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Tenth Annual IEEE/ACM International Symposium on Code Generation and Optimization (CGO 2012)

March 31st to April 4th, 2012, San Jose, California

CALL FOR PAPERS

The International Symposium on Code Generation and Optimization (CGO) brings together researchers and practitioners working on bridging the gap between software abstraction and hardware execution. The conference spans the spectrum from purely static to fully dynamic approaches, and from pure software based methods to architectural features and support.

Original contributions are solicited in areas including but not limited to the following:

Code Generation and Optimization

- Techniques for efficient execution of dynamically typed and higher-level languages
- Techniques for developing or targeting custom or special-purpose targets
- Optimization and code generation for emerging programming models
- Code transformations for energy efficiency
- New or improved optimization algorithms, including profile-guided, feedback-directed and machine learning based optimization
- Techniques for measuring and tuning optimization effectiveness
- Intermediate representations enabling more powerful or efficient optimization

Parallelism

- Language features and runtime support for parallelism
- Transformations for heterogeneous or specialized parallel targets, e.g. GPUs
- Data distribution and synchronization
- Virtualization support for multicore and/or heterogeneous computing
- Thread extraction and thread level speculation

Static and Dynamic Analysis

- Profiling and instrumentation for power, memory, throughput or latency
- Phase detection and analysis techniques
- Efficient profiling and instrumentation techniques
- Program characterization methods targeted at program optimization
- Profile-guided optimization and re-optimization

OS, Architecture and Runtime support

- Architectural support for improved profiling, optimization and code generation
- Integrated system design (HW/OS/VM/SW) for improved code generation, including custom or special-purpose processors
- Novel and efficient tools for power, performance analysis, debugging and testing
- Memory management and garbage collection

Security and Reliability

- Code analysis and transformations to address security or reliability concerns

Practical Experience

- Real dynamic optimization and compilation systems for general purpose, embedded system and HPC platforms

Applications of above in emerging technology areas, such as

- Web programming environments, application runtimes, optimizations
- SOCs, heterogeneous platforms hardware/software co-design, analysis and optimization

Important Dates

Abstract Submission:	September 13, 2011
Paper Submission:	September 20, 2011
Author Rebuttal Period:	October 23 to 26, 2011
Notification to Authors:	November 1, 2011