

1st International Workshop on Dynamic Compilation for Architectural Heterogeneity and Program Optimization

Austin, TX – February 4, 2017

Held in conjunction with the International Symposium on Code Generation and Optimization (CGO) 2017

Web site: <https://dcahpo.wordpress.com/>

Two previous workshop **DCE** (Dynamic Compilation Everywhere) and **AMAS-DO** (Architectural & Microarchitectural Support for Dynamic Optimization) has merged to create the **1st International Workshop on Dynamic Compilation for Architectural Heterogeneity and Program Optimization**.

Call for paper

General purpose as well as integrated processors nowadays have to run programs written in a wide variety of languages with isolation concerns. Dynamic compilation, i.e. generate binary code at run-time, is becoming a viable solution for many usage scenarios, and one of the goals of this combined workshop is to present current research and look forward to what is going to happen in this field of growing interest for the coming years. Scientific challenges are multiple with many inter-relations: program representation (source code, intermediate representation, data sets), fast binary code generation, patches, hardware abstraction, garbage collection, performance observation, performance trade-offs, polymorphism, operating systems.

Furthermore, large-scale use of binary translation and on-the-fly code generation and optimization is becoming pervasive both as an enabler for virtualization, processor migration and also as processor implementation technology. The emergence and expected growth of just-in-time compilation, virtualization and Web 2.0 scripting languages brings to the forefront a need for efficient execution of this class of applications. The availability of multiple execution threads brings new challenges and opportunities, as existing binaries need to be transformed to benefit from multiple processors, and extra processing resources enable continuous optimizations and translation. The workshop scope includes support for decoding/translation, support for execution optimization and runtime support. It will set a high scientific standard for such experiments, and requires insightful analysis to justify all conclusions. The workshop will favor submissions that provide meaningful insights, and identify underlying root causes for the failure or success of the investigated technique. Acceptable work must thoroughly investigate and communicate why the proposed technique performs as the results indicate.

The main goal of this full-day workshop is to bring together researchers and practitioners with the aim of stimulating the exchange of ideas and experiences on the potential and limits of the underlying technology. The key focus is on the challenges and opportunities for such assistance and opening new avenues of research. A secondary goal is to enable dissemination of hitherto unpublished techniques from commercial projects.

Important dates (anywhere on earth)

- **Paper : submission** December 9, **Author notification** December 16 **Final manuscript** January 15
- **Workshop:** February 4, 2017

Submission & publication

- Format: Full paper that consist of up to 6 pages, double column using electronic ACM format. <http://www.acm.org/publications/proceedings-template>
- Submission: <https://easychair.org/conferences/?conf=dcahpo2017>
- Publication: Accepted submissions will be published in the ACM Digital Library within its International Conference Proceedings Series ([ICPS](#)) with DOI publication number (ISBN number assigned to DCAHPO '17 is 978-1-4503-4878-2)

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