Editorial Board

David Hutchison
    Lancaster University, UK
Takeo Kanade
    Carnegie Mellon University, Pittsburgh, PA, USA
Josef Kittler
    University of Surrey, Guildford, UK
Jon M. Kleinberg
    Cornell University, Ithaca, NY, USA
Alfred Kobsa
    University of California, Irvine, CA, USA
Friedemann Mattern
    ETH Zurich, Switzerland
John C. Mitchell
    Stanford University, CA, USA
Moni Naor
    Weizmann Institute of Science, Rehovot, Israel
Oscar Nierstrasz
    University of Bern, Switzerland
C. Pandu Rangan
    Indian Institute of Technology, Madras, India
Bernhard Steffen
    TU Dortmund University, Germany
Demetri Terzopoulos
    University of California, Los Angeles, CA, USA
Doug Tygar
    University of California, Berkeley, CA, USA
Gerhard Weikum
    Max Planck Institute for Informatics, Saarbruecken, Germany
Preface

Data management involves a strategic stake for governmental organizations and companies, which need to anticipate and make relevant decisions based on high-quality decision support. In large-scale distributed entronements, research activities in terms of data management continue intensively to explore new design approaches, processing methods, and implementation techniques for developing data management systems with the main characteristics such as scalability, elasticity, and self-managing.

The 7th International Conference on Data Management in Grid and P2P Systems (Globe 2014) was held during September 2–3, 2014 in Munich, Germany. The Globe Conference provides opportunities for academics and industry researchers to present, exchange, and discuss the latest data management research and applications in cloud, grid, and peer-to-peer systems.

Globe 2014 received 14 papers from 9 countries. The reviewing process led to the acceptance of 7 papers for presentation at the conference and inclusion in this LNCS volume. Each paper was reviewed by at least three Program Committee members. The selected papers focus on query processing and optimization, recommender systems, MapReduce framework (e.g., data privacy and similarity search), and data management in grid environments (e.g., protocol, recovery failure).

The conference would not have been possible without the support of the Program Committee members and members of the DEXA Conference organizing Committee and the authors. In particular, we would like to thank Gabriela Wagner and Roland Wagner (FAW, University of Linz) for their help in the realization of this conference.

June 2014

Abdelkader Hameurlain
Tran Khanh Dang
Franck Morvan
Organization

Conference Program Chairs

Abdelkader Hameurlain, IRIT, Paul Sabatier University, France
Tran Khanh Dang, HCMC University of Technology, Vietnam

Publicity Chair

Franck Morvan, IRIT, Paul Sabatier University, France

Program Committee

Fabricio B. Alves, FIOCRUZ Fundação Oswaldo Cruz, Brazil
Philippe Balbiani, IRIT, Paul Sabatier University, France
Nadia Benslimane, LIRIS, INSA of Lyon, France
Djamal Benslimane, LIRIS, University of Lyon, France
Qiming Chen, HP Labs, USA
Thomas Cerqueus, University College Dublin, Ireland
Alfredo Cuzzocrea, ICAR-CNR, University of Calabria, Italy
Frédéric Cuppens, Telecom, France
Bruno Defude, Telecom INT, France
Mourad Elloumi, Tunis University, Tunisia
Tasos Gounaris, Aristotle University of Thessaloniki, Greece
Maria Indrawan-Santiago, Monash University, Australia
Sergio Ilarri, University of Zaragoza, Spain
Gildas Menier, LORIA, University of South Bretagne, France
Anirban Mondal, Xerox Research Lab, India
Riad Mokadem, IRIT, Paul Sabatier University, France
Franck Morvan, IRIT, Paul Sabatier University, France
Faïza Najjar, National Computer Science School, Tunisia
Kjetil Nørvåg, Norwegian University of Science and Technology, Norway
Jean-Marc Pierson, IRIT, Paul Sabatier University, France
VIII Organization

Wenny Rahayu
La Trobe University, Australia
Claudia Roncancio
LIG, Grenoble University, France
Soror Sahri
LIPADE, Descartes Paris University, France
Florence Sedes
IRIT, Paul Sabatier University, France
Mário J. Gaspar da Silva
ST/INESC-ID, Portugal
Hala Skaf-Molli
LINA, Nantes University, France
David Taniar
Monash University, Australia
A Min Tjoa
IFS, Vienna University of Technology, Austria
Farouk Toumani
LIMOS, Blaise Pascal University, France
Roland Wagner
FAW, University of Linz, Austria
Wolfram Wöß
FAW, University of Linz, Austria
Jiangtao Yin
University of Massachusetts Amherst, USA
Shaoyi Yin
IRIT, Paul Sabatier University, France
## Table of Contents

**Query Processing in Cloud, Grid and P2P Systems: Optimization and Recommendation**

Optimizing Aggregate Query Processing in Cloud Data Warehouses ........................................... 1  
*Swathi Kurunji, Tingjian Ge, Xinwen Fu, Benyuan Liu, Amrith Kumar, and Cindy X. Chen*

A General Nash Equilibrium Semantic Cache Algorithm in a Sensor Grid Database ................................................. 13  
*Qingfeng Fan and Karine Zeitouni*

Exploiting Diversification in Gossip-Based Recommendation ...................................................... 25  
*Maximilien Servajean, Esther Pacitti, Miguel Liroz-Gistau, Sihem Amer-Yahia, and Amr El Abbadi*

**MapReduce Framework: Data Privacy and Similarity Search**

Towards Privacy for MapReduce on Hybrid Clouds Using Information Dispersal Algorithm ...................................................... 37  
*Asma Ben Cheikh, Heithem Abbes, and Gilles Fedak*

An Elastic Approximate Similarity Search in Very Large Datasets with MapReduce ...................................................... 49  
*Trong Nhan Phan, Josef K¨ung, and Tran Khanh Dang*

**Data Management in Grid Systems: Protocol and Recovery Failure**

Standardized Multi-protocol Data Management for Grid and Cloud GridRPC Frameworks ..................................................... 61  
*Yves Caniou, Hadrien Croubois, and Gaël Le Mahec*

Improved Recovery Management and Routing in W-Grid, a Distributed Infrastructure for Effective and Efficient Multidimensional Data Management over Wireless Ad-Hoc Sensor Networks ...................................... 73  
*Alfredo Cuzzocrea, Gianluca Moro, and Claudio Sartori*

**Author Index** ............................................................................................................. 85