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Recent Advances in Parallel Virtual Machine and Message Passing Interface

10th European PVM/MPI User's Group Meeting
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Proceedings

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Preface

The message passing paradigm is considered the most effective way to develop efficient parallel applications. PVM (Parallel Virtual Machine) and MPI (Message Passing Interface) are the most frequently used tools for programming message passing applications.

This volume includes the selected contributions presented at the 10 th European PVM/MPI Users' Group Meeting (Euro PVM/MPI 2003), which was held in Venice, Italy, September 29–October 2, 2003. The conference was jointly organized by the Department of Computer Science of the Ca' Foscari University of Venice, Italy and the Information Science and Technologies Institute of the National Research Council (ISTI-CNR), Pisa, Italy.

The conference was previously held in Linz, Austria (2002), Santorini, Greece (2001), Balatonfüred, Hungary (2000), Barcelona, Spain (1999), Liverpool, UK (1998), and Krakow, Poland (1997). The first three conferences were devoted to PVM and were held in Munich, Germany (1996), Lyon, France (1995), and Rome, Italy (1994).

The conference has become a forum for users and developers of PVM, MPI, and other message passing environments. Interactions between these 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, implementations and improvements of PVM and MPI, parallel algorithms using the message passing paradigm, and parallel applications in science and engineering. In addition, the topics of the conference were extended to include Grid computing, in order to reflect the importance of this area for the high-performance computing community.

This year we received 115 submissions, and the Program Committee finally selected 64 regular papers, and 16 short papers. Besides the main track of contributed papers, the conference featured the second edition of the special session "ParSim 03 – Current Trends in Numerical Simulation for Parallel Engineering Environments." This volume also includes six short papers presented during the ParSim 03 session.

Two tutorials were presented during the meeting: "High-Level Programming in MPI" by William Gropp and Ewing Lusk, and "Programming Environments for Grids and Distributed Computing Systems" by Vaidy Sunderam. Finally, six invited talks were presented at the conference: the invited speakers were Geoffrey Fox, Al Geist, William Gropp, Ewing Lusk, Thierry Priol, and Marco Vanneschi. The contributions relating to the invited talks and tutorials are also included in this volume.

We would like to express our gratitude for the kind support of our sponsors (see below). We are also indebted to all the members of the Program Committee and the additional reviewers, who ensured the high quality of Euro PVM/MPI

2003 with their careful and timely work. Finally, we would like to express our gratitude to our colleagues in the ISTI-CNR and the University of Venice for their help and support during the conference organization. In particular, we would like to thank Tiziano Fagni, Paolo Palmerini, Raffaele Perego, Claudio Silvestri, Fabrizio Silvestri and Nicola Tonellotto.

September 2003

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Table of Contents

Invited Talks

Tutorials

Evaluation and Performance Analysis

Parallel Algorithms Using Message Passing

Extensions, Improvements and Implementations of PVM/MPI

Parallel Programming Tools

Applications in Science and Engineering

Grid and Heterogeneous Computing

Special Session: ParSim 03