

Introduction

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Topic chairs

Parallel computing is increasingly exposed to the development and challenges of distributed systems, such as asynchrony, long latencies, failures, network partitions, mobility, heterogeneity, malicious and selfish behavior, disconnected operations, the lack of load balancing, and many others. Furthermore, distributed systems are becoming larger, more diverse and more dynamic, for example, in terms of highly dynamic number of participants and topology changes. The Euro-Par topic dedicated to distributed systems and algorithms provides a forum for research and practice, of interest to both academia and industry, to present and discuss novel approaches in distributed computing and to explore relations between parallel processing and distributed systems.

We encouraged submission of papers across the whole area of distributed systems and algorithms, with emphasis on several classical and recent popular sub-areas, see the topic web page europar2011.bordeaux.inria.fr/topic08.php for details.

This year three papers were accepted. The paper “Productive Cluster Programming with OmpSs”, by J. Bueno, L. Martinell, A. Duran, M. Farreras, X. Martorell, R.M. Badia, E. Ayguade, and J. Labarta, proposes a novel implementation of the system for cluster programming, supporting asynchrony, heterogeneity and data movement. Another paper — “On the Use of Cluster-Based Partial Message Logging to Improve Fault Tolerance for MPI HPC Applications” by T. Ropars, A. Guermouche, B. Ucar, E. Meneses, L.V. Kale, and F. Cappello — studies the communication patterns of message passing HPC applications in relation to partial message logging. The third paper “Object Placement for Cooperative Caches with Bandwidth Constraints”, by U.C. Devi, M. Chetlur, and S. Kalyanaraman, develops an efficient solution to the caching problem motivated by high-volume streaming through bounded-constrained links.

We would like to take the opportunity of thanking all the authors who submitted their work to the topic, as well as all people involved in the organization and reviewing process within Euro-Par 2011. In particular, we would like to acknowledge the work of the external referees, who offered enormous help and expertise in reviewing and assessing papers from many different sub-areas covered by the topic.