

Beniamino Di Martino
Dieter Kranzlmüller
Jack Dongarra (Eds.)

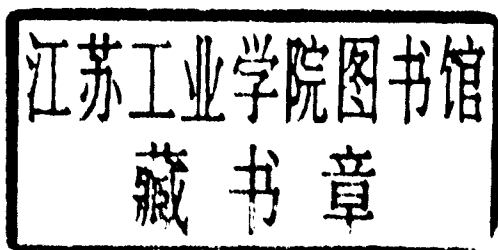
Recent Advances in Parallel Virtual Machine and Message Passing Interface

12th European PVM/MPI Users' Group Meeting
Sorrento, Italy, September 2005
Proceedings

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Recent Advances in Parallel Virtual Machine and Message Passing Interface

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Preface

The message passing paradigm is the most frequently used approach to developing high performance computing applications on parallel and distributed computing architectures. The Parallel Virtual Machine (PVM) and Message Passing Interface (MPI) are the two main representatives in this domain.

This volume comprises 61 selected contributions presented at the 12th European PVM/MPI Users' Group Meeting, which was held in Sorrento, Italy, September 18–21, 2005. The conference was organized by the Dipartimento di Ingegneria dell'Informazione of the Second University of Naples, Italy in collaboration with CREATE and the Institute of Graphics and Parallel Processing (GUP) of the Johannes Kepler University Linz, Austria.

The conference was previously held in Budapest, Hungary (2004), Venice, Italy (2003), 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).

In its twelfth year, this conference is well established as the forum for users and developers of PVM, MPI, and other message passing environments. Interactions between these groups have 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, parallel applications in science and engineering, and cluster and grid computing.

Besides the main track of contributed papers, the conference featured the fourth edition of the special session "ParSim 2005 — Current Trends in Numerical Simulation for Parallel Engineering Environments". The conference also included two tutorials, one on "Using MPI-2: A Problem-Based Approach" by William Gropp and Ewing Lusk, and one on "Advanced Message Passing and Threading Issues" by Graham Fagg and George Bosilea; and invited talks on "New Directions in PVM/Harness Research" by Al Geist, "Towards a Productive MPI Environment" by William Gropp, "Components of Systems Software for Parallel Systems" by Ewing Lusk, and "Virtualization in Parallel Distributed Computing" by Vaidy Sunderam. These proceedings contain papers on the 61 contributed presentations together with abstracts of the invited and tutorial speakers' presentations.

We would 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. Finally, we would like to express our gratitude to our colleagues at the Second University of Naples and GUP, JKU Linz for their

help and support during the conference organization, in particular Bernhard Aichinger, Valentina Casola, Domenico Di Sivo, Francesco Moscato, Patrizia Petrillo, Günter Seiringer, Salvatore Venticinque and Mariella Vetrano.

September 2005

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