TOPIC 8 - PARALLEL AND DISTRIBUTED PROGRAMMING, INTERFACES, AND LANGUAGES

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DESCRIPTION

Parallel and distributed applications requires adequate programming abstractions and models, efficient design tools, parallelization techniques and practices. This topic is open for presentations of new results and practical experience in this domain: Efficient and effective parallel languages, interfaces, libraries and frameworks, as well as solid practical and experimental validation. It emphasizes research on high-performance, correct, portable, and scalable parallel programs via adequate parallel and distributed programming model, interface and language support. Contributions that assess programming abstractions, models and methods for usability, performance prediction, scalability, self-adaptation, rapid prototyping and fault-tolerance, as needed, for instance, in dynamic heterogeneous parallel and distributed infrastructures, are welcome. Authors are invited to include quantitative evaluations to their claims.

Focus

- Programming paradigms and techniques for novel infrastructures like accelerators, exascale systems, low power architectures and clouds
- Design and implementation, performance analysis and performance portability of programming models across parallel and distributed platforms
- Innovative paradigms, programming models, languages and libraries for parallel and distributed applications
- Programming models and techniques for heterogeneity, self-adaptation and fault tolerance
- Programming tools for application design, implementation, and performance-tuning
- Application case-studies for benchmarking and comparative studies of parallel programming models
- Domain-specific libraries and languages
- Parallel and distributed programming productivity, usability, and component-based parallel programming