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Scientific Applications of Grid Computing

First International Workshop, SAG 2004
Beijing, China, September 20-24, 2004
Revised Selected and Invited Papers

Springer

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Preface

We wish to extend a warm welcome to the reader of this extended postproceedings publication of SAG 2004, the 1st International Workshop on Scientific Applications on Grid Computing. This workshop was held in September 2004, in conjunction with the 2004 IEEE/WIC/ACM International Joint Conference on Web Intelligence (WI 2004) and Intelligent Agent Technology (IAT 2004).

The WI and IAT conferences have provided, for several years, a leading international forum to bring together researchers and practitioners from diverse fields, such as computer science, information technology, business, education, human factors, systems engineering, and robotics, to explore the fundamental roles as well as practical impacts of artificial intelligence (AI) (e.g., knowledge representation, planning, knowledge discovery, and data mining, intelligent agents and social network intelligence) and advanced information technology (IT) (e.g., wireless networks, ubiquitous devices, social networks, the Wisdom Web, and data/knowledge grids), and to examine the design principles and performance characteristics of various approaches in intelligent agent technology.

In the last decade, Grid computing has become one of the most important topics to appear and one of the most widely developed fields. Research into Grid computing is making rapid progress, owing to the increasing necessity of computation resources in the resolution of complex applications. The great challenge is the complete integration of heterogeneous computing systems and data resources with the aim of providing a global computing space. The achievement of this goal will involve revolutionary changes in the field of computation, enabling seamless resource and data sharing across networks. SAG 2004 aimed to provide a forum for novel topics related to Grid computing, providing an opportunity for researchers to discuss and identify key aspects of this important area.

The set of technical papers presented in this volume comprises the SAG 2004 selected papers plus a further 8 invited papers. As for the invited papers, we can say that this extended postproceedings publication gave us the opportunity and the pleasure to introduce the work being carried out by some people who are very well known in the Grid community; and for the SAG 2004 selected papers, we can say that this selection was the result of a difficult and thorough review process. The SAG 2004 workshop received 29 submissions of high quality from which the 10 papers making up the technical program were selected. The number of submissions and the quality and diversity of the resulting program are testimony to the interest in this up-and-coming area.

This publication could not have taken place without considerable enthusiasm, support and encouragement as well as sheer hard work. Many people have earned the thanks of those who attended and organized SAG 2004. In particular, we would like to thank:

- The many supporters of WI and IAT 2004 for their contributions to the conference. Many of these people have been involved with the WI and IAT 2004 conferences for several years.
- The members of the workshop Program Committee who gave their time and energy to ensure that the conference maintained its high technical quality and ran smoothly. The many individuals we owe our thanks to are listed in this volume.
- All the invited authors for their great effort, hard work and support: Konstantinos Karasavvas, Mario Antonioletti, Malcolm Atkinson, Neil Chue Hong, Tom Sugden, Alastair Hume, Mike Jackson, Amrey Krause, Charaka Palansuriya, M. Nedim Alpdemir, Arijit Mukherjee, Anastasios Gounaris, Norman W. Paton, Alvaro A.A. Fernandes, Rizos Sakellariou, Paul Watson, Peter Li, Ilkay Altintas, Adam Birnbaum, Kim Baldridge, Wibke Sudholt, Mark Miller, Celine Amoreira, Yohan Potier, Bertram Ludaescher, Georgousopoulos Cristos, Omer F. Rana, M. Cannataro, M. Comin, C. Ferrari, C. Guerra, A. Guzzo, and P. Veltri, Jose M. Perez, Felix Garcia, Jesus Carretero, Jose D. Garcia, Soledad Escolar, J. Herrera, E. Huedo, R.S. Montero, I.M. Llorente, and Jemal H. Abawajy.
- All those who submitted to the workshop. The standard set was higher than our expectations and reflected well on the research work in the community.

We would also like to acknowledge the organizers of the WI and IAT 2004 conferences, as well as Alfred Hofmann, from Springer, for the support and encouragement they extended to this publication. This volume is the result of a close cooperation and hopefully will allow us to contribute to the growth of this research community.

Pilar Herrero, María S. Pérez, Víctor Robles

1st International Workshop On Scientific Applications on Grid Computing (SAG 2004)

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