

# Preface

Parallel Virtual Machine (PVM) and Message Passing Interface (MPI) are the most frequently used tools for programming according to the message passing paradigm, which is considered one of the best ways to develop parallel applications.

This volume comprises 50 selected contributions presented at the Ninth European PVM/MPI Users' Group Meeting, which was held in Linz, Austria, September 29 – October 2, 2002. The conference was organized by the Department for Graphics and Parallel Processing (GUP), Institute of Technical Computer Science and Telematics, Johannes Kepler University Linz, Austria/Europe.

This conference has been previously held on Santorini (Thera), Greece (2001), in Balatonfüred, Hungary (2000), Barcelona, Spain (1999), Liverpool, UK (1998), and Krakow, Poland (1997). The first three conferences were devoted to PVM and were held at the TU Munich, Germany (1996), ENS Lyon, France (1995), and the University of Rome, Italy (1994).

This conference has become a forum for users and developers of PVM, MPI, and other message passing environments. Interaction between those groups has proved to be very useful for developing new ideas in parallel computing and for applying some of those already existent to new practical fields. The main topics of the meeting were evaluation and performance of PVM and MPI, extensions and improvements to PVM and MPI, algorithms using the message passing paradigm, and applications in science and engineering based on message passing. In addition, this year's conference was extended to include PVM and MPI in metacomputing and grid environments in order to reflect the importance of this topic to the high performance computing community.

Besides the main track of contributed papers, the conference featured the two special sessions “CrossGrid – Development of Grid Environments for Interactive Applications” as well as “ParSim – Current Trends in Numerical Simulation for Parallel Engineering Environments”. The conference also included two tutorials, one on “MPI on the Grid” and another one on “Parallel Application Development with the Hybrid MPI+OpenMP Programming Model”, and invited talks on high performance numerical libraries, advances in MPI, process management, scalability and robustness in metacomputing, petascale computing, performance analysis in the grid, and making grid computing mainstream. These proceedings contain the papers of the 50 contributed presentations together with abstracts of the invited speakers' presentations.

The ninth Euro PVM/MPI conference was held together with DAPSYS 2002, the fourth Austrian-Hungarian Workshop on Distributed and Parallel Systems. Participants of the two events shared invited talks, tutorials, the vendors' session, and social events while contributed paper presentations proceeded in separate tracks in parallel. While Euro PVM/MPI is dedicated to the latest development of PVM and MPI, DAPSYS is a major event to discuss general aspects of dis-

tributed and parallel systems. In this way the two events were complementary to each other and participants of Euro PVM/MPI could benefit from the joint organization of the two events.

Invited speakers of the joint Euro PVM/MPI and DAPSYS conference were Marian Bubak, Jack Dongarra, Al Geist, Michael Gerndt, Bill Gropp, Zoltan Juhasz, Ewing Lusk, Bart Miller, Peter Slood, and Vaidy Sunderam. The tutorials were presented by Barbara Chapman as well as Bill Gropp and Ewing Lusk.

We would like to express our gratitude for the kind support of our sponsors (see below) and we thank the members of the Program Committee and the additional reviewers for their work in refereeing the submitted papers and ensuring the high quality of Euro PVM/MPI.

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