Call for Contributions:
Workshop on System Software Support for Big Data (BigSys ’14)
In conjunction with INFORMATIK 2014, Stuttgart, Germany
http://ess.cs.tu-dortmund.de/workshops/bigsy/

Sep. 25-26, 2014

Overview

Dealing with Big Data is a challenging undertaking on all levels of the hardware/software-stack. On the system-software level, problems include inadequate resource management methods and complex and performance-limiting unpredictable hardware/software interactions. Recent years have already brought up a number of innovative solutions, such as in-memory databases, distributed filesystems, and parallel data processing frameworks. The aim of this workshop is to bring together practitioners and researchers from all of these areas to discuss today’s limitations, promising new concepts and possible new synergies in the domain of system software support for Big Data.

Topics of interest concentrate on the interaction between system software components, such as operating systems and databases, as well as with the underlying hardware architecture with respect to Big Data workloads. Specific topics include, but are not limited to:

- **Dealing with High-Performance Architectures for Big Data**
  - Multi/manycore architectures
  - Integration of FPGAs and GPGPUs
  - Memory and storage hierarchies
  - High-performance I/O

- **Boosting data processing performance**
  - In-memory databases
  - Big data analysis in realtime
  - Massively distributed data processing
  - Special-purpose system software

- **System software design challenges**
  - Scalability and exascale problems
  - Virtualization and microkernel technologies
  - Storage management for Big Data
  - Memory management for Big Data

- **Architecting systems for Big Data**
  - Bottleneck analyses
  - Resource modeling for Big Data
  - System support for stream processing
  - Energy and power-efficient Big Data processing
  - Integrating diverse data sources (sensor or smartphone networks)

Agenda

The workshop will be a highly interactive event with an agenda designed to promote focused and lively discussions. Part of the workshop will be based on presentations of papers—we welcome research, experience, and position papers; papers describing industrial experience are particularly encouraged. Additionally, work-in-progress presentations are intended to give PhD students a chance to get a feedback on novel ideas. Practitioner talks give participants from industry an opportunity to share their experience and discuss new challenges without having to submit a workshop paper.

Submission Guidelines for Position Papers

Position papers are expected to be 5-15 pages in length. All papers must be written in English and submitted as PDF documents in LNI format (http://www.gi.de/service/publikationen/lni/) through the online submission system linked on the workshop’s website. Paper submissions will be reviewed by the workshop program committee and by designated reviewers. Papers will be evaluated based on originality, relevance, and technical quality. Accepted papers will be published in GI-Edition Lecture Notes in Informatics (LNI).

Proposals for WIP- and Practitioner Talks

In addition to position papers, we also solicit proposals for work-in-progress presentations and practitioner talks. Prospective presenters should send an abstract of 250 words by email to bigsys14@betriebssysteme.org. Abstracts will NOT be published, they are intended to be read by the reviewers only (hence the late deadline).

Important Dates:

- Paper submission deadline: May 19, 2014
- Notification of acceptance: June 9, 2014
- Final papers due: June 23, 2014
- WIP-proposal deadline: August 22, 2014
- Practitioner talk deadline: August 22, 2014
- Workshop: September 25-26, 2014
  (25th afternoon – 26th noon)

Program Committee

- Michael Engel, TU Dortmund
- Ulf Hollberg, IBM
- Wilhelm Messing, Fujitsu
- Andreas Polze, HPI, Potsdam
- Kai-Uwe Sattler, TU Ilmenau
- Olaf Spinczyk, TU Dortmund
- Jens Teubner, TU Dortmund
- (more members TBA)

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