

Preface

The growth of the Internet and the availability of powerful computers and high-speed networks as low-cost commodity components are changing the way we do computing. These new technologies have enabled the clustering of a wide variety of geographically distributed resources, such as supercomputers, storage systems, data sources, and special devices and services, which can then be used as a unified resource. Furthermore, they have enabled seamless access to and interaction among these distributed resources, services, applications, and data. The new paradigm that has evolved is popularly termed “Grid computing”. Grid computing and the utilization of the global Grid infrastructure have presented significant challenges at all levels, including application development, programming models, systems, infrastructures and services, networking, and security, and have led to the development of a global research community.

Grid 2002 is the third in a series of workshops developed to provide a forum for this growing Grid Computing research community. Grid 2000, the first workshop in the series, was chaired by Rajkumar Buyya and Mark Baker, and was held in conjunction with HiPC 2002 in Bangalore, India. Grid 2001 (Chair: Craig A. Lee) and Grid 2002 were held in conjunction with Supercomputing, the world’s premier meeting for high-performance computing.

The Grid 2002 program committee consisted of a truly international group of experts representing 13 countries on 4 continents. Grid 2002 attracted 78 research papers. Each paper was thoroughly reviewed by the program committee and external reviewers, and 22 full papers and 6 “work-in-progress” papers were selected and presented at the workshop. We sincerely thank the program committee for the wonderful job they have done, the reviewers for their time and efforts, and specially the authors for their excellent submissions. It is because of you that the workshop was a success.

We also thank our sponsors, the ACM, the IEEE, the IEEE Computer Society, and Supercomputing 2002 for making the workshop and these proceedings possible. The WIMPE conference management software from Dartmouth College and system support at the CAIP Center at Rutgers University proved invaluable during the paper submission and review process. We also thank Jan van Leeuwen, Utrecht University (LNCS Series Editor) and Alfred Hofmann of Springer-Verlag (Executive Editor) for publishing the proceedings. Special thanks go to Anna Kramer of Springer-Verlag (Computer Science Editorial Assistant) and Sumir Chandra for helping perfect these proceedings. Finally, we wish to thank each one of you who attended Grid 2002 in Baltimore, MD. We do hope you find these proceedings interesting and informative.

Grid 2002 Sponsoring Institutions



Association for Computing Machinery (ACM SIGARCH)

<http://www.acm.org>



Institute of Electrical and Electronics Engineers (IEEE)

<http://www.ieee.org>



IEEE Computer Society

<http://www.computer.org>



Supercomputing 2002

<http://www.sc2002.org>

Grid 2002 Organization

General Chair

Craig A. Lee The Aerospace Corporation, CA, USA

Program Chair

Manish Parashar Rutgers, State University of New Jersey, NJ, USA

Steering Committee

Mark Baker University of Portsmouth, UK
Rajkumar Buyya Monash University, Australia
Craig Lee The Aerospace Corporation, USA
Manish Parashar Rutgers, State University of New Jersey, NJ, USA
Heinz Stockinger CERN, Switzerland

Publicity Chair

Ruth Aydt University of Illinois, Urbana-Champaign, USA

Program Committee

David Abramson Monash University, Australia
Gabrielle Allen Max-Plank Institute, Germany
David Bader University of New Mexico, USA
Kim Branson CSIRO, Health Sciences and Nutrition, Australia
Henri Casanova University of California, San Diego, USA
Steve Chapin Syracuse University, USA
Francisco Curbera IBM T.J. Watson Research Center, USA
Frederica Darema National Science Foundation, USA
Jack Dongarra University of Tennessee/ORNL, USA
Jonathan Giddy Welsh e-Science Centre, Cardiff University, UK
Sergi Girona Polytechnic University of Catalunya, Spain
Tomasz Haupt Mississippi State University, USA
Ken Hawick University of Wales, UK
Hai Jin Huazhong University of Science and Technology, China
William Johnston Lawrence Berkeley National Laboratory, USA
Domenico Laforenza Institute of the Italian National Research Council,
Italy
Gregor von Laszewski Argonne National Laboratory, USA
Laurent Lefevre RESAM/INRIA, France
Miron Livny University of Wisconsin, USA

VIII Organization

Satoshi Matsuoka	Tokyo Institute of Technology, Japan
Jarek Nabrzyski	Poznan Supercomputing and Networking Center, Poland
Lalit Patnaik	Indian Institute of Science, India
Marcelo Pasin	UFES, Brazil
Thierry Priol	IRISA/INRIA, France
Alexander Reinefeld	ZIB, Germany
Mitsuhisa Sato	Real World Computing Partnership, Japan
Martin Schulz	Technische Universität München, Germany
Alan Sussman	University of Maryland, USA
Domenico Talia	ISI-CNR, Italy
Yoshio Tanaka	NIAIST, Japan
Brian Tierney	Lawrence Berkeley National Laboratory, USA
Putchong Uthayopas	Kasetsart University, Thailand
Jon Weissman	University of Minnesota, USA
Liang-Jie Zhang	IBM T.J. Watson Research Center, USA

Referees

M. Beck	S. Klasky	R. Raje
U. Bellur	K. Keahey	P. Reiher
V. Bhat	T. Kurc	C. Schmidt
S. Chandra	M. Ott	J. Sucec
Z. Juhasz	G. Popescu	
T. Kielmann	V. Putty	