

The Interaction among the OS, the Compiler, and Multicore Processors

Special Issue of ACM Operating System Review

The interaction among operating systems, compilers, and multicore processors is becoming more tightly bound and sophisticated. The tremendous advances in process technology are providing architects and microarchitects with many interesting opportunities for making use of the huge transistor budget to enhance performance and increase throughput. However, system software is becoming more complex and difficult to scale. Therefore, a pressing need exists for innovative techniques to redefine the interaction among the three major entities in modern computer systems: the operating system, the compiler, and multicore processors.

The goal of this special issue of ACM OSR is to provide a high-quality forum for computer scientists and engineers to present their latest research findings in the rapidly evolving fields of computer architecture, compilers, operating systems, and the interaction among these exciting domains.

Topics of interest include, but are not limited to:

- OS support of multicore and manycore architecture
- OS and compiler support for heterogeneous multicore
- Multicore support for OS functionalities
- Performance, power, dependability, and security in the OS and compiler
- Leveraging the OS and compiler to optimize power, temperature, and reliability
- Memory and cache hierarchy design
- Parallelism exploitation
- Analysis and support for scalability in modern systems
- Virtualization
- Debugging, verification, and validation

Submission Guidelines

- Traditional submissions: 10 pages, single spaced, double column format, no author information
- Position papers: 2 pages, single spaced, double column format, no author information
- Email submissions to the guest editors: hazelwood AT virginia DOT edu, mzahran AT acm DOT org

Guest Editors

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Important Deadlines

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<http://www.sigops.org/osr.html>

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