
SHCMP 08

WORKSHOP ON SOFTWARE AND HARDWARE CHALLENGES OF MANYCORE PLATFORMS

June 22, 2008

Beijing, China, Co-located with ISCA'08

Sponsored by  ACM SIGARCH  IEEE TCCA

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Processors containing two or more cores are already shipping in volume and, soon, most mainstream computers will contain manycore processors containing 8 or more (possibly heterogeneous) cores. This shift to an increasing number of cores will place new burdens on mainstream software and will require new software tools for developing systems. In addition, parallel computing has come a long way boosting the performance for numerical scientific applications. However, today, mainstream application programmers are challenged by facing a daunting task of parallelizing general non-numerical applications and must have reasonable knowledge of architecture, compilers, threading libraries and multithreading, it is time to explore new technologies so that general programs can be multithreaded efficiently and effectively for manycore platforms. This workshop provides a forum for the presentation of research on all aspects of software and hardware for developing applications on manycore platforms.

Areas of interest include but are not limited to the following topics:

- New concurrency abstractions, language and development environments for mainstream parallel programming
- Compilers and runtime systems for manycore systems
- Manycore architecture and on-chip memory hierarchy design for manycore processors
- Software and hardware for transactional memory
- Speculative multithreading
- Application frameworks, design patterns, and domain-specific languages for developing manycore applications
- Data race detectors, debuggers, and performance analysis tools for manycore systems
- Software tools for discovering parallelism
- Software abstractions and tools for programming heterogeneous manycore systems
- Operating systems and virtual machines for manycore
- Simulation of manycore systems

Important Dates:

Paper Submission Deadline: April 18, 2008

Paper Acceptance Notification: May 18, 2008

Conference: June 22, 2008

More details on paper submission can be found at the SHCMP'08 web site:

<http://hpc.cs.tsinghua.edu.cn/research/cfp/shcmp08/index.html>
