# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>ix</td>
</tr>
<tr>
<td>Contributing Authors</td>
<td>xi</td>
</tr>
</tbody>
</table>

## Part I  Component Programming Models

- Behavioural skeletons for component autonomic management on grids
  
  *Marco Aldinucci, Sonia Campa, Marco Danelutto, Patrizio Dazzi, Domenico Laforenza, Nicola Tonellotto, Peter Kilpatrick*

  Page 3

- Towards GCM re-configuration - extending specification by norms
  
  *Alessandro Basso, Alexander Bolotov*

  Page 17

- A Flexible Model and Implementation of Component Controllers
  
  *Francoise Baude, Denis Caromel, Ludovic Henrio and Paul Naoumenko*

  Page 31

- Analysis of Component Model Extensions to Support the GriCoL Language
  
  *Hinde Bouziane, Natalia Currle-Linde, Christian Perez and Michael Resch*

  Page 45

## Part II  Resource Discovery and Scheduling

- Peer-to-Peer Approaches to Grid Resource Discovery
  
  *Ann Chervenak and Shishir Bharathi*

  Page 59

- GRID superscalar and job mapping on the reliable grid resources
  
  *Ani Anciaux–Sedrakian, Rosa M. Badia, Raul Sirvent and Josep M. Pérez, Thilo Kielmann and Andre Merzky*

  Page 77

- Implementation of a Hybrid P2P-based Grid Resource Discovery System
  
  *Harris Papadakis, Paolo Trunfio, Domenico Talia, Paraskevi Fragopoulou*

  Page 89

- Backfilling Strategies for Scheduling Stream of Jobs on Computational Farms
  
  *R. Baraglia, G. Capannini, M. Pasquali D. Puppin, L. Ricci, A.D. Techiouba*

  Page 103

## Part III  Development and Runtime Environments

- Component-Based Development Environment for Grid Systems
  
  *Artie Basukoski, Vladimir Getov, Jeyarajan Thyagalingam, Stavros Isaiadis*

  Page 119
Grid-enabling a Problem Solving Environment: Implementation Everyday Use

Konstantinos Georgiou, Giorgos Kollias and Efstratios Gallopoulos

A Component-Based Integrated Toolkit

Enric Tejedor and Rosa M. Badia, Thilo Kielmann, Vladimir Getov

Overlay Services for Dynamic VOs

Per Brand, Joel Hoglund and Konstantin Popov, Noel de Palma, Fabienne Boyer and Nikos Parlavantzas, Vladimir Vlassov and Ahmad Al-Shishtawy

Carrying the Crash-only Software Concept to the Legacy Application Servers

Javier Alonso and Jordi Torres, Luis Silva

Bounded Site Failures: an Approach to Unreliable Grid Environments

Joaquim Gabarro, Alina Garcia, Maurice Clint, Peter Kilpatrick, Alan Stewart

Part IV Workflow Programming

Programming e-Science Gateways

Dennis Gannon

Re-evaluating the Grid: the Social Life of Programs

David De Roure, Carole Goble

Workflows on macro data flow through aspects

Marco Danelutto, Patrizio Dazzi

Heterogeneous Data Sources in GRID Workflows

Tamas Kiss, Alexandru Tudose, Gabor Terstyanszky, Peter Kacsuk, Gergely Sipos

Part V Checkpointing and Monitoring

Result Error Detection on Heterogeneous and Volatile Resources

Derrick Kondo, Filipe Araujo and Luis Silva, Patricio Domingues

FailRank: Failure Monitoring and Ranking System

D. Zeinalipour-Yazti, K. Neocleous, C. Georgiou, M.D. Dikaiakos

A Fault-Injector Tool to Evaluate Failure Detectors in Grid-Services

Nuno Rodrigues, Decio Sousa, Luis Silva

Performance monitoring of GRID superscalar with OCM-G/G-PM: improvements

Rosa M. Badia and Raul Sirvent, Marian Bubak, Wlodzimierz Funika and Piotr Machner

A Scalable Multi-Agent Infrastructure for Remote Failure Detection

Decio Sousa, Nuno Rodrigues, Luis Silva
Contents

A Distributed and Replicated Service for Checkpoint Storage 293
Fatiha Bouabache, Thomas Herault, Gilles Fedak, Franck Cappello

Part VI  Applications and Use Cases

High-level Scripting Approach 307
Maciej Malawski, Tomasz Guba, Marek Kasztelnik, Tomasz Bartynski, Marian Bubak, Francoise Baude and Ludovic Henrio

DKS: Distributed $k$-ary System Middleware 321
Roberto Roverso, Cosmin Arad, Ali Ghodsi, Seif Haridi

Transactions and Concurrency Control for Peer-to-Peer Wikis: An Evaluation 335
Stefan Plantikow, Alexander Reinefeld, Florian Schintke

Efficient Genome Processing in the Grid 349
Philipp Ludeking, Ian Dunnweber and Sergei Gorlatch

Part VII  Design Methodologies for Grid Systems

SZTAKI Desktop Grid: Building a scalable, secure Desktop Grid platform 363
Attila Marosi, Gabor Gombas, Zoltan Balaton, Peter Kacsuk, Tamás Kiss

P2P Techniques for Data Distribution in Desktop Grid Computing Platforms 375
Fernando Costa, Luis Silva, Ian Kelley, Ian Taylor

Tackling the Collusion Threat in P2P-Enhanced Internet Desktop Grids 391
Gheorghe Silaghi, Luis Silva, Patricio Domingues, Alvaro E. Arenas

Index 401
Making Grids Work
Proceedings of the CoreGRID Workshop on Programming Models Grid and P2P System Architecture
Grid Systems, Tools and Environments 12-13 June 2007, Heraklion, Crete, Greece
Danelutto, M.; Fragopoulou, P.; Getov, V. (Eds.)
2008, XX, 404 p., Hardcover