
Preface

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Biographical notes: Zoltan Juhasz is a Senior Lecturer (Associate Professor) in the Department of Information Systems of the University of Pannonia where he leads the Parallel and Distributed Systems Group. His research interest spans various topics in parallel, distributed and grid computing, including performance prediction, service-oriented architecture design, grid applications, programming models and the use of Java and Jini technologies in grid computing. He has led several research projects in these areas and published over 60 papers about his results.

Peter Kacsuk is a Head of the Laboratory of the Parallel and Distributed Systems in MTA SZTAKI. He is a part-time full Professor at the Cavendish School of Computer Science of the University of Westminster. He served as Visiting Scientist or Professor at various universities of Europe, Australia and Japan. He published two books, two lecture notes and more than 200 scientific papers on parallel computer architectures, parallel software engineering, cluster and grid computing tools. He participated and led several Hungarian and international grid projects since 1992. He is a co-editor-in-chief of the *Journal of Grid Computing*.

Dieter Kranzlmüller is a full Professor of Computer Science at the Ludwig-Maximilians-Universität (LMU) Munich and member of the board of the Leibniz-Supercomputing Centre (LRZ). He received his Diploma and PhD from the Johannes Kepler University Linz in the area of parallel computing and program analysis tools. His research interests include HPC tools and software, cluster and grid computing, and visualisation.

The Austrian-Hungarian Workshop on Distributed and Parallel Systems (DAPSYS) is established as an international biannual conference series dedicated to all aspects of distributed and parallel computing. After many successful instances, in 2008, the 7th DAPSYS event took place in Debrecen. The DAPSYS conference series is well-known in the scientific community and has established itself as an international meeting far beyond its origins in Austria and Hungary.

For academics and industrial experts, DAPSYS provides an excellent opportunity to discuss general aspects of distributed and parallel systems. It is therefore a major event for vendors, researchers and teachers to consider present and future topics in distributed and parallel systems. Papers presenting original research, educational methods, new concepts, and results of international projects were sought. Papers describing clusters, cluster programming, Grid systems and related fields were especially welcome.

Topics of interest included cluster and grid systems, distributed and grid middleware, parallel operating systems, parallel and distributed programming languages and methodologies, parallel and distributed algorithms, software engineering and development tools, environments for parallel systems, parallel architecture and I/O systems, web computing with special focus on portals and web services technology, Java/CORBA systems, parallel and distributed databases and data mining, applications of parallel, distributed technologies, clusters and grids.

This special issue of the *International Journal of Computational Science and Engineering (IJCSE)* comprises eight papers that have been selected as the top-ranked papers based on the reviews for the DAPSYS conference. All papers have been substantially extended and partially rewritten to modify them for the journal. In addition,

we have performed at least three additional reviews on all the journal contributions to ensure a high level of quality.

These eight papers deal with different aspects of distributed and parallel systems, such as storage in SMP clusters, tools for monitoring and program analysis, optimisation and load balancing, checkpointing and migration in clusters and cluster grids, and garbage collection. In addition, two papers focus on the deployment of applications on the Grid and corresponding program execution support.

We would like to express our special thanks to all authors for their contributions, as well as to the Program Committee of DAPSYS and to the reviewers of the special issue for supporting our effort. Special thanks are expressed to Rene Kobler, GUP Linz for managing the publication process on behalf of the DAPSYS committee.