

Commenced Publication in 1973

Founding and Former Series Editors:

Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

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

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

University of Dortmund, Germany

Madhu Sudan

Massachusetts Institute of Technology, MA, USA

Demetri Terzopoulos

University of California, Los Angeles, CA, USA

Doug Tygar

University of California, Berkeley, CA, USA

Moshe Y. Vardi

Rice University, Houston, TX, USA

Gerhard Weikum

Max-Planck Institute of Computer Science, Saarbruecken, Germany

Robert Meersman Zahir Tari (Eds.)

On the Move to Meaningful Internet Systems 2007: CoopIS, DOA, ODBASE, GADA, and IS

OTM Confederated International Conferences
CoopIS, DOA, ODBASE, GADA, and IS 2007
Vilamoura, Portugal, November 25-30, 2007
Proceedings, Part II

Volume Editors

Robert Meersman
Vrije Universiteit Brussel (VUB), STARLab
Bldg G/10, Pleinlaan 2, 1050 Brussels, Belgium
E-mail: meersman@vub.ac.be

Zahir Tari
RMIT University, School of Computer Science and Information Technology
Bld 10.10, 376-392 Swanston Street, VIC 3001, Melbourne, Australia
E-mail: zahir.tari@rmit.edu.au

Library of Congress Control Number: 2007939491

CR Subject Classification (1998): H.2, H.3, H.4, C.2, H.5, D.2.12, I.2, K.4

LNCS Sublibrary: SL 3 – Information Systems and Application, incl. Internet/Web and HCI

ISSN	0302-9743
ISBN-10	3-540-76835-1 Springer Berlin Heidelberg New York
ISBN-13	978-3-540-76835-7 Springer Berlin Heidelberg New York

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.

Springer is a part of Springer Science+Business Media

springer.com

© Springer-Verlag Berlin Heidelberg 2007
Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 12193035 06/3180 5 4 3 2 1 0

Volume Editors

Robert Meersman
Zahir Tari

CoopIS

Francisco Curbera
Frank Leymann
Mathias Weske

DOA

Pascal Felber
Aad van Moorsel
Calton Pu

ODBASE

Tharam Dillon
Michele Missikoff
Steffen Staab

GADA

Pilar Herrero
Daniel S. Katz
María S. Pérez
Domenico Talia

IS

Mário Freire
Simão Melo de Sousa
Vitor Santos
Jong Hyuk Park

OTM 2007 General Co-chairs' Message

OnTheMove 2007 held in Vilamoura, Portugal, November 25–30 further consolidated the growth of the conference series that was started in Irvine, California in 2002, and then held in Catania, Sicily in 2003, in Cyprus in 2004 and 2005, and in Montpellier last year. It continues to attract a diversifying and representative selection of today's worldwide research on the scientific concepts underlying new computing paradigms that of necessity must be distributed, heterogeneous and autonomous yet meaningfully collaborative.

Indeed, as such large, complex and networked intelligent information systems become the focus and norm for computing, it is clear that there is an acute and increasing need to address and discuss in an integrated forum the implied software and system issues as well as methodological, semantical, theoretical and application issues. As we all know, e-mail, the Internet, and even video conferences are not sufficient for effective and efficient scientific exchange. This is why the OnTheMove (OTM) Federated Conferences series has been created to cover the increasingly wide yet closely connected range of fundamental technologies such as data and Web semantics, distributed objects, Web services, databases, information systems, workflow, cooperation, ubiquity, interoperability, mobility, grid and high-performance systems. OnTheMove aspires to be a primary scientific meeting place where all aspects of the development of Internet- and Intranet-based systems in organizations and for e-business are discussed in a scientifically motivated way. This sixth 2007 edition of the OTM Federated Conferences event, therefore, again provided, an opportunity for researchers and practitioners to understand and publish these developments within their individual as well as within their broader contexts.

Originally the federative structure of OTM was formed by the co-location of three related, complementary and successful main conference series: DOA (Distributed Objects and Applications, since 1999), covering the relevant infrastructure-enabling technologies, ODBASE (Ontologies, DataBases and Applications of SEmantics, since 2002) covering Web semantics, XML databases and ontologies, CoopIS (Cooperative Information Systems, since 1993) covering the application of these technologies in an enterprise context through, e.g., workflow systems and knowledge management. In 2006 a fourth conference, GADA (Grid computing, high-performAnce and Distributed Applications), was added as a main symposium, and this year the same happened with IS (Information Security). Both started off as successful workshops at OTM, the first covering the large-scale integration of heterogeneous computing systems and data resources with the aim of providing a global computing space, the second covering the issues of security in complex Internet-based information systems. Each of these five conferences encourages researchers to treat their respective topics within a

framework that incorporates jointly (a) theory, (b) conceptual design and development, and (c) applications, in particular case studies and industrial solutions.

Following and expanding the model created in 2003, we again solicited and selected quality workshop proposals to complement the more “archival” nature of the main conferences with research results in a number of selected and more “avant garde” areas related to the general topic of distributed computing. For instance, the so-called Semantic Web has given rise to several novel research areas combining linguistics, information systems technology, and artificial intelligence, such as the modeling of (legal) regulatory systems and the ubiquitous nature of their usage. We were glad to see that no less than eight of our earlier successful workshops (notably AweSOMe, CAMS, SWWS, ORM, OnToContent, MONET, PerSys, RDDS) re-appeared in 2007 with a second or third edition, and that four brand-new workshops emerged to be selected and hosted, and were successfully organized by their respective proposers: NDKM, PIPE, PPN, and SSWS. We know that as before, workshop audiences will productively mingle with another and with those of the main conferences, as is already visible from the overlap in authors! The OTM organizers are especially grateful for the leadership and competence of Pilar Herrero in managing this complex process into a success for the fourth year in a row.

A special mention for 2007 is to be made of the third and enlarged edition of the OnTheMove Academy (formerly called Doctoral Consortium Workshop), our “vision for the future” in research in the areas covered by OTM. Its 2007 organizers, Antonia Albani, Torben Hansen and Johannes Maria Zaha, three young and active researchers, guaranteed once more the unique interactive formula to bring PhD students together: research proposals are submitted for evaluation; selected submissions and their approaches are presented by the students in front of a wider audience at the conference, and are independently and extensively analyzed and discussed in public by a panel of senior professors. This year these were once more Johann Eder and Maria Orlowska, under the guidance of Jan Dietz, the incumbent Dean of the OnTheMove Academy. The successful students only pay a minimal fee for the Doctoral Symposium itself and also are awarded free access to all other parts of the OTM program (in fact their attendance is largely sponsored by the other participants!).

All five main conferences and the associated workshops share the distributed aspects of modern computing systems, and the resulting application-pull created by the Internet and the so-called Semantic Web. For DOA 2007, the primary emphasis stayed on the distributed object infrastructure; for ODBASE 2007, it became the knowledge bases and methods required for enabling the use of formal semantics; for CoopIS 2007, the topic as usual was the interaction of such technologies and methods with management issues, such as occur in networked organizations; for GADA 2007, the topic was the scalable integration of heterogeneous computing systems and data resources with the aim of providing a global computing space; and last but not least in the relative newcomer IS 2007 the emphasis was on information security in the networked society. These subject areas overlap naturally and many submissions in fact also treated an envisaged

mutual impact among them. As for the earlier editions, the organizers wanted to stimulate this cross-pollination by a shared program of famous keynote speakers: this year we were proud to announce Mark Little of Red Hat, York Sure of SAP Research, Donald Ferguson of Microsoft, and Dennis Gannon of Indiana University. As always, we also encouraged multiple event attendance by providing all authors, also those of workshop papers, with free access or discounts to one other conference or workshop of their choice.

We received a total of 362 submissions for the five main conferences and 241 for the workshops. Not only may we indeed again claim success in attracting an increasingly representative volume of scientific papers, but such a harvest of course allows the Program Committees to compose a higher-quality cross-section of current research in the areas covered by OTM. In fact, in spite of the larger number of submissions, the Program Chairs of each of the three main conferences decided to accept only approximately the same number of papers for presentation and publication as in 2004 and 2005 (i.e., average one paper out of every three to four submitted, not counting posters). For the workshops, the acceptance rate varied but was much stricter than before, consistently about one accepted paper for every two to three submitted. Also for this reason, we separate the proceedings into four books with their own titles, two for main conferences and two for workshops, and we are grateful to Springer for their suggestions and collaboration in producing these books and CD-Roms. The reviewing process by the respective Program Committees was again performed very professionally and each paper in the main conferences was reviewed by at least three referees, with arbitrated e-mail discussions in the case of strongly diverging evaluations. It may be worthwhile to emphasize that it is an explicit OnTheMove policy that all conference Program Committees and Chairs make their selections completely autonomously from the OTM organization itself. Continuing a costly but nice tradition, the OnTheMove Federated Event organizers decided again to make all proceedings available to all participants of conferences and workshops, independently of one's registration to a specific conference or workshop. Each participant also received a CD-Rom with the full combined proceedings (conferences + workshops).

The General Chairs are once more especially grateful to all the many people directly or indirectly involved in the set-up of these federated conferences, who contributed to making them a success. Few people realize what a large number of individuals have to be involved, and what a huge amount of work, and sometimes risk, the organization of an event like OTM entails. Apart from the persons mentioned above, we therefore in particular wish to thank our 12 main conference PC Co-chairs (GADA 2007: Pilar Herrero, Daniel Katz, María S. Pérez, Domenico Talia; DOA 2007: Pascal Felber, Aad van Moorsel, Calton Pu; ODBASE 2007: Tharam Dillon, Michele Missikoff, Steffen Staab; CoopIS 2007: Francisco Curbera, Frank Leymann, Mathias Weske; IS 2007: Mário Freire, Simão Melo de Sousa, Vitor Santos, Jong Hyuk Park) and our 36 workshop PC Co-chairs (Antonia Albani, Susana Alcalde, Adezzine Boukerche, George Buchanan, Roy Campbell, Werner Ceusters, Elizabeth Chang, Antonio

Coronato, Simon Courtenage, Ernesto Damiani, Skevos Evripidou, Pascal Felber, Fernando Ferri, Achille Fokoue, Mario Freire, Daniel Grosu, Michael Gurstein, Pilar Herrero, Terry Halpin, Annika Hinze, Jong Hyuk Park, Mustafa Jarrar, Jiankun Hu, Cornel Klein, David Lewis, Arek Kasprzyk, Thorsten Liebig, Gonzalo Méndez, Jelena Mitic, John Mylopoulos, Farid Nad-Abdessalam, Sjir Nijssen, the late Claude Ostyn, Bijan Parsia, Maurizio Rafanelli, Marta Sabou, Andreas Schmidt, Simão Melo de Sousa, York Sure, Katia Sycara, Thanassis Tiropanis, Arianna D'Ulizia, Rainer Unland, Eiko Yoneki, Yuanbo Guo).

All together with their many PC members, did a superb and professional job in selecting the best papers from the large harvest of submissions.

We also must heartily thank Jos Valente de Oliveira for the efforts in arranging facilities at the venue and coordinating the substantial and varied local activities needed for a multi-conference event such as ours. And we must all be grateful also to Ana Cecilia Martinez-Barbosa for researching and securing the sponsoring arrangements, to our extremely competent and experienced Conference Secretariat and technical support staff in Antwerp, Daniel Meersman, Ana-Cecilia, and Jan Demey, and last but not least to our energetic Publications Chair and loyal collaborator of many years in Melbourne, Kwong Yuen Lai, this year vigorously assisted by Vidura Gamini Abhaya and Peter Dimopoulos.

The General Chairs gratefully acknowledge the academic freedom, logistic support and facilities they enjoy from their respective institutions, Vrije Universiteit Brussel (VUB) and RMIT University, Melbourne, without which such an enterprise would not be feasible.

We do hope that the results of this federated scientific enterprise contribute to your research and your place in the scientific network.

August 2007

Robert Meersman
Zahir Tari

Organizing Committee

The OTM (On The Move) 2007 Federated Conferences, which involve CoopIS (Cooperative Information Systems), DOA (distributed Objects and Applications), GADA (Grid computing, high-performAnce and Distributed Applications), IS (Information Security) and ODBASE (Ontologies, Databases and Applications of Semantics) are proudly **supported** by RMIT University (School of Computer Science and Information Technology) and Vrije Universiteit Brussel (Department of Computer Science).

Executive Committee

OTM 2007 General Co-chairs	Robert Meersman (Vrije Universiteit Brussel, Belgium) and Zahir Tari (RMIT University, Australia)
GADA 2007 PC Co-chairs	Pilar Herrero (Universidad Politécnica de Madrid, Spain), Daniel Katz (Louisiana State University, USA), María S. Pérez (Universidad Politécnica de Madrid, Spain), and Domenico Talia (Università della Calabria, Italy)
CoopIS 2007 PC Co-chairs	Francisco Curbera (IBM, USA), Frank Leymann (University of Stuttgart, Germany), and Mathias Weske (University of Potsdam, Germany)
DOA 2007 PC Co-chairs	Pascal Felber (Université de Neuchâtel, Switzerland), Aad van Moorsel (Newcastle University, UK), and Calton Pu (Georgia Tech, USA)
IS 2007 PC Co-chairs	Mário M. Freire (University of Beira Interior, Portugal), Simão Melo de Sousa (University of Beira Interior, Portugal), Vitor Santos (Microsoft, Portugal), and Jong Hyuk Park (Kyungnam University, Korea)
ODBASE 2007 PC Co-chairs	Tharam Dillon (University of Technology Sydney, Australia), Michele Missikoff (CNR, Italy), and Steffen Staab (University of Koblenz-Landau, Germany)
Publication Co-chairs	Kwong Yuen Lai (RMIT University, Australia) and Vidura Gamini Abhaya (RMIT University, Australia)
Local Organizing Chair	José Valente de Oliveira (University of Algarve, Portugal)

Conferences Publicity Chair	Jean-Marc Petit (INSA, Lyon, France)
Workshops Publicity Chair	Gonzalo Mendez (Universidad Complutense de Madrid, Spain)
Secretariat	Ana-Cecilia Martinez Barbosa, Jan Demey, and Daniel Meersman

CoopIS 2007 Program Committee

Marco Aiello	Dominik Kuroпка
Bernd Amann	Tiziana Margaria
Alistair Barros	Maristella Matera
Zohra Bellahsene	Massimo Mecella
Boualem Benatallah	Ingo Melzer
Salima Benbernou	Jörg Müller
Djamal Benslimane	Wolfgang Nejdl
Klemens Böhm	Werner Nutt
Laura Bright	Andreas Oberweis
Christoph Bussler	Mike Papazoglou
Malu Castellanos	Cesare Pautasso
Vincenzo D'Andrea	Barbara Pernici
Umesh Dayal	Frank Puhlmann
Susanna Donatelli	Manfred Reichert
Marlon Dumas	Stefanie Rinderle
Schahram Dustdar	Rainer Ruggaber
ohannesson Eder	Kai-Uwe Sattler
Rik Eshuis	Ralf Schenkel
Opher Etzion	Timos Sellis
Klaus Fischer	Brigitte Trousse
Avigdor Gal	Susan Urban
Paul Grefen	Willem-Jan Van den Heuvel
Mohand-Said Hacid	Wil Van der Aalst
Geert-Jan Houben	Maria Esther Vidal
Michael Huhns	Jian Yang
Paul Johannesson	Kyu-Young Whang
Dimka Karastoyanova	Leon Zhao
Rania Khalaf	Michael zur Muehlen
Bernd Krämer	
Akhil Kumar	

DOA 2007 Program Committee

Marco Aiello	Zohra Bellahsene
Bernd Amann	Boualem Benatallah
Alistair Barros,	Salima Benbernou

Djamal Benslimane
 Klemens Böhm
 Laura Bright
 Christoph Bussler
 Malu Castellanos
 Vincenzo D'Andrea
 Umesh Dayal
 Susanna Donatelli
 Marlon Dumas
 Schahram Dustdar
 Johannesson Eder
 Rik Eshuis
 Opher Etzion
 Klaus Fischer
 Avigdor Gal
 Paul Grefen
 Mohand-Said Hacid
 Geert-Jan Houben
 Michael Huhns
 Paul Johannesson
 Dimka Karastoyanova
 Rania Khalaf
 Bernd Krämer
 Akhil Kumar
 Dominik Kropka
 Tiziana Margaria
 Maristella Matera

Massimo Mecella
 Ingo Melzer
 Jörg Müller
 Wolfgang Nejdl
 Werner Nutt
 Andreas Oberweis
 Mike Papazoglou
 Cesare Pautasso
 Barbara Pernici
 Frank Puhlmann
 Manfred Reichert
 Stefanie Rinderle
 Rainer Ruggaber
 Kai-Uwe Sattler
 Ralf Schenkel
 Timos Sellis
 Brigitte Trousse
 Susan Urban
 Willem-Jan Van den Heuvel,
 Wil Van der Aalst
 Maria Esther Vidal
 Jian Yang
 Kyu-Young Whang
 Leon Zhao
 Michael zur Muehlen

GADA 2007 Program Committee

Jemal Abawajy
 Akshai Aggarwal
 Sattar B. Sadkhan Almaliky
 Artur Andrzejak
 Amy Apon
 Oscar Ardaiz
 Costin Badica
 Rosa M. Badia
 Mark Baker
 Angelos Bilas
 Jose L. Bosque
 Juan A. Bota Blaya
 Pascal Bouvry
 Rajkumar Buyya
 Santi Caball Llobet

Mario Cannataro
 Jesús Carretero
 Charlie Catlett
 Pablo Chacin
 Isaac Chao
 Jinjun Chen
 Félix J. García Clemente
 Carmela Comito
 Toni Cortes
 Geoff Coulson
 Jose Cunha
 Ewa Deelman
 Marios Dikaiakos
 Beniamino Di Martino
 Jack Dongarra

Markus Endler
Alvaro A.A. Fernandes
Maria Ganzha
Felix García
Angel Lucas Gonzalez
Alastair Hampshire
Jose Cunha
Neil P Chue Hong
Eduardo Huedo
Jan Humble
Liviu Joita
Kostas Karasavvas
Chung-Ta King
Kamil Kuliberda
Laurent Lefevre
Ignacio M. Llorente
Francisco Luna
Edgar Magana
Gregorio Martinez
Ruben S. Montero
Reagan Moore
Mirela Notare
Hong Ong
Mohamed Ould-Khaoua
Marcin Paprzycki
Manish Parashar

Jose M. Peña
Dana Petcu
Beth A. Plale
José Luis Vázquez Poletti
María Eugenia de Pool
Bhanu Prasad
Thierry Priol
Víctor Robles
Rizos Sakellariou, Univ. of Manchester
Manuel Salvadores
Alberto Sanchez
Hamid Sarbazi-Azad
Franciszek Seredynski
Francisco José da Silva e Silva
Antonio F. Gómez Skarmeta
Enrique Soler
Heinz Stockinger
Alan Sussman
Elghazali Talbi
Jordi Torres
Cho-Li Wang
Adam Wierzbicki
Laurence T. Yang
Albert Zomaya

IS 2007 Program Committee

J.H. Abbawajy
André Adelsbach
Emmanuelle Anceaume
José Carlos Bacelar
Manuel Bernardo Barbosa
João Barros
Carlo Blundo
Phillip G. Bradford
Thierry Brouard
Han-Chieh Chao
Hsiao-Hwa Chen
Ilyoung Chong
Stelvio Cimato
Nathan Clarke
Miguel P. Correia

Cas Cremers
Gwenaëll Doërr
Paul Dowland
Mahmoud T. El-Hadidi
Huirong Fu
Steven Furnell
Michael Gertz
Swapna S. Gokhale
Vesna Hassler
Lech J. Janczewski
Wipul Jayawickrama
Vasilis Katos
Hyun-Kook Kahng
Hiroaki Kikuchi
Paris Kitsos

Kwok-Yan Lam
 Deok-Gyu Lee
 Sérgio Tenreiro de Magalhães
 Henrique S. Mamede
 Evangelos Markatos
 Arnaldo Martins
 Paulo Mateus
 Sjouke Mauw
 Natalie Miloslavskaya
 Edmundo Monteiro
 Yi Mu
 José Luís Oliveira
 Nuno Ferreira Neves
 Maria Papadaki
 Manuela Pereira
 Hartmut Pohl
 Christian Rechberger
 Carlos Ribeiro
 Vincent Rijmen
 José Ruela

Henrique Santos
 Biplab K. Sarker
 Ryoichi Sasaki
 Jörg Schwenk
 Paulo Simões
 Filipe de Sá Soares
 Basie von Solms
 Stephanie Teufel
 Luis Javier Garcia Villalba
 Umberto Villano
 Jozef Vyskoc
 Carlos Becker Westphall
 Liudong Xing
 Chao-Tung Yang
 Jeong Hyun Yi
 Wang Yufeng
 Deqing Zou
 André Zúquete

ODBASE 2007 Program Committee

Andreas Abecker
 Harith Alani
 Jürgen Angele
 Franz Baader
 Sonia Bergamaschi
 Alex Borgida
 Mohand Boughanem
 Paolo Bouquet
 Jean-Pierre Bourey
 Christoph Bussler
 Silvana Castano
 Paolo Ceravolo
 Vassilis Christophides
 Philipp Cimiano
 Oscar Corcho
 Ernesto Damiani
 Ling Feng
 Asuncion Gómez-Pérez
 Benjamin Habegger
 Mounira Harzallah
 Andreas Hotho

Farookh Hussain
 Dimitris Karagiannis
 Manolis Koubarakis
 Georg Lausen
 Maurizio Lenzerini
 Alexander Löser
 Gregoris Metzas
 Riichiro Mizoguchi
 Boris Motik
 John Mylopoulos
 Wolfgang Nejdl
 Eric Neuhold
 Yves Pigneur
 Axel Polleres
 Li Qing
 Wenny Rahayu
 Rajagan Rajagopalapillai
 Rainer Ruggaber
 Heiko Scholdt
 Eva Soderstrom
 Wolf Siberski

Sergej Sizov
Chantal Soule-Dupuy
Umberto Straccia
Heiner Stuckenschmidt
VS Subrahmanian
York Sure

Francesco Taglino
Robert Tolksdorf
Guido Vetere
Roberto Zicari

OTM Conferences 2007 Additional Reviewers

Baptiste Alcalde
Soeren Auer
Abdul Babar
Luis Manuel Vilches Blázquez
Ralph Bobrik
Ngoc (Betty) Bao Bui
David Buján Carballal
Nuno Carvalho
Gabriella Castelli
Carlos Viegas Damasio
Jörg Domaschka
Viktor S. W. Eide
Michael Erdmann
Abdelkarim Erradi
Peter Fankhauser
Alfio Ferrara
Fernando Castor Filho
Ganna Frankova
Peng Han
Alexander Hornung
Hugo Jonker
Rüdiger Kapitz
Alexander Lazovik
Thortsen Liebig
João Leitão

Baochuan Lu
Giuliano Mega
Paolo Merialdo
Patrick S. Merten
Maja Milicic
Dominic Müller
Linh Ngo
José Manuel
 Gómez Pérez
Sasa Radomirovic
Hans P. Reiser
Thomas Risse
Kurt Rohloff
Romain Rouvoy
Bernhard Schiemann
Jan Schlüter
Martin Steinert
Patrick Stiefel
Boris Villazón Terrazas
Hagen Voelzer
Jochem Vonk
Franklin Webber
Wei Xing
Christian Zimmer

Table of Contents – Part II

GADA 2007 International Conference (Grid Computing, High-Performance and Distributed Applications)

GADA 2007 PC Co-chairs' Message	1177
---------------------------------------	------

Keynote

Service Architectures for e-Science Grid Gateways: Opportunities and Challenges	1179
<i>Dennis Gannon, Beth Plale, and Daniel A. Reed</i>	

Data and Storage

Access Control Management in Open Distributed Virtual Repositories and the Grid	1186
<i>Adam Wierzbicki, Lukasz Żaczek, Radosław Adamus, and Edgar Głowacki</i>	
Transforming the Adaptive Irregular Out-of-Core Applications for Hiding Communication and Disk I/O	1200
<i>Changjun Hu, Guangli Yao, Jue Wang, and Jianjiang Li</i>	
Adaptive Data Block Placement Based on Deterministic Zones (AdaptiveZ)	1214
<i>J.L. Gonzalez and Toni Cortes</i>	
Keyword Based Indexing and Searching over Storage Resource Broker	1233
<i>Adnan Abid, Asif Jan, Laurent Francioli, Konstantinos Sfyraakis, and Felix Schuermann</i>	

Networks

<i>eCube</i> : Hypercube Event for Efficient Filtering in Content-Based Routing	1244
<i>Eiko Yoneki and Jean Bacon</i>	
Combining Incomparable Public Session Keys and Certificateless Public Key Cryptography for Securing the Communication Between Grid Participants	1264
<i>Elvis Papalilo and Bernd Freisleben</i>	

Collaborative Grid Environment and Scientific Grid Applications (Short Papers)

A Service-Oriented Platform for the Enhancement and Effectiveness of the Collaborative Learning Process in Distributed Environments	1280
<i>Santi Caballé, Fatos Xhafa, and Thanasis Daradoumis</i>	
Social Networking to Support Collaboration in Computational Grids . . .	1288
<i>Oscar Ardaiz, Isaac Chao, and Ramón Sangüesa</i>	
A Policy Based Approach to Managing Shared Data in Dynamic Collaborations	1296
<i>Surya Nepal, John Zic, and Julian Jang</i>	
Grid Service Composition in BPEL for Scientific Applications	1304
<i>Onyeka Ezenwoye, S. Masoud Sadjadi, Ariel Cary, and Michael Robinson</i>	
Efficient Management of Grid Resources Using a Bi-level Decision-Making Architecture for “Processable” Bulk Data	1313
<i>Imran Ahmad and Shikharesh Majumdar</i>	
Towards an Open Grid Marketplace Framework for Resources Trade . . .	1322
<i>Nejla Amara-Hachmi, Xavier Vilajosana, Ruby Krishnaswamy, Leandro Navarro, and Joan Manuel Marques</i>	

Scheduling

A Hybrid Algorithm for Scheduling Workflow Applications in Grid Environments (ICPDP)	1331
<i>Bogdan Simion, Catalin Leordeanu, Florin Pop, and Valentin Cristea</i>	
Contention-Free Communication Scheduling for Group Communication in Data Parallelism	1349
<i>Jue Wang, Changjun Hu, and Jianjiang Li</i>	
SNMP-Based Monitoring Agents and Heuristic Scheduling for Large-Scale Grids	1367
<i>Edgar Magaña, Laurent Lefevre, Masum Hasan, and Joan Serrat</i>	
HARC: The Highly-Available Resource Co-allocator	1385
<i>Jon MacLaren</i>	

Middleware

Assessing a Distributed Market Infrastructure for Economics-Based Service Selection	1403
<i>René Brunner, Isaac Chao, Pablo Chacín, Felix Freitag, Leandro Navarro, Oscar Ardaiz, Liviu Joita, and Omer F. Rana</i>	

Grid Problem Solving Environment for Stereology Based Modeling	1417
<i>Július Parulek, Marek Ciglan, Branislav Šimo, Miloš Šrámek,</i> <i>Ladislav Hluchý, and Ivan Zahradník</i>	

Managing Dynamic Virtual Organizations to Get Effective Cooperation in Collaborative Grid Environments	1435
<i>Pilar Herrero, José Luis Bosque, Manuel Salvadores, and</i> <i>María S. Pérez</i>	

Data Analysis

Sidera: A Cluster-Based Server for Online Analytical Processing	1453
<i>Todd Eavis, George Dimitrov, Ivan Dimitrov, David Cueva,</i> <i>Alex Lopez, and Ahmad Taleb</i>	

Parallel Implementation of a Neural Net Training Application in a Heterogeneous Grid Environment	1473
<i>Rafael Menéndez de Llano and José Luis Bosque</i>	

Scheduling and Management (Short Papers)

Generalized Load Sharing for Distributed Operating Systems	1489
<i>A. Satheesh and S. Bama</i>	

An Application-Level Service Control Mechanism for QoS-Based Grid Scheduling	1497
<i>Claudia Di Napoli and Maurizio Giordano</i>	

Fine Grained Access Control with Trust and Reputation Management for Globus	1505
<i>M. Colombo, F. Martinelli, P. Mori, M. Petrocchi, and A. Vaccarelli</i>	

Vega: A Service-Oriented Grid Workflow Management System	1516
<i>R. Tolosana-Calasan, J. A. Bañares, P. Álvarez, and J. Ezpeleta</i>	

Information Security (IS) 2007 International Symposium

IS 2007 PC Co-chairs' Message	1527
---	------

Keynote

Cryptography: Past, Present and Future	1529
<i>Whitefield Diffie</i>	

Access Control and Authentication

E-Passport: Cracking Basic Access Control Keys	1531
<i>Yifei Liu, Timo Kasper, Kerstin Lemke-Rust, and Christof Paar</i>	

Managing Risks in RBAC Employed Distributed Environments	1548
<i>Ebru Celikel, Murat Kantarcioglu, Bhavani Thuraisingham, and Elisa Bertino</i>	
STARBAC: <u>S</u> patiotemporal <u>R</u> ole <u>B</u> ased <u>A</u> ccess <u>C</u> ontrol	1567
<i>Subhendu Aich, Shamik Sural, and A.K. Majumdar</i>	
Authentication Architecture for eHealth Professionals	1583
<i>Helder Gomes, João Paulo Cunha, and André Zúquete</i>	

Intrusion Detection

On RSN-Oriented Wireless Intrusion Detection	1601
<i>Alexandros Tsakountakis, Georgios Kambourakis, and Stefanos Gritzalis</i>	
A Hybrid, Stateful and Cross-Protocol Intrusion Detection System for Converged Applications	1616
<i>Bazara I.A. Barry and H. Anthony Chan</i>	
Toward Sound-Assisted Intrusion Detection Systems	1634
<i>Lei Qi, Miguel Vargas Martin, Bill Kapralos, Mark Green, and Miguel García-Ruiz</i>	

System and Services Security

End-to-End Header Protection in Signed S/MIME	1646
<i>Lijun Liao and Jörg Schwenk</i>	
Estimation of Behavior of Scanners Based on ISDAS Distributed Sensors	1659
<i>Hiroaki Kikuchi, Masato Terada, Naoya Fukuno, and Norihisa Doi</i>	
A Multi-core Security Architecture Based on EFI	1675
<i>Xizhe Zhang, Yong Xie, Xuejia Lai, Shensheng Zhang, and Zijian Deng</i>	

Network Security

Intelligent Home Network Authentication: Home Device Authentication Using Device Certification	1688
<i>Deok-Gyu Lee, Yun-kyung Lee, Jong-wook Han, Jong Hyuk Park, and Im-Yeong Lee</i>	
Bayesian Analysis of Secure P2P Sharing Protocols	1701
<i>Esther Palomar, Almudena Alcaide, Juan M. Estevez-Tapiador, and Julio C. Hernandez-Castro</i>	

Network Coding Protocols for Secret Key Distribution	1718
<i>Paulo F. Oliveira and João Barros</i>	

3-Party Approach for Fast Handover in EAP-Based Wireless Networks	1734
<i>Rafa Marin, Pedro J. Fernandez, and Antonio F. Gomez</i>	

Malicious Code and Code Security

<i>SWorD</i> – A Simple Worm Detection Scheme	1752
<i>Matthew Dunlop, Carrie Gates, Cynthia Wong, and Chenxi Wang</i>	

Prevention of Cross-Site Scripting Attacks on Current Web Applications	1770
<i>Joaquin Garcia-Alfaro and Guillermo Navarro-Arribas</i>	

Compiler Assisted Elliptic Curve Cryptography	1785
<i>M. Barbosa, A. Moss, and D. Page</i>	

Trust and Information Management

Trust Management Model and Architecture for Context-Aware Service Platforms	1803
<i>Ricardo Neisse, Maarten Wegdam, Marten van Sinderen, and Gabriele Lenzini</i>	

Mobile Agent Protection in E-Business Application: A Dynamic Adaptability Based Approach	1821
<i>Salima Hacini, Zizette Boufaïda, and Haoua Cheribi</i>	

Business Oriented Information Security Management – A Layered Approach	1835
<i>Philipp Klempt, Hannes Schmidpeter, Sebastian Sowa, and Lampros Tsinas</i>	

Author Index	1853
---------------------------	-------------