Topic 3
Scheduling and Load Balancing

Yves Robert, Henri Casanova, Arjan van Gemund, and Dieter Kranzlmüller
Topic Chairs

Scheduling and load balancing techniques are crucial issues when executing applications in parallel and distributed systems. The quest for high performance computing (HPC) requires substantial support from efficient scheduling and load balancing techniques. Even the most powerful HPC environments require proper support of these techniques in order to fulfill the users expectations in terms of performance and efficiency.

For this reason, research on optimization of scheduling decisions and improvements of load distribution are addressed in many past and on-going projects. Such techniques can be provided either at the application level or at the system level. Both scenarios are of interest for this workshop and are covered by the contributed papers. Both, theoretical and practical aspects, are presented and discussed by the authors.

In addition, this year puts special emphasis on the characteristics of scheduling and load balancing algorithms for current and new parallel and distributed systems, such as clusters, computational grids and global computing environments. These massively parallel and often inhomogeneous systems represent major challenges for todays scheduling and load balancing algorithms. The variety of systems and the possible distribution over long distance resources requires dedicated solutions for different resource constellations as well as adaptations to changes of the execution environment.

The selection of papers has been initiated with 25 contributions. Based on the reviews, the workshop consists of 1 distinguished paper, 3 regular papers, and 9 short papers. Each paper received between 3 and 4 reviews, and the decisions have been taken unanimously within the topic committee. A broad spectrum of techniques is covered by these contributions, including job allocation on clusters and replication on computational grids. The number of short papers indicates the wide variety of results in different areas of this research domain.

Finally, we would sincerely like to thank all of the contributing authors for their work, as well as the reviewers for their support during the selection process.