

NSDI '07

4TH USENIX SYMPOSIUM ON NETWORKED SYSTEMS DESIGN & IMPLEMENTATION

APRIL 11–13, 2007, CAMBRIDGE, MA

Sponsored by **USENIX** in cooperation with **ACM SIGCOMM** and **ACM SIGOPS**

Join us in Cambridge, MA, April 11–13, 2007, for NSDI '07, which will focus on the design principles of large-scale networks and distributed systems. Join researchers from across the networking and systems community—including computer networking, distributed systems, and operating systems—in fostering cross-disciplinary approaches and addressing shared research challenges.

This year's outstanding program includes 27 technical papers carefully selected from a pool of 113 submissions. These high-quality papers represent a diverse range of hot research areas. In addition, NSDI '07 will feature a poster session where attendees can discuss emerging ideas in networked systems design by talking with leading researchers who are introducing their ongoing work.

REGISTRATION/HOTEL

TECHNICAL SESSION REGISTRATION FEES

Member: \$845
Nonmember: \$960*
Full-time Student Member: \$270
Full-time Student Nonmember: \$330*

Early Bird Rates. Deadline is March 19.

Member: \$695
Nonmember: \$815*
Full-time Student Member: \$270
Full-time Student Nonmember: \$315*

*Nonmember rates include a one-year USENIX membership.

HOTEL INFORMATION

Hotel Reservation Discount Deadline is Monday, March 19, 2007

Hyatt Regency Cambridge
\$139 single/double plus 12.45% tax

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<http://www.usenix.org/nsdi07>

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PROGRAM CO-CHAIRS

Hari Balakrishnan, *Massachusetts Institute of Technology*
Peter Druschel, *Max Planck Institute for Software Systems*

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Mike Schroeder, *Microsoft Research*
Amin Vahdat, *University of California, San Diego*
Ellie Young, *USENIX*

Wednesday, April 11

8:45 a.m.–9:00 a.m. Wednesday

Opening Remarks
Program Chairs: Hari Balakrishnan, *Massachusetts Institute of Technology*; Peter Druschel, *Max Planck Institute for Software Systems*

9:00 a.m.–10:00 a.m. Wednesday

KEYNOTE ADDRESS

Speaker TBA

10:00 a.m.–10:30 a.m. Break

10:30 a.m.–noon Wednesday

CONTENT DELIVERY

Do Incentives Build Robustness in BitTorrent?

Michael Piatek, Tomas Isdal, Thomas Anderson, and Arvind Krishnamurthy, *University of Washington*; Arun Venkataramani, *University of Massachusetts*

Exploiting Similarity for Multi-Source Downloads Using File Handprints

Himabindu Pucha, *Purdue University*; David Andersen, *Carnegie Mellon University*; Michael Kaminsky, *Intel Research*

Content-based Filtering and Aggregation of Blogs and RSS Feeds

Ian Rose, Rohan Murty, Peter Pietzuch, Jonathan Ledlie, Mema Roussopoulos, and Matt Welsh, *Harvard University*

noon–1:30 p.m. Lunch (on your own)

1:30 p.m.–3:00 p.m. Wednesday

OVERLAYS AND MULTICAST

Information Slicing: Anonymity Using Unreliable Overlays

Sachin Katti, Jeffrey Cohen, and Dina Katabi, *Massachusetts Institute of Technology*

A Shared Control Plane for Overlay Multicast

Animesh Nandi, *Rice University and Max Planck Institute for Software Systems*; Aditya Ganjam, *Carnegie Mellon University*; Peter Druschel, *Max Planck Institute for Software Systems*; T.S. Eugene Ng, *Carnegie Mellon University*; Ion Stoica, *University of California, Berkeley*; Hui Zhang, *Carnegie Mellon University*

Ricochet: Lateral Error Correction for Time-Critical Multicast

Mahesh Balakrishnan and Ken Birman, *Cornell University*; Amar Phanishayee, *Carnegie Mellon University*; Stefan Pleisch, *Cornell University*

3:00 p.m.–3:30 p.m. Break

3:30 p.m.–5:00 p.m. Wednesday

WIRELESS

WiLDNet: Design and Implementation of High Performance WiFi Based Long Distance Networks

Rabin Patra, Sergiu Nedevschi, and Sonesh Surana, *University of California, Berkeley*; Anmol Sheth, *Colorado University at Boulder*; Lakshminarayanan Subramanian, *New York University*; Eric Brewer, *University of California, Berkeley*

S4: Small State and Small Stretch Routing Protocol for Large Wireless Sensor Networks

Yun Mao, *University of Pennsylvania*; Feng Wang, Lili Qiu, and Simon Lam, *University of Texas at Austin*; Jonathan Smith, *University of Pennsylvania*

Where Are They and What Are They Doing: On the Importance of Locating Clients for Managing Enterprise WLANs

Ranveer Chandra, Jitendra Padhye, Alec Wolman, and Brian Zill, *Microsoft Research*

6:00 p.m.–8:00 p.m. Wednesday

POSTER SESSION AND RECEPTION

Thursday, April 12

9:00 a.m.–10:30 a.m. Thursday

TOLERATING FAULTS AND MISBEHAVIOR

Beyond One-third Faulty Replicas in Byzantine Fault Tolerant Systems

Jinyuan Li, *VMware, Inc.*; David Mazieres, *Stanford University*

Ensuring Content Integrity for Untrusted Peer-to-Peer Content Distribution Networks

Nikolaos Michalakis, Robert Soule, and Robert Grimm, *New York University*

TightLip: Keeping Applications from Spilling the Beans

Aydan Yumerefendi, Benjamin Mickle, and Landon Cox, *Duke University*

10:30 a.m.–11:00 a.m. Break

11:00 a.m.–noon Thursday

NETWORK MEASUREMENT

Peering Through the Shroud: The Effect of Edge Opacity on IP-Based Client Identification

Martin Casado and Michael Freedman, *Stanford University*

A Systematic Framework for Unearthing the Missing Links: Measurements and Impact

Yihua He, Georgos Siganos, Michalis Faloutsos, and Srikanth Krishnamurthy, *University of California, Riverside*

noon–1:30 p.m. Symposium Luncheon

1:30 p.m.–3:00 p.m. Thursday

EMULATION AND VIRTUALIZATION

Combining the Strengths of Overlay and Emulation Network Testbeds

Jonathon Duerig, Robert Ricci, Daniel Gebhardt, Mike Hibler, Junxing Zhang, Sneha Kasera, and Jay Lepreau, *University of Utah*

An Experimentation Workbench for Replayable Networking Research

Eric Eide, Leigh Stoller, and Jay Lepreau, *University of Utah*

Black-box and Gray-box Strategies for Virtual Machine Migration

Timothy Wood, Prashant Shenoy, and Arun Venkataramani, *University of Massachusetts*; Mazin Yousif, *Intel Portland*

3:00 p.m.–3:30 p.m. Break

3:30 p.m.–5:30 p.m. Thursday

DEBUGGING AND DIAGNOSIS

Life, Death, and the Critical Transition: Finding Liveness Bugs in Systems Code

Charles Killian, James Anderson, Ranjit Jhala, and Amin Vahdat, *University of California, San Diego*

WiDS Checker: Combating Bugs in Distributed Systems

Xuezheng LIU, Wei LIN, Aimin PAN, and Zheng Zhang, *Microsoft*

XTrace: A Pervasive Network Tracing Framework

Rodrigo Fonseca, George Porter, Randy Katz, Scott Shenker, and Ion Stoica, *University of California, Berkeley*

Friday: Global Comprehension for Distributed Replay

Dennis Geels and Gautam Altekar, *University of California, Berkeley*; Petros Maniatis and Timothy Roscoe, *Intel Research, Berkeley*; Ion Stoica, *University of California, Berkeley*

Friday, April 13

9:00 a.m.–10:00 a.m. Friday

NETWORK LOCALIZATION

Network Coordinates in the Wild

Jonathan Ledlie, *Harvard University*; Paul Gardner, *Aelitis*; Margo Seltzer, *Harvard University*

Octant: A Comprehensive Framework for the Geolocalization of Internet Hosts

Bernard Wong, Ivan Stoyanov, and Emin Gün Sirer, *Cornell University*

10:00 a.m.–10:30 a.m. Break

10:30 a.m.–12:30 p.m. Friday

INTERNET INFRASTRUCTURE

dFence: Transparent Network-based DoS Mitigation

Ajay Mahimkar, Jasraj Dange, Vitaly Shmatikov, Harrick Vin, and Yin Zhang, *University of Texas at Austin*

R-BGP: Staying Connected in a Connected World

Nate Kushman, Srikanth Kandula, and Dina Katabi, *Massachusetts Institute of Technology*; Bruce Maggs, *Carnegie Mellon University*

Mutually Controlled Routing with Independent ISPs

Ratul Mahajan, *Microsoft Research*; David Wetherall, *University of Washington/Intel Research*; Thomas Anderson, *University of Washington*

Tesseract: A 4D Network Control Plane

Hong Yan, *Carnegie Mellon University*; T. S. Eugene Ng, *Rice University*; David Maltz, *Microsoft Research*; Hui Zhang and Hemant Gogineni, *Carnegie Mellon University*; Zheng Cai, *Rice University*; Andy Myers, *Carnegie Mellon University*