

Call for Papers – EPHAM 2008

Workshop on Exploiting Parallelism with Transactional Memory and other Hardware Assisted Methods

to be held in conjunction with CGO 2008, April 6, 2008, Boston, MA

EPHAM 2008 will provide a forum for compiler and processor architecture researchers to exchange ideas for leveraging hardware assistance to break down traditional barriers to exploiting parallelism. The workshop will focus on compilation techniques for exploiting parallelism in emerging multi-core and multi-threaded architectures with a particular focus on the use of transactional memory to overcome traditional barriers to parallelization. Current trends in micro-processor architecture clearly point to a tapering off of clock frequencies, and a shift toward supporting many cores and threads. This change makes the compiler's task of extracting and exploiting parallelism in applications even more important. Recognizing various difficulties in parallelization, implementations are emerging that attempt to provide various forms of hardware assist for the same. One of these techniques, transactional memory, has drawn significant interest in both industry and academia. Transactional memory will be a focus, but other techniques to solve this problem are also of interest. Topics of interest include, but are not limited to the following.

- Novel optimizations using transactional memory
- Speculative parallelization and other speculative methods
- Ideas for implementing transactional memory in hardware or software
- Hybrid techniques for designing and using transactional memory
- Language constructs to enable programming with transactional memory
- Run-time techniques to overcome memory aliasing using transactional memory
- New ideas for transaction failure control and avoidance
- Debugging programs that exploit transactional memory
- Performance analysis and tools related to transactional parallelization
- Other hardware-assisted methods for extracting and exploiting parallelism

Important Dates

Extended abstract due: Monday, January 28, 2008
Acceptance Notification: Monday, February 18, 2008
Final version due: Monday, March 3, 2008

Submission Guidelines

Extended abstracts of 6-10 pages may be submitted using any format. The abstract should clearly state the problem being studied, the methods used, and the results. If the results are preliminary, the authors should state their expectation for the final results. To submit, please send a pdf of your submission to epham@acm.org. Final submissions should use the standard ACM conference format (two columns with 9 pt Times Roman font, etc.).

More Information

EPHAM 2008 website: www.opensparc.net/conf/epham2008
CGO 2008 website: www.cgo.org
Questions? Send e-mail to: epham@acm.org

