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TECHNICAL SESSIONS

Wednesday, December 14

8:30 a.m.–8:45 a.m. Wednesday

Welcome to FAST '05

Garth Gibson, *Carnegie Mellon University and Panasas*

8:45 a.m.–9:45 a.m. Wednesday



Keynote Address

Greetings from a Filesystem User

Jim Gray, *Distinguished Engineer, Scaleable Servers Research Group, Microsoft Bay Area Research Center*

[Listen in MP3 format](#)

[View the presentation slides](#)

Jim Gray is part of Microsoft's research group. His work focuses on databases and transaction processing. Jim is active in the research community, is an ACM, NAE, NAS, and AAAS Fellow, and received the ACM Turing Award for his work on transaction processing. He edits a series of books on data management, and has been active in building online databases like [TerraServer](#) and [Sloan Digital Sky Survey](#).

9:45 a.m.–10:15 a.m. **Break**

10:15 a.m.–11:15 a.m. Wednesday

File Systems Semantics

Session Chair: Jon Howell, *Microsoft Research*

[A Logic of File Systems](#)

Muthian Sivathanu, *Google Inc.*; Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, and Somesh Jha, *University of Wisconsin, Madison*

[Providing Tunable Consistency for a Parallel File Store](#)

Murali Vilayannur, Partho Nath, and Anand Sivasubramaniam, *Pennsylvania State University*

11:15 a.m.–12:15 p.m. Wednesday

Sensor Storage

Session Chair: Jason Flinn, *University of Michigan, Ann Arbor*

[MicroHash: An Efficient Index Structure for Flash-Based Sensor Devices](#)

Demtrios Zeinalipour-Yazti, *University of Cyprus*; Song Lin, Vana Kalogeraki, Dimitrios Gunopulos, and Walid A. Najjar, *University of California, Riverside*

[Adaptive Data Placement for Wide-Area Sensing Services](#)

Suman Nath, *Microsoft Research*; Phillip B. Gibbons, *Intel Research Pittsburgh*; Srinivasan Seshan, *Carnegie Mellon University*

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12:15 p.m.–1:45 p.m. **Conference Luncheon**

1:45 p.m.–3:15 p.m.

Wednesday

Fault Handling

Session Chair: David L. Black, *EMC Corporation*

Awarded Best Paper!

Ursa Minor: Versatile Cluster-based Storage

Michael Abd-El-Malek, William V. Courtright II, Chuck Cranor, Gregory R. Ganger, James Hendricks, Andrew J. Klosterman, Michael Mesnier, Manish Prasad, Brandon Salmon, Raja R. Sambasivan, Shafeeq Sinnamohideen, John D. Strunk, Eno Thereska, Matthew Wachs, and Jay J. Wylie, *Carnegie Mellon University*

Zodiac: Efficient Impact Analysis for Storage Area Networks

Aameek Singh, *Georgia Institute of Technology*; Madhukar Korupolu and Kaladhar Voruganti, *IBM Almaden Research Center*

Journal-guided Resynchronization for Software RAID

Timothy E. Denehy, Andrea C. Arpaci-Dusseau, and Remzi H. Arpaci-Dusseau, *University of Wisconsin, Madison*

3:15 p.m.–3:45 p.m. **Break**

3:45 p.m.–5:15 p.m.

Wednesday

Caching

Session Chair: Richard Golding, *IBM Almaden*

DULO: An Effective Buffer Cache Management Scheme to Exploit Both Temporal and Spatial Localities

Song Jiang, *Los Alamos National Laboratory*; Xiaoning Ding, Feng Chen, Enhua Tan, and Xiaodong Zhang, *Ohio State University*

Second-Tier Cache Management Using Write Hints

Xuhui Li, Ashraf Aboulmaga, and Kenneth Salem, *University of Waterloo*; Aamer Sachedina, *IBM Toronto Lab*; Shaobo Gao, *University of Waterloo*

WOW: Wise Ordering for Writes—Combining Spatial and Temporal Locality in Non-Volatile Caches

Binny S. Gill and Dharmendra S. Modha, *IBM Almaden Research Center*

Thursday, December 15

8:30 a.m.–10:00 a.m.

Thursday

Security

Session Chair: Peter Honeyman, *CITI, University of Michigan, Ann Arbor*

Secure Deletion for a Versioning File System

Zachary N.J. Peterson, Randal Burns, Joe Herring, Adam Stubblefield, and Aviel D. Rubin, *The Johns Hopkins University*

TOCTTOU Vulnerabilities in UNIX-Style File Systems: An Anatomical Study

Jinpeng Wei and Calton Pu, *Georgia Institute of Technology*

A Security Model for Full-Text File System Search in Multi-User Environments

Stefan Böttcher and Charles L. A. Clarke, *University of Waterloo*

10:00 a.m.–10:30 a.m. **Break**

10:30 a.m.–noon

Thursday

Multi-Fault ToleranceSession Chair: Peter Corbett, *Network Appliance***Matrix Methods for Lost Data Reconstruction in Erasure Codes**James Lee Hafner, Veera Deenadhayalan, and KK Rao, *IBM Almaden Research Center*; John A. Tomlin, *Yahoo! Research***STAR: An Efficient Coding Scheme for Correcting Triple Storage Node Failures**Cheng Huang, *Microsoft Research*; Lihao Xu, *Wayne State University***WEAVER Codes: Highly Fault Tolerant Erasure Codes for Storage Systems**James Lee Hafner, *IBM Almaden Research Center***noon–1:30 p.m. Lunch (on your own)****1:30 p.m.–3:00 p.m.****Thursday****Work-in-Progress Reports**Session Chair: Kimberly Keeton, *Hewlett-Packard Labs*

The FAST technical sessions will include slots for Work-in-Progress reports, preliminary results, and "outrageous" opinion statements. For the schedule and to view the presentations, click [here](#).

3:00 p.m.–3:30 p.m. Break**3:30 p.m.–5:00 p.m.****Thursday****On the Media**Session Chair: Darrell Long, *University of California, Santa Cruz***Awarded Best Paper!****On Multidimensional Data and Modern Disks**Steven W. Schlosser, *Intel Research Pittsburgh*; Jiri Schindler, *EMC Corporation*; Stratos Papadomanolakis, Minglong Shao, Anastassia Ailamaki, Christos Faloutsos, and Gregory R. Ganger, *Carnegie Mellon University***Database-Aware Semantically-Smart Storage**Muthian Sivathanu, *Google Inc.*; Lakshmi N. Bairavasundaram, Andrea C. Arpaci-Dusseau, and Remzi H. Arpaci-Dusseau, *University of Wisconsin, Madison***Managing Prefetch Memory for Data-Intensive Online Servers**Chuanpeng Li and Kai Shen, *University of Rochester***6:00 p.m.–7:30 p.m. Conference Reception****Friday, December 16****8:30 a.m.–10:00 a.m.****Friday****On the Wire**Session Chair: Kai Li, *Princeton University and Data Domain***A Scalable and High Performance Software iSCSI Implementation**Abhijeet Joglekar, Michael E. Kounavis, and Frank L. Berry, *Intel Research and Development***TAPER: Tiered Approach for Eliminating Redundancy in Replica Synchronization**Navendu Jain and Mike Dahlin, *University of Texas at Austin*; Renu Tewari, *IBM Almaden Research Center***VXA: A Virtual Architecture for Durable Compressed Archives**Bryan Ford, *CSAIL, Massachusetts Institute of Technology***10:00 a.m.–10:30 a.m. Break**

10:30 a.m.–noon

Friday

Tools

Session Chair: Daniel Ellard, *Sun Microsystems Laboratories*

[I/O System Performance Debugging Using Model-driven Anomaly Characterization](#)

Kai Shen, Ming Zhong, and Chuanpeng Li, *University of Rochester*

[TBBT: Scalable and Accurate Trace Replay for File Server Evaluation](#)

Ningning Zhu, Jiawu Chen, and Tzi-cker Chiueh, *Stony Brook University*

[Accurate and Efficient Replaying of File System Traces](#)

Nikolai Joukov, Timothy Wong, and Erez Zadok, *Stony Brook University*

Noon Conference Ends

? Need help? [Use our Contacts page.](#)

Last changed: 18 Oct. 2007 ac