

Workshop on Management of Big Data Systems (MBDS 2012)

In conjunction with

The 9th International Conference on Autonomic Computing (ICAC 2012)

September 21, 2012, San Jose, CA

<http://www.cercs.gatech.edu/mbds12>

Important Dates

Paper submission due: June 15, 2012

Author notification: July 30, 2012

Workshop: Sep 21, 2012

Overview

Data is growing at an exponential rate and several systems have emerged to store and analyze such large amounts of data. These systems, termed “Big data systems” are fast evolving. Examples include the NoSQL storage systems, Hadoop Map-Reduce, data analytics platforms, search and indexing platforms, and messaging infrastructures. These systems address needs for structured and unstructured data across a wide spectrum of domains such as web, social networks, enterprise, cloud, mobile, sensor networks, multimedia/streaming, cyberphysical and high performance systems, and for multiple application verticals such as biosciences, healthcare, transportation, public sector, energy utilities, oil & gas, and scientific computing.

With increasing scale and complexity, managing these big data systems to cope with failures and performance problems is becoming non-trivial. New resource management and scheduling mechanisms are also needed for such systems, and so are mechanisms for tuning and support from platform layers. Several open source and proprietary solutions have been proposed to address these requirements, with extensive contributions from industry and academia. However, there remain substantial challenges, including those that pertain to such systems’ autonomic and self-management capabilities.

The objective of the MBDS workshop is to bring together researchers, practitioners, system administrators, system programmers, and others interested in sharing and presenting their perspectives on the effective management of big data systems. The focus of the workshop is on novel and practical, systems-oriented work. MBDS offers an opportunity for researchers and practitioners from industry, academia, and national labs to showcase the latest advances in this area and to also discuss and identify future directions and challenges in all aspects on autonomic management of big data systems.

Papers are solicited on all aspects of big data management. Specific topics of interest include, but are not limited, to the following:

- Autonomic and self-managing techniques
- Application-level resource management and scheduling mechanisms
- System tuning/auto-tuning and configuration management
- Performance management, fault management, and power management
- Scalability challenges
- Complexity challenges, as for composite, cross-tier systems with multiple control loops

- Unified management of 'data in motion' and 'data at rest'
- Dealing with both structured and unstructured data
- Monitoring, diagnosis, and automated behaviour detection
- System-level principles and support for resource management
- Holistic management across hardware and software
- Implications of emerging hardware technologies such as non-volatile memory
- Domain specific challenges in web, cloud, social networks, mobile, sensor networks, streaming analytics, cyber-physical systems
- System building and experience papers for specific industry verticals

Paper Submissions

Full papers (a maximum of 6 pages in the two-column ACM proceedings format) are invited on a wide variety of topics relating to management of big data systems. Submitted papers must be original work, and may not be under consideration for another conference or journal. Complete formatting and submission instructions can be found on the workshop web site. Accepted papers will appear in proceedings distributed at the conference and available electronically.

Workshop Organizers

Karsten Schwan, *Georgia Tech*

Vanish Talwar, *HP Labs*

Publicity Chair

Aravind Menon, *Facebook*

Program Committee

Amitanand Aiyer, *Facebook*

Adhyas Avasthi, *Nokia Research*

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