Call for Papers

A Special Issue of Journal of Parallel and Distributed Computing: Domain-Specific Languages and High-Level Frameworks for High-Performance Computing

Background and Scope

Multi-level heterogeneous parallelism and deep memory hierarchies in current and emerging computer systems make their programming for high-performance applications very difficult. The task is made more challenging by the changing landscape of system architecture mandated by power and micro-architecture considerations. Domain-specific languages (DSLs) and high-level frameworks (HLFs) provide convenient abstractions, shielding application developers from much of the complexity of explicitly programming in general-purpose programming languages like C/C++/Fortran, using parallel programming models like MPI/OpenMP/Pthreads. They also enable compilers to exploit semantic properties in optimizing programs, as well as facilitate performance portability across different target platforms. This special issue invites submissions describing research on any aspect relating to domain-specific languages and high-level frameworks in the context of high-performance computing.

Topics of interest for the special issue include but are not limited to the following list:
- Application frameworks
- Domain-specific languages and libraries
- High-level data structures
- High-level aspects of programming languages
- Directive-based optimization approaches

Submission Format

The submitted papers must be written in English and describe original research which is not published nor currently under review by other journals or conferences. Author guidelines for preparation of manuscripts can be found at http://www.elsevier.com/journals/journal-of-parallel-and-distributed-computing/0743-7315/guide-for-authors.

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Submission Guidelines

All manuscripts and any supplementary material should be submitted through Elsevier Editorial System (EES). The authors must select “Special Issue: DSLs/HLFs for HPC” when they reach the “Article Type” step in the submission process. The EES website is located at: http://ees.elsevier.com/jpdc

Important Dates

Paper submission:
May 1, 2013 to July 15, 2013

Acceptance notification:
December 1, 2013

Final papers:
December 31, 2013
Guide for Authors

This site will guide you stepwise through the creation and uploading of your article. The Guide for Authors can be found on the JPDC journal homepage (http://www.elsevier.com/locate/jpdc).

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