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On the Move to Meaningful Internet Systems: OTM 2008

OTM 2008 Confederated International Conferences
CoopIS, DOA, GADA, IS, and ODBASE 2008
Monterrey, Mexico, November 9-14, 2008
Proceedings, Part II



Springer

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

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Zahir Tari

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Malu Castellanos
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OTM 2008 General Co-chairs' Message

Dear OnTheMove Participant, or Reader of these Proceedings,

The OnTheMove 2008 event in Monterrey, Mexico, 9–14 November, further consolidated the growth of the conference series that was started in Irvine, California in 2002, and held in Catania, Sicily in 2003, in Cyprus in 2004 and 2005, in Montpellier in 2006, and in Vilamoura in 2007. The event continues to attract a diversifying and representative selection of today's worldwide research on the scientific concepts underlying new computing paradigms, which, 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, there continues to be an acute and increasing need to address and discuss in an integrated forum the implied software, system and enterprise issues as well as methodological, semantical, theoretical and applicational issues. As we all know, email, the Internet, and even video conferences are not sufficient for effective and efficient scientific exchange. The OnTheMove (OTM) Federated Conferences series has been created to cover the scientific exchange needs of the community/ies that work in the broad yet closely connected fundamental technological spectrum of data and web semantics, distributed objects, web services, databases, information systems, enterprise workflow and collaboration, ubiquity, interoperability, mobility, grid and high-performance computing.

OnTheMove aspires to be a primary scientific meeting place where all aspects for the development of such Internet- and Intranet-based systems in organizations and for e-business are discussed in a scientifically motivated way. This sixth edition of the OTM Federated Conferences event 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 SEmanantics, since 2002) covering Web semantics, XML databases and ontologies, and 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 to this as a main symposium, and last year the same happened with IS (Information Security). Both of these started 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 in spite of OnTheMove switching sides of the Atlantic, seven of our earlier successful workshops (notably AweSOMe, SWWS, ORM, OnToContent, MONET, PerSys, RDDS) re-appeared in 2008 with a third or even fourth edition, sometimes by alliance with other newly emerging workshops, and that no fewer than seven brand-new independent workshops could be selected from proposals and hosted: ADI, COMBEK, DiSCo, IWSSA, QSI and SEMELS. Workshop audiences productively mingled with each other and with those of the main conferences, and there was considerable overlap in authors. The OTM organizers are especially grateful for the leadership, diplomacy and competence of Dr. Pilar Herrero in managing this complex and delicate process for the fifth consecutive year.

Unfortunately however in 2008 the number of quality submissions for the OnTheMove Academy (formerly called Doctoral Consortium Workshop), our “vision for the future” in research in the areas covered by OTM, proved too low to justify a 2008 edition in the eyes of the organizing faculty. We must however thank Antonia Albani, Sonja Zaplata and Johannes Maria Zaha, three young and active researchers, for their efforts in implementing our interactive formula to bring PhD students together: research proposals are submitted for evaluation; selected submissions and their approaches are (eventually) to be presented by the students in front of a wider audience at the conference, and intended to be independently and extensively analyzed and discussed in public by a panel of senior professors. Prof. Em. Jan Dietz, the Dean of the OnTheMove Academy, also is stepping down this year, but OnTheMove is committed to continuing this formula with a new Dean and peripatetic faculty.

All five main conferences and the associated workshops shared the distributed aspects of modern computing systems, and the resulting application-pull created by the Internet and the so-called Semantic Web. For DOA 2008, the primary emphasis stayed on the distributed object infrastructure; for ODBASE 2008, it has become the knowledge bases and methods required for enabling the use of formal semantics; for CoopIS 2008, the focus as usual was on the interaction of such technologies and methods with management issues, such as occur in networked organizations, for GADA 2008, the main topic was again the scalable integration

of heterogeneous computing systems and data resources with the aim of providing a global computing space, and in IS 2008 the emphasis was on information security in the networked society. These subject areas overlapped in a scientifically natural fashion 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 Dan Atkins of the U.S. National Science Foundation and the University of Michigan, Hector Garcia-Molina of Stanford, Rick Hull of IBM T.J. Watson Lab, Ted Goranson of Sirius-Beta and of Paradigm Shift, and last but not least Cristina Martinez-Gonzalez of the European Commission with a special interest in more future scientific collaboration between the EU and Latin America, as well as emphasizing the concrete outreach potential of new Internet technologies for enterprises anywhere.

This year the registration fee structure strongly encouraged multiple event attendance by providing **all** main conference authors with free access or discounts to **all** other conferences or workshops (workshop authors paid a small extra fee to attend the main conferences). In both cases the price for these combo tickets was made lower than in 2007 in spite of the higher organization costs and risks!

We received a total of 292 submissions for the five main conferences and 171 submissions in total for the 14 workshops. The numbers are about 30% lower than for 2007, which was not unexpected because of the transatlantic move of course, and the emergent need to establish the OnTheMove brand in the Americas, a process that will continue as we proceed in the coming years. But, not only may we indeed again claim success in attracting an increasingly representative volume of scientific papers, many from US, Central and South America already, but these numbers of course allow the program committees to compose a high-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 2006 and 2007 (i.e., average 1 paper out of 3-4 submitted, not counting posters). For the workshops, the acceptance rate varies but the aim was to stay as strict as before, consistently about 1 accepted paper for 2-3 submitted. We have separated the proceedings into three books with their own titles, two for the main conferences and one for the workshops, and we are grateful to Springer for their suggestions and collaboration in producing these books and CDROMs. 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 email discussions in the case of strongly diverging evaluations. It may be worthwhile emphasizing that it is an explicit OnTheMove policy that all conference program committees and chairs make their selections completely autonomously from the OTM organization itself. The OnTheMove Federated Event organizers again made all proceedings available on a CDROM to all

participants of conferences resp. workshops, independently of their registration to a specific conference resp. workshop. Paper proceedings were on request this year, and incurred an extra charge.

The General Chairs were once more especially grateful to the many people directly or indirectly involved in the setup of these federated conferences. Few people realize what a large number of people have to be involved, and what a huge amount of work, and in 2008 certainly also financial risk, the organization of an event like OTM entails. Apart from the persons in their roles mentioned above, we therefore in particular wish to thank our 17 main conference PC co-chairs:

GADA 2008	Dennis Gannon, Pilar Herrero, Daniel Katz, María S. Pérez
DOA 2008	Mark Little, Alberto Montresor, Greg Pavlik
ODBASE 2008	Malu Castellanos, Fausto Giunchiglia, Feng Ling
CoopIS 2008	Johann Eder, Masaru Kitsuregawa, Ling Liu
IS 2008	Jong Hyuk Park, Bart Preneel, Ravi Sandhu, André Zúquete
50 Workshop PC Co-chairs	Stefan Jablonski, Olivier Curé, Christoph Bussler, Jörg Denzinger, Pilar Herrero, Gonzalo Méndez, Rainer Unland, Pieter De Leenheer, Martin Hepp, Amit Sheth, Stefan Decker, Ling Liu, James Caverlee, Ying Ding, Yihong Ding, Arturo Molina, Andrew Kusiak, Hervé Panetto, Peter Bernus, Lawrence Chung, José Luis Garrido, Nary Subramanian, Manuel Noguera, Fernando Ferri, Irina Kondratova, Arianna D'ulizia, Patrizia Grifoni, Andreas Schmidt, Mustafa Jarrar, Terry Halpin, Sijr Nijssen, Skevos Evripidou, Roy Campbell, Anja Schanzenberger, Ramon F. Brena, Hector Ceballos, Yolanda Castillo, Achour Mostefaoui, Eiko Yoneki, Elena Simperl, Reto Krummenacher, Lyndon Nixon, Emanuele Della Valle, Ronaldo Menezes, Tharam S. Dillon, Ernesto Damiani, Elizabeth Chang, Paolo Ceravolo, Amandeep S. Sidhu

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 must all be grateful to Ana Cecilia Martinez-Barbosa for researching and securing the local and sponsoring arrangements on-site, to Josefa Kumpfmüller for many useful scientific insights in the dynamics of our transatlantic move, and to our extremely competent and experienced Conference Secretariat and technical support staff in Antwerp, Daniel Meersman, Ana-Cecilia (again), and Jan Demey, and last but not least to our apparently never-sleeping Melbourne Program Committee Support Team, Vidura Gamini Abhaya and Anshuman Mukherjee.

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... We look forward to seeing you again at next year's event!

August 2008

Robert Meersman
Zahir Tari

Organization Committee

OTM (On The Move) is a federated event involving a series of major international conferences and workshops. These proceedings contain the papers presented at the OTM 2008 Federated Conferences, consisting of five conferences, namely 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).

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