Feiyi Wang – ORNL

Research Interests

High performance storage system, parallel I/O and file systems; fault tolerance and system simulation; scientific data management and integration.

Education and Training

Graduate	Beijing Jiaotong University	Computer Science	MS	1995
Graduate	North Carolina State University	Electrical and Computer Engineering	PhD	2000

Research and Professional Experience

2015 – present	Joint Faculty Full Professor, Electrical Engineering and Computer Science Department, University of Tennessee.
2006 – present	Staff Researcher, National Center for Computational Sciences, Oak Ridge National Laboratory, Oak Ridge TN
2004 – 2006	Sr. Software Engineer, Cisco Systems Inc., Austin, TX
2001 – 2004	Principal Research Scientist, MCNC-RDI, Research Triangle Park, NC

Synergistic Activities

- IEEE Senior Member
- Co-Principal Investigator, "Towards a Scalable and Resilient Infrastructure for Big Data", July 2012 September, 2014, ORNL's Director's R&D.
- Principal Investigator,"SITAR: A Scalable Intrusion Tolerant Architecture For Distributed Services", Funded by DARPA ITO OASIS Program. Subcontractor: Duke University, Jul. 2000 - Aug. 2003. $2,351,319.
- Investigator, "Ferret: Workflow based Intrusion Detection System", Funded by Advanced Research and Development Activity (ARDA) of NSA. Jul. 2003 - Dec. 2004. $750,000.
- Co-Principal Investigator, "GIANT: Global Intrusion Assessment Through Distributed Decision Making", Funded by DARPA and U.S. Air Force Rome Laboratory under contract F30602-96-C-0325. May, 1998 - Jun. 2000. $1,330,103.

Related Publications

1. Lipeng Wan, Feiyi Wang, Sarp Oral, Devesh Tiwari, Sudharshan S. Vazhkudai, Qing Cao. "A Practical Approach for Reconciling Availability, Performance, and Capacity in Provisioning Extreme-scale Storage Systems", To appear in: *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis. SC '15*.
2. Veronica G. Vergara Larrea, Sarp Oral, Dustin B. Leverman, Hai Ah Nam, Feiyi Wang, James Simmons. *A More Realistic Way of Stressing the End-to-end I/O System*, In: *Cray Users Group Workshop (CUG)*, 2015
3. Feiyi Wang, Sarp Oral, Saurabh Gupta, Devesh Tiwari, Sudharshan Vazhkudai. "Improving LargeScale Storage System Performance via Topology-aware and Balanced Data Placement", In: *The 20th IEEE International Conference on Parallel and Distributed Systems (ICPADS)*, 2014
4. Feiyi Wang, Mark Nelson, Sarp Oral, Scott Atchley, Sage Weil, Bradley W. Settlemyer, Blake Caldwell, and Jason Hill. "Performance and Scalability Evaluation of the Ceph Parallel File System", In: *Proceedings of the 8th Parallel Data Storage Workshop. PDSW*, Denver, Colorado, 2013
5. Feiyi Wang, John Harney, Galen Shipman, Dean William, and Luca Ciquini. "Building a LargeScale Climate Data Systems for HPC Environment", In: *IEEE 7th International Conference on Next*

Generation Web Service Practices, Salamanca, Spain, 2011.

6. Youngjae Kim, Junghee Lee, Sarp Oral, Dave Dillow, Feiyi Wang, and Galen Shipman. "Coordinating Garbage Col- lection for Arrays of Solid-State Drives", In: *IEEE Transactions on Computers*, 63.4, pp. 888–901, April, 2014
7. Sarp Oral, James Simmons, Jason Hill, Dustin Leverman, Wang, Feiyi, Matt Ezell, Ross Miller, Douglas Fuller, Raghul Gunasekaran, Youngjae Kim, Saurabh Gupta, Devesh Tiwari, Sudharshan S. Vazhkudai, James H. Rogers, David Dillow, Galen M. Shipman, and Arthur S. Bland. "Best Practices and Lessons Learned from Deploying and Operating Large-scale Data-centric Parallel File Systems", In: *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis. SC '14*, New Orleans, Louisana, 2014, pp. 217–228.
8. Lipeng Wan, Zheng Lu, Qing Cao, Feiyi Wang, Sarp Oral, and Bradly Settlemyer. "SSD-optimized workload placement with adaptive learning and classification in HPC environments", In: *30th Symposium on Mass Storage Systems and Technologies (MSST)*, June, 2014
9. Galen M. Shipman, David A. Dillow, Sarp Oral, Feiyi Wang, Douglas Fuller, Jason Hill, Zhe Zhang, Lessons Learned in Deploying the World's Largest Scale Lustre File System, in the Proceedings of the Cray Users Group Meeting, 2010.
10. Feiyi Wang, Sarp Oral, Galen Shipman, Oleg Drokin, Tom Wang, Isaac Huang, Understanding Lustre Filesystem Internals, Technical Report ORNL/TM-2009/117, National Center for Computational

Sciences, Apr, 2009

Graduate Advisor

Graduate Advisor: Felix Wu, University of California, Davis.

Recent Collaborators

Sarp Oral	Oak Ridge National Laboratory
Sage Weil	Redhat Inc.
Bradley Settlemyer	Los Alamos National Laboratory
Sudharshan Vazhkudai	Oak Ridge National Laboratory
Shane Canon	Lawrence Berkeley National Laboratory
Kishor Trivedi	Duke University
Leon Tolbert	University of Tennessee
Ilia Baldine	Renaissance Computing Institute, UNC-CH
Cao Qing	University of Tennessee