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Euro-Par 2007 Workshops Parallel Processing

HPPC 2007, UNICORE Summit 2007, and VHPC 2007
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Revised Selected Papers

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Preface

Parallel and distributed processing, although within the focus of computer science research for a long time, is gaining more and more importance in a wide spectrum of applications. These proceedings aim to demonstrate the use of parallel and distributed processing concepts in different application fields, and attempt to spark interest in novel research directions to advance the embracing model of high-performance computing research in general.

The objective of these workshops is to specifically address researchers coming from university, industry and governmental research organizations and application-oriented companies, in order to close the gap between purely scientific research and the applicability of the research ideas to real-life problems.

Euro-Par is an annual series of international conferences dedicated to the promotion and advancement of all aspects of parallel and distributed computing. The 2007 event was the 13th issue of the conference. Euro-Par has for a long time been eager to attract colocated events sharing the same goal of promoting the development of parallel and distributed computing, both as an industrial technique and an academic discipline, extending the frontier of both the state of the art and the state of the practice. Since 2006, Euro-Par offers researchers the chance to colocate advanced technical workshops back-to-back with the main conference. This is for a mutual benefit: the workshops can take advantage of all technical and social facilities which are set up for the conference, so that the organizational tasks are kept to a minimal level; the conference can rely on workshops to experiment with specific areas of research which are not yet mature enough, or too specific, to lead to an official, full-fledged topic at the conference.

The 2006 experience was quite successful, and was extended to a larger size in 2007, where five events were colocated with the main Euro-Par Conference:

CoreGRID Symposium is the major annual event of the CoreGRID European Research Network on Foundations, Software Infrastructures and Applications for large-scale distributed, Grid and peer-to-peer technologies. It is also an opportunity for a number of CoreGRID Working Groups to organize their regular meetings. The proceedings have been published in a specific volume of the Springer CoreGRID series *Towards Next Generation Grids*, edited by Thierry Priol and Marco Vanneschi.

GECON 2007 is the Fourth International Workshop on Grid Economic and Business Model. Euro-Par was eager to attract an event about this very important aspect of grid computing, which has often been overlooked by scientific researchers of the field. This very successful workshop was organized by Jörn Altmann and Daniel J. Veit. Its proceedings are published in a separate volume of Springer's *Lecture Notes in Computer Science* series, number 4685.

HPPC 2007 is the First Workshop on Highly Parallel Processing on a Chip. With a number of both general and special purpose multi-core processors already on the market, it is foreseeable that new designs with a substantial number of processing cores will emerge to meet demands for extremely high performance, dependability, and controllable power consumption in mobile and embedded devices, and in response to the convergence of communication, media and compute devices. This workshop was a unique opportunity for the Euro-Par community to get acquainted with this new and hot field of research.

UNICORE Summit 2007 aimed to bring together researchers and practitioners working with UNICORE in the areas of grid and distributed computing, to exchange and share their experiences, new ideas, and latest research results on all aspects of UNICORE. The UNICORE grid technology provides a seamless, secure, and intuitive access to distributed grid resources. This was the third meeting of the UNICORE community, after a meeting in Sophia-Antipolis, France, in 2005, and a colocated meeting at Euro-Par 2006 in Dresden, Germany, in 2006.

VHPC 2007 is the Workshop on Virtualization/Xen in High-Performance Cluster and Grid Computing. Virtual machine monitors (VMMs) are now integrated with a variety of operating systems and are moving out of research labs into scientific, educational and operational usage. This workshop aimed to bring together researchers and practitioners active in exploring the application of virtualization in distributed and high-performance cluster and grid computing environments. This was a unique opportunity for the Euro-Par community to make connections with this very active research domain.

The reader will find in this volume the proceedings of the last three events.

Hosting Euro-Par 2007 and these colocated events in Rennes would not have been possible without the support and the help of different institutions and numerous people.

Although we are thankful to many more people, we are particularly grateful to Édith Blin: she put a huge amount of work in the organization of the conference, always combining efficiency and enthusiasm, smoothing consistently the whole process of organizing the conference.

We are obviously most thankful to the workshop organizers: Martti Forsell and Jesper Larsson Träff for HPPC 2007; Achim Streit and Wolfgang Ziegler for UNICORE Summit 2007; and Michael Alexander and Stephen Childs for VHPC 2007. It has been a pleasure to collaborate with them on this project. We definitely thank them for their interest in our proposal and their trust and availability along the entire preparation process.

Euro-Par 2007 was hosted on the University Campus and we would like to thank the Department of Computer Science (IFSIC) of the University of Rennes 1 for the support and infrastructure. We gratefully acknowledge the great financial and organizational support of INRIA and IRISA as well as the support of our institutional sponsors the University of Rennes 1, the Regional

Council, Rennes Métropole, the local council, the Métivier Foundation, the *Pôle de competitivité Images & Réseaux* and the city of Rennes.

Finally, we are grateful to Springer for agreeing to publish the proceedings of these three workshops in a specific volume of its *Lecture Notes in Computer Science* series. We are definitely eager to pursue this collaboration.

It has been a great pleasure to work together on this project in Rennes. We hope that the current proceedings are beneficial for sustainable growth and awareness of parallel and distributed computing concepts in future applications.

November 2007

Luc Bougé
Martti Forsell
Jesper Larsson Träff
Achim Streit
Wolfgang Ziegler
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