

MSST2008
25th IEEE Symposium on
Massive Storage Systems and Technologies

Sheraton Inner Harbor
Baltimore, Maryland
September 22 - 25, 2008

<http://storageconference.org>

Massive storage systems require storage technologies, scalable data systems, and operations concepts capable of managing hundreds of petabytes of data. MSST2008, scheduled for September 22 - 25, 2008 at the Sheraton Inner Harbor, in Baltimore, Maryland, will take a detailed look at the technologies and deployments capable of managing such volumes of data. Invited experts will report on applications that are generating massive data, institutions that are building the infrastructure to manage that data, and technologies that are being deployed. Theme based discussion panels and technology panels will also serve as an important adjunct to symposium activities. MSST2008 will be organized around the following themes:

- Scalable Storage Meets Petaflops. As we move toward petascale computing, there are fundamental challenges to using storage in ways that can keep up with the ever increasing speeds, multi-core designs, and capabilities of modern computing systems. Storage and I/O are already hard-pressed to keep up with today's terascale computers. While bandwidth to and from individual storage devices is getting faster, it is doing so at a disquietingly slower rate than increases in device density. Latencies to disk and tape are also not improving as fast as is needed for petascale environments. Further, the economics of storage device use in broad non-high performance computing markets may not significantly drive up storage device reliability or availability. Storage issues in an age of petaflops must be addressed with inventive approaches and solutions that make use of modern applications, emerging technologies, new architectures, and novel implementations.
- Massive Digital Archiving Systems. Preservation environments are designed to preserve the properties of record collections across multiple generations of storage technologies. These record collections are massive in both the number of files as well as the total storage capacity. The National Archives and Records Administration, for example, estimates that its archive size will grow to billions of records and 11 petabytes of data by 2014. A unique challenge is the tracking of the representation information that describes the management policies and procedures applied to records. The ability to describe the context under which massive collections are managed, requires scalability mechanisms for integrity and authenticity that cannot be sustained by current systems. In particular, the validation of the integrity of a hundred petabyte collection is an intractable task given today's technology.
- Massive Data Ingest and Analysis. Today's sensor arrays are capable of delivering petabytes of data per day, collecting billions of samples from data sources ranging from space-borne or airborne sensors to supply chain or retail sales devices. Some problems challenge data bandwidth while others challenge transactional bandwidth. In both cases, petascale systems are needed to ingest

and analyze data, and to store and distribute results. Petascale computing presents deployment challenges to engineering, operations, and maintenance as workable solutions are crafted for massive storage system technologies and data system architectures.

MSST2008 will not include refereed papers, poster sessions, or a vendor expo. Vendor participation is encouraged through event sponsorships, hospitality suites, and literature displays. Original work should be submitted to the following workshops which will be co-located with MSST2008:

- SNAPI'08, 5th IEEE International Workshop on Storage Network Architecture and Parallel I/O. Chairs: André Brinkman and Roger Chamberlain. The tremendous need for storage capacity and I/O performance has become a critical factor for most of today's IT environments. SNAPI'08 brings together experts from academia and industry to discuss cutting edge research on parallel and distributed data storage technologies, storage interconnects, and storage management. Prospective authors should submit a full paper not to exceed 8 single-spaced pages, to: snapi08@wustl.edu, by April 30, 2008 (Extended to May 5, 2008). More information is available here: <http://www.snapi08.wustl.edu/>
- CMPD'08, Workshop on Computing with Massive and Persistent Data. Chairs: Maya Gokhale and Steve Louis. Emerging hardware technologies such as low latency non-volatile memory and specialized co-processors offer new opportunities to accelerate data and compute intensive applications. The CMPD'08 workshop will assemble a broad range of researchers and practitioners to establish a community that crosses traditional boundaries separating hardware, system software, and applications. Areas of interest include disk-scale non-volatile memory devices, hardware co-processor approaches for computing with massive data sets, file systems and other system software for massive data sets, novel programming models for data-intensive applications, and applications using massive and persistent data. Prospective authors should submit an abstract of their current work or a short position paper not to exceed 4 single-spaced pages, to: cmpd08-workshop@llnl.gov, by May 30, 2008. More information is available here: <https://computation.llnl.gov/home/workshops/cmpd08/>
- DAPS'08, Workshop on Digital Archive Preservation and Sustainability. Chair: Ann Kerr. Long term preservation requires the ability to make assertions about governance, sustainability, and trustworthiness. These concerns involve evolution of the community policies under which records are preserved, institutional commitment towards maintaining the preservation environment, and continued verification of the authenticity and integrity of records. As archives grow to the scale of hundreds of petabytes, these assertions become incompatible. This workshop will explore the inherent tensions in minimizing cost while ensuring sustainability, increasing governance controls while collection sizes grow, and improving integrity and authenticity assertions as the number of records increases. It will also explore existing and emerging digital preservation requirements and evolution of architectures. Prospective participants should submit an abstract of their current work or a short position paper not to exceed 4 single-spaced pages, to: chair@san.rr.com, by May 30, 2008. More information is available here: <http://storageconference.org/daps/index.html>

- KMS2008, IEEE Key Management Summit. Chair: Matt Ball. With recent legislation, such as California's SB 1386 or Sarbanes-Oxley, companies now have to publicly disclose when they lose unencrypted personal data. To meet this new need for encryption, many companies have developed solutions that encrypt data on hard disks and tape cartridges. The problem is that these data storage vendors need a solution for managing the cryptographic keys that protect the encrypted data. KMS2008 will bring together the top companies that develop cryptographic key management for storage devices with the standards organizations that make interoperability possible. The summit aims to provide clarity to the key management by showing how existing products and standards organizations address the problem of interoperability and security. Prospective speakers should submit an abstract to: chair@keymanagementsummit.com, by May 30, 2008. Relevant topics include: key management standards, use-cases, solutions, and government requirements. More information is available here: <http://www.keymanagementsummit.com/2008/>

- SISW 2008, 5th IEEE International Security In Storage Workshop. Chair: Jim Hughes. Protecting intellectual property, privacy, health records, and military secrets when media or devices are lost, stolen, or captured is critical to information owners. But meeting the challenge of protecting stored information critical to individuals, corporations, and governments is difficult, given the continually changing uses of storage, and the exposure of storage media to adverse conditions. SISW serves as an open forum for discussion of storage threats, technologies, methodologies, and deployment, and disseminates new research by bringing together researchers and practitioners from both government and civilian areas. Prospective participants should submit either a full paper (not to exceed 12 single-spaced pages) for a paper presentation to be published in the proceedings, or a short abstract suggesting alternative presentation forms, discussion items, or panel topics to: james.hughes@sun.com, by May 30, 2008. More information is available here: <http://ieeiea.org/sisw/2008/>

Additional information on MSST2008 and related workshops will be posted on the conference web site: <http://storageconference.org>, as it becomes available.