High performance applications require efficient coordination of execution between parallel processes to insure that high bandwidth, low latency communications can be utilized to the fullest potential. Having the individual components of a parallel application dependent upon uncoordinated efforts of commodity operating system schedulers can reduce the performance of a parallel machine significantly. Furthermore, the performance can be reduced to the point that scalability is impaired. The goal of the workshop is to better understand the impact that operating system interference has on multithreading, increased scalability and other new technologies.

In this workshop, we seek to bring together diverse participants who are managing this problem through hardware, scheduling, operating systems and compilers. We encourage active participation from processor architects, system architects, operating systems designers, virtual machine architects, compiler writers, performance analysts, and developers.

Topics of interest include (but are not limited to)

- Characterization of virtual operating system environments.
- Characterization of runtime environments such as Java.
- Characterization and scheduling of multithreaded execution environments
- Characterization of runtime interaction among the OS, VM, and memory system
- Characterization of runtime libraries and their impact on behavior and performance
- Effects of architectural features on workload behavior and architecture enhancements for managing OS interference.
- Characterization of memory access and allocation patterns, heap structure and usage, and garbage collection techniques
- Emerging benchmarks of managed applications, including classes of applications ranging from clients, servers, embedded and real-time systems
- Profiling methods and tools for measuring, understanding, and optimizing the behavior of managed applications
- Online feedback-directed optimizations
- Measurements and techniques for identifying bottlenecks in applications
- Implications of security, distribution, and concurrency in managing operating system interference.
- Impact of optimizations on workloads

Submission Guidelines

We invite participation from both researchers and developers, who have knowledge of operating system interference in parallel environments that should be shared. We will accept a paper submission of 6-8 pages in length which should be written in standard IEEE format for conference proceedings. It is expected that an accepted submission of this type will result in a final paper appearing in the workshop's proceedings. The proceedings will be distributed at the workshop and made available at the workshop web site.

Submit compressed PDF files to ronmraz@gmail.com before Midnight EST on August 28, 2006. (2nd Deadline Extension) Notification by September 6, 2006.

Organizers

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