelrahman

- Embedded Gossiping: Lightweight Online Measurement for Large-Scale Applications, Wenbin Zhu, Patrick G. Bridges and Arthur B. Maccabe
- Characterizing Network Traffic in a Cluster-based, Multi-tier Data Center, Deniz Ersoz, Mazin S. Yousif and Chita R. Das
- GeoGrid: A Scalable Location Service Network, Jianjun Zhang, Gong Zhang and Ling Liu

Session 7C: Internet Streaming and IP TV

Session chair: Zhen Xiao

- SCAP: Smart Caching in Wireless Access Points to Improve P2P Streaming, Enhua Tan, Lei Guo, Songqing Chen and Xiaodong Zhang
- Magellan: Charting Large-Scale Peer-to-Peer Live Streaming Topologies, Chuan, Wu Baochun Li and Shuqiao Zhao
- Deploying Video-on-Demand Services on Cable Networks, Matthew Allen, Ben Y. Zhao and Rich Wolski

3:00-3:30 – Break (Harbour Foyer)

3:30-5:00 – Sessions 8A/8B/8C (Harbour A/B/C)

Session 8A: Middleware

Session chair: Ken Birman

- STEP: Sequentiality and Thrashing Detection Based Prefetching to Improve Performance of Networked Storage Servers, Shuang Liang, Song Jiang and Xiaodong Zhang
- Stampede^{RT}: Programming Abstractions for Live Streaming Applications, David Hilley and Umakishore Ramachandran
- Distributed Slicing in Dynamic Systems, Antonio Fernández, Vincent Gramoli, Ernesto Jimenez, Anne-Marie Kermarrec and Michel Raynal

Session 8B: Theory and Resource Management

Session chair: Sol Shatz

- Self-Similar Algorithms for Dynamic Distributed Systems, K. Mani Chandy and Michel Charpentier
- Distributed Resource Management and Admission Control of Stream Processing Systems with Max Utility, Cathy Xia, Don Towsley and Chun Zhang

Session 8C: Sensor Networks: Security and Localization

Session chair: Yunhao Liu

- Catching Moles in Sensor Networks, Fan Ye, Hao Yang and Zhen Liu
- Location Verification Algorithms for Wireless Sensor Network, Yawen Wei, Zhen Yu and Yong Guan

Friday, June 29

9:00-6:00 – Workshops