EDITORIAL PREFACE

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Following a special issue in advanced computational techniques for disaster management, the sixth issue presents four regular papers.

The first article discusses the importance of propagation modeling in wireless network planning and optimization. The authors present an intelligent ray launching algorithm, namely IRLA, which is proved to demonstrate a significant balance in both speed and accuracy. Specifically, the COST231 Munich scenario has been used to verify algorithm behavior in a real world setting, and observed results have shown a five times increased speedup upon a 16-processor cluster.

The second article discusses that scheduling jobs in complex and dynamic environments has many challenges. Specifically, the article presents a reliability based scheduling model for the jobs on the computational grid. The model considers the failure rate of both the software and hardware grid constituents like application demanding execution, nodes executing the job and the network links supporting data exchange between the nodes.

The third article discusses that current applications do require sharing of resources that are dispersed geographically in order to fulfill the need of the users. Authors argue that in most of the cases applications turn out to be time bounded thus leading to Real Time Distributed System (RTDS). Such applications face many challenges including resource management, load balancing, security and deadlock. In this vein, the authors provide a widespread survey of research work reported in RTDS, present the challenges involved and conclude with future directions in these areas.

The fourth article presents an adaptive framework for processing a window-based multi-way join query over distributed data streams. The framework integrates distributed plan modification and distributed plan migration within the same scope by using a building block called the node operator set (NOS). Experiments confirm the effectiveness of the developed adaptive framework on reducing the join execution cost and indicate a small additional adaptation-overhead for distributing the NOS update.

Finally, my sincere thanks go to our authors and editorial board members as well as our reader community.

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Nik Bessis is currently a principal lecturer (Associate Professor) in the Department of Computer Science and Technology at University of Bedfordshire,UK. He obtained a BA (1991) from the TEI of Athens and completed his MA (1995) and PhD (2002) at De Montfort University (Leicester, UK). His research interest is the analysis, research, and delivery of user-led developments with regard to trust, data integration, annotation, and data push methods and services in distributed environments. These have a particular focus on the study and use of next generation and grid technologies methods for the benefit of various virtual organizational settings. He is involved in and leading a number of funded research and commercial projects in these areas. Dr. Bessis has published numerous papers and articles in international conferences and journals and he is the editor of two books and the Editor-in-Chief of the International Journal of Distributed Systems and Technologies *(IJDST). In addition, Dr. Bessis is a regular reviewer of several journals and conferences and has served as an associate editor, a scientific program committee member, and a session chair in numerous international conferences. More information can be found under: http://www.beds.ac.uk/departments/computing/staff/nik-bessis.*