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Transactions on Large-Scale Data- and Knowledge-Centered Systems III

Special Issue on Data and Knowledge Management in Grid and P2P Systems

Springer

Editors-in-Chief

Abdelkader Hameurlain
Paul Sabatier University
Institut de Recherche en Informatique de Toulouse (IRIT)
118, route de Narbonne, 31062 Toulouse Cedex, France
E-mail: hameur@irit.fr

Josef Küng
Roland Wagner
University of Linz, FAW
Altenbergerstraße 69
4040 Linz, Austria
E-mail: {j.kueng,rrwagner}@faw.at

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Preface

The LNCS journal Transactions on Large-Scale Data- and Knowledge-Centered Systems focuses on data management, knowledge discovery, and knowledge processing, which are core and hot topics in computer science. Since the 1990s, the Internet has become the main driving force behind application development in all domains. An increase in the demand for resource sharing across different sites connected through networks has led to an evolution of data- and knowledge-management systems from centralized systems to decentralized systems enabling large-scale distributed applications providing high scalability. Current decentralized systems still focus on data and knowledge as their main resource. Feasibility of these systems relies basically on P2P (peer-to-peer) techniques and the support of agent systems with scaling and decentralized control. Synergy between Grids, P2P systems, and agent technologies is the key to data- and knowledge-centered systems in large-scale environments.

The third issue of this journal focuses on data and knowledge management in grid and P2P systems. The importance of these systems arises from their main characteristics: the autonomy and the dynamics of peers, the decentralization of control, and the effective and transparent sharing of large-scale distributed resources.

This special issue of TLDKS contains two kinds of papers. First, it contains a selection of the best papers from the third International Conference on Data Management in Grid and Peer-to-Peer Systems (Globe 2010), which was held September 1–2, 2010 in Bilbao, Spain. The authors were invited to submit extended versions for a new round of reviewing. Second, it contains, after reviewing process, a selection of 6 papers from 18 submitted papers in response to the call for papers for this issue.

The content of this special issue, which is centered on data and knowledge management in grid and P2P systems, covers a wide range of different and hot topics in the field, mainly: replication, semantic web, information retrieval, data storage, source selection, and large-scale distributed applications.

We would like to express our thanks to the external reviewers and editorial board for thoroughly refereeing the submitted papers and ensuring the high quality of this special issue. Special thanks go to Gabriela Wagner for her valuable work in the realization of this edition.

May 2011

Abdelkader Hameurlain
Josef Küng
Roland Wagner

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