CALL FOR PAPERS

IISWC 2010

IEEE IISWC

2010 Annual IEEE International Symposium on Workload Characterization

Sponsored by the IEEE Computer Society and the Technical Committee on Computer Architecture

Atlanta, Georgia

December 2-4, 2010

This symposium is dedicated to the understanding and characterization of workloads that run on all types of computing systems. New applications and programming paradigms continue to emerge as the diversity and performance of computers increase. On the one hand, computing workloads evolve and change with advances in microarchitecture, compilers, programming languages, and networking/communication technologies. On the other hand, improvements in computing technology are usually based on a solid understanding and analysis of existing workloads. Whether they are PDAs, wireless and embedded systems at the low end or massively parallel systems at the high end, the design of future computing machines can be significantly improved if we understand the characteristics of the workloads that are expected to run on them. This symposium will focus on characterizing and understanding modern computer applications commercial and scientific computing.

We solicit papers in all areas related to characterization of computing system workloads. Topics of interest include (but are not limited to):

- Characterization of applications in areas including
  - Search engines, e-commerce, web services, databases, file/application servers
  - Embedded, mobile, multimedia, real-time, 3D-Graphics, gaming, telepresence
  - Life sciences, bioinformatics, scientific computing, finance, forecasting
  - Security, reliability, biometrics
  - Grid and Could computing
- Characterization of OS, Virtual Machine, middleware and library behavior
  - Virtual machines, Websphere, .NET, Java VM, databases
  - Graphics libraries, scientific libraries
- Characterization of system behavior, including
  - Operating system and hypervisor effects and overheads
  - Effects due to virtualization and dynamic optimization
  - Hardware accelerators (GPGPU, XML, crypto, etc)
  - Failures, availability, and reliability
  - User behavior and system-user interaction
  - Instrumentation methodologies for workload verification and characterization
  - Techniques for accurate analysis/measurement of production systems
- Implications of workloads in design issues, such as
  - Power management, reliability, security, performance
  - Processors, memory hierarchy, I/O, and networks
- Benchmark creation, analysis, and evaluation issues, including
  - Multithreaded benchmarks, benchmark cloning
  - Profiling, trace collection, synthetic traces
  - Validation of benchmarks
- Analytical and abstract modeling of program behavior and systems
- Emerging and future workloads
  - Transactional memory workloads; workloads for multi/many-core systems
  - Stream-based computing workloads; web2.0/internet workloads

Important Dates

Abstracts Due: **June 25, 2010**
Paper Submission: **July 2, 2010**
Acceptance Notification: **August 31, 2010**

http://www.iiswc.org/