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TOPIC 3 - SCHEDULING AND LOAD BALANCING

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DESCRIPTION

New computing systems offer the opportunity to reduce the response times and the energy consumption of the applications by exploiting the levels of parallelism. Heterogeneity and complexity are the main characteristics of modern architectures. Thereby, the optimal exploitation of modern platforms is challenging. Scheduling and load balancing techniques are key instruments to achieve higher performance, lower energy consumption, reduced resource usage, and real-time properties of applications.

This topic invites papers on all aspects related to scheduling and load balancing on parallel and distributed machines, from theoretical foundations for modelling and designing efficient and robust scheduling policies to experimental studies, applications and practical tools and solutions. It applies to multi-/manycore processors, embedded systems, servers, heterogeneous and accelerated systems, HPC clusters as well as distributed systems such as clouds and global computing platforms.

Focus

All aspects related to scheduling and load balancing on parallel and distributed machines including but not limited to:

- Scheduling algorithms for homogeneous and heterogeneous platforms
- Theoretical foundations of scheduling algorithms
- Real-time scheduling on parallel and distributed machines
- Robustness of scheduling algorithms
- Feedback-based load balancing
- Multi-objective scheduling
- Resilient scheduling
- Scheduling, coordination and overhead at extreme scales
- On-line scheduling
- Energy and temperature awareness in scheduling and load balancing
- Workload characterization and modelling
- Workflow scheduling
- Performance models for scheduling and load balancing
- Management of heterogeneous resources
- Reproducibility of scheduling

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