

## Table of Contents

### Grid Initiatives

The European Grid Initiative – Rationale for a Sustainable Grid Infrastructure in Europe .....	1
<i>Dieter Kranzlmüller</i>	
The Structure of D-Grid .....	3
<i>Uwe Schwiegelshohn</i>	
Overview of the Portuguese National Grid Initiative .....	11
<i>G. Barreira, J. Gomes, G. Borges, M. David, J. Martins, N. Dias, and H. Gomes</i>	
Knowledge Creation through e-Innovation; towards a Dutch e-ECOSystem .....	20
<i>Patrick J.C. Aerts</i>	
DEISA, the Distributed European Infrastructure for Supercomputing Applications .....	29
<i>Wolfgang Gentzsch</i>	
Structure and Status of National Grid Initiative in Poland .....	39
<i>Jacek Kitowski</i>	
WCSS – History, Development and Researches .....	52
<i>B. Balcerak and J. Herold</i>	

### e-Science Infrastructure

Environment for Collaborative e-Science Applications: CGW08 Tutorial .....	58
<i>T. Bartymiński, M. Bubak, T. Gubała, D. Haręźlak, M. Kasztelnik, J. Kocot, and P. Nowakowski</i>	
A File System Based eScience Workbench .....	61
<i>Roger Menday</i>	
e-Science Infrastructure (Tier-2 & Tier-3) for High Energy Physics Data Analysis .....	69
<i>S. González de la Hoz, G.A. Fernández, G. Amorós, F. Fassi, M. Kaci, A. Lamas, L. March, E. Oliver, J. Salt, J. Sánchez, M. Villaplana, and R. Vives</i>	

DORII – Deployment of Remote Instrumentation Infrastructure .....	78
<i>Marcin Płóciennik, Davide Adami, Ángel David Gutiérrez Barceló, Ignacio Coterillo Coz, Franco Davoli, Paolo Gamba, Rainer Keller, Dieter Kranzlmüller, Ioannis Labotis, Jesus Marco de Lucas, Norbert Meyer, Agustín Monteoliva, Milan Prica, Roberto Pugliese, Stefano Salon, Michael Schiffers, Johannes Watzl, and Anastasios Zafeiropoulos</i>	
MetaCenter Virtual Networks .....	86
<i>David Antoš, Jiří Sitera, Petr Holub, and Luděk Matyska</i>	
Threat Model for MOCCA Component Environment .....	94
<i>J. Meizner, M. Malawski, S. Naqvi, and M. Bubak</i>	

### Workflows

Employing WS-BPEL Design Patterns for Grid Service Orchestration using a Standard WS-BPEL Engine and a Grid Middleware .....	103
<i>A. Brinkmann, S. Gudenkauf, W. Hasselbring, A. Hoëing, O. Kao, H. Karl, H. Nitsche, and G. Scherp</i>	
Towards Workflow Sharing and Reuse in the ASKALON Grid Environment	111
<i>Jun Qin, Thomas Fahringer, and Maximilian Berger</i>	
Data-Aware Composition of Workflows of Web and Grid Services .....	120
<i>Ondrej Habala, Marek Paralič, Viera Rozinajová, and Peter Bartalos</i>	
WINGS: A Multigrid Workflow Engine .....	129
<i>Carlos de Alfonso, Miguel Caballer, and Vicente Hernández</i>	
Workflow Management with Agent-Scheduling Support .....	137
<i>Viet D. Tran</i>	

### Monitoring

Workflow-Oriented Performance Monitoring of Grid Applications with the GridMind Monitoring System .....	141
<i>Włodzimierz Funika and Konrad Bula</i>	
Adopting GLUE 2.0 for an Interoperable Grid Monitoring System .....	149
<i>Timo Baur, Rebecca Breu, Tibor Kálmán, Tobias Lindinger, Anne Milbert, Gevorg Poghosyan, and Mathilde Romberg</i>	
Integration of the SemMon Semantic Monitoring Tool into the ProActive Platform .....	156
<i>Włodzimierz Funika, Mateusz Kupisz, and Paweł Koperek</i>	

Comparing Two Lustre Implementation Scenarios – Based on Storage Servers and Enterprise SAN Disk Arrays .....	164
<i>Łukasz Flis, Patryk Lasoń, Marek Magryś, Marek Pogoda, Grzegorz Sułkowski, and Maciej Twardy</i>	
Case Study of Technologies Used for Self-Healing in Autonomous Monitoring Systems .....	172
<i>Włodzimierz Funika and Piotr Pęgiel</i>	
Infrastructure Monitoring System for an NGI .....	180
<i>Małgorzata Krakowian and Marcin Radecki</i>	
Improvements of Grid Information Service in EGEE .....	186
<i>Marcin Radecki and Wojciech Ziąjka</i>	
Design of Grid Operations Database for EGI/NGI Model .....	192
<i>Łukasz Flis and Marcin Radecki</i>	

### Resource Management

Automatic Verification of SLA for Firewall Configuration in Grid Environment .....	199
<i>Gian Luca Volpato, Christian Grimm, and Martin Janitschke</i>	
Applying Risk Management to Support SLA Provisioning .....	205
<i>D. Battré, G. Birkenheuer, M. Hovestadt, O. Kao, and K. Voss</i>	
Guarantee and Penalty Clauses for Service Level Agreements .....	213
<i>Dominic Battré, Georg Birkenheuer, Vikas Deora, Omer Rana, Matthias Hovestadt, and Oliver Wäldrich</i>	
SLA Negotiation and Resource Allocation in Grids .....	221
<i>Tomasz Szepieniec and Anna Pagacz</i>	
Towards a Comprehensive Accounting Solution in the Multi-Middleware Environment of the D-Grid Initiative .....	229
<i>Jan Wiebelitz, Wolfgang Müller, Michael Brenner, and Gabriele von Voigt</i>	
Description in ClassAd Language of Complex Policies for Resource Allocation in Grid Computing .....	237
<i>G. Pierantoni, B. Coghlan, and E. Kenny</i>	
Harmonizing the Management of Virtual Organizations Despite Heterogeneous Grid Middleware – Assessment of Two Different Approaches .....	245
<i>Wolfgang Kirchler, Michael Schiffers, and Dieter Kranzlmüller</i>	

Billing Resources in Scientific Grid Networks .....	253
<i>A. Anandasivam, D. Neumann, and C. Weinhardt</i>	
Application of Petri Nets to Evaluation of Grid Applications Efficiency ..	261
<i>Wojciech Rząsa and Marian Bubak</i>	
Blending Routing Metrics for Optimization the Best Path Selection in Multiple Protocol Environment .....	270
<i>M. Knězek</i>	

### Scheduling

Towards Analytic Workload Models for Improving Grid Scheduling .....	279
<i>P. Heinzlreiter and J. Volkert</i>	
Analysis of Overhead and Waiting Time in the EGEE Production Grid .....	287
<i>M. Berger, T. Zangerl, and T. Fahringer</i>	
Biz2Grid: A Framework for Market-Based Grid Scheduling .....	295
<i>Jochen Stöber and Thomas Meinel</i>	
Distributed Dynamic Load Balancing for Iterative-Stencil Applications ..	303
<i>G. Dethier, P. Marchot, and P.A. de Marneffe</i>	

### Data Management

Approaching Fine-grain Access Control for Distributed Biomedical Databases within Virtual Environments .....	311
<i>Assel Matthias, Kalyoncu Onur, and Pan Yi</i>	
Knowledge Supported Data Access in Distributed Environment .....	320
<i>J. Darin Nikolow, Renata Słota, and Jacek Kitowski</i>	
DFSgc: Distributed File System for Multipurpose Grid Applications and Cloud Computing .....	326
<i>Carlos de Alfonso, Miguel Caballer, José V. Carrión, and Vicente Hernández</i>	
High Performance Data Access Aspects in National Data Storage .....	335
<i>Renata Słota, Darin Nikolow, Marcin Jarzqb, Kornel Skalkowski, and Jacek Kitowski</i>	
Scalable Services for Digital Preservation .....	341
<i>R. Schmidt, C. Sadilek, and R. King</i>	

Flexible and Scalable Grid Based Network Storage Protocol for Exabyte Scale .....	349
<i>Karol Romanowski, Adam Nowaczyk, Jacek Kitowski, and Łukasz Dutka</i>	

Scalable Metadata Model for Large-Scale Storage Systems .....	357
<i>Barbara Miłoś, Tomasz Miłoś, Łukasz Dutka, and Jacek Kitowski</i>	

### **Applications**

Evaluation of Grid eLearning: eLGrid User Evaluation Experiment Results	365
<i>Kathryn Cassidy, John Walsh, Brian Coghlan, and Declan Dagger</i>	

AgroGrid: Composition and Monitoring of Dynamic Supply Chains .....	373
<i>E. Volk, A. Jacob, M. Müller, P. Racz, M. Waldburger, and J.P. Bjerke</i>	

Supporting Collaboration by Large Scale Email Analysis .....	382
<i>Michal Laclavík, Martin Šeleng, Marek Ciglan, and Ladislav Hluchý</i>	

Distributed Computer System for Remote Support of Holistic Rehabilitation of Patients Affected by Stroke .....	388
<i>Jacek Kitowski, Rafał Wcisło, Renata Słota, Janusz Otfinowski, Maciej Skubis, Karolina Probosz, Małgorzata Pisula, Artur Sobczyk, and Krzysztof Reguła</i>	

Running MapReduce Type Jobs in Grid Infrastructure .....	393
<i>Marek Ciglan, Marian Babík, Martin Šeleng, Michal Laclavík, and Ladislav Hluchý</i>	

<b>Author Index</b> .....	399
---------------------------	-----