

Witold Abramowicz (Ed.)

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Preface

BIS 2007 was the tenth in a series of international conferences on business information systems. The conference took place in Poznan, where it started in 1997. From the very beginning it has been recognized by professionals as a forum for the exchange and dissemination of topical research in the development, implementation, application and improvement of computer systems for business processes.

The theme of this jubilee conference was “Semantic Integration of Data and Processes across Enterprises and Societies.” The material collected in this volume covers research trends as well as current achievements and cutting-edge developments in the area of modern business information systems. A set of 51 papers were selected for the presentation during the main event and grouped around conference topics: Business Process Management, Web Services, Ontologies, Information Retrieval, System Design, Agents and Mobile Applications, Decision Support, Social Issues, Specific MIS Issues.

The Program Committee consisted of almost 100 members that carefully evaluated all the submitted papers. This year their work was significantly harder as the number of submissions doubled compared to BIS 2006. As in previous years, they were supported by an online transparent review system. Once again we observed an increase in the quality of the reviews, thus sustaining the fairness of the final acceptance decisions. It not only raised the quality of the conference, but also positively affected the work of authors.

The regular program was complemented by outstanding keynote speakers. We are proud that BIS 2007 hosted John Domingue (Open University, UK), Alois Ferscha (Johannes Kepler University of Linz, Austria), Lutz Heuser (SAP AG, Germany), Wei-Ying Ma (Microsoft Research Asia, China), Wasim Sadiq (SAP Research, Australia), and A Min Tjoa (Vienna University of Technology, Austria).

Back-to-back with BIS the International Research Forum Eastern Europe was organized by SAP in co-operation with Poznan University of Economics on the topic: Service-Oriented Enterprise Computing – The Way to New Business Transformation.

BIS 2007 was kindly supported by the ACM Special Interest Group on Management Information Systems, GI, EMISA, and the Polish Society for Information Systems.

April 2007

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Security Issues for the Use of Semantic Web in E-Commerce

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Abstract. As the ontologies are the pivotal element of the Semantic Web in E-Commerce, it is necessary to protect the ontology's integrity and availability. In addition, both suppliers and buyers will use an ontology to store confidential knowledge pertaining to their preferences or possible substitutions for certain products. Thus, parts of an ontology will need to be kept confidential. We propose to use well established standards of XML access control. E-commerce processes require the confidentiality of customer information, the integrity of product offers and the availability of the vendors' servers. Our main contribution-the introduction of a Security Ontology-helps to structure and simulate IT security risks of e-commerce players that depend on their IT infrastructure.

1 Introduction

We emphasize on the large potential of applying the semantic web technology to electronic commerce. Autonomous or semi autonomous agents can use the semantic information to search for and compare products or suppliers and negotiate with other agents [GTM99] [TBP02] [Sch03]. Generalizing previous work we propose the following short definition for semantic e-commerce:

Semantic e-commerce is the processing of buying and selling via the semantic web.

Even though concepts of solutions already exist for years, they were not successful on the market. Thus till today information asymmetries still exist [Gup02] and one of the resulting shortcomings is the fact that the better informed buyer increasingly gets a better value for his money. Unfortunately searching is still a costly task and due to current data structures often an inefficient, economic activity. Research projects such as [ebS06] attempt to address these issues. The aim of this innovative project is to offer suppliers the option to publish their products and services in a machine-readable language based on open-source,