Costas Lambrinoudakis
Günther Pernul
A Min Tjoa (Eds.)

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Trust, Privacy and Security in Digital Business

4th International Conference, TrustBus 2007
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Preface

This book presents the proceedings of the 4th International Conference on Trust, Privacy and Security in Digital Business (TrustBus 2007), held in Regensburg, Germany September 4–6, 2007. The conference continued from previous events held in Zaragoza (2004), Copenhagen (2005) and Krakow (2006), and maintained the aim of bringing together academic researchers and industry developers to discuss the state of the art in technology for establishing trust, privacy and security in digital business. We thank the attendees for coming to Regensburg to participate and debate the new emerging advances in this area.

The conference program included one keynote presentation, one panel session and eight technical papers sessions. The keynote speech was delivered by Alfred Kobsa from the University of California, Irvine (USA), on the topic of "Privacy-Enhanced Personalization." The subject of the panel discussion was "Managing Digital Identities—Challenges and Opportunities." The participants were Marco Casassa Mont (Hewlett-Packard Laboratories, UK), Eduardo B. Fernandez (Florida Atlantic University, USA), Socratis Katsikas (University of Piraeus, Greece), Alfred Kobsa (University of California, Irvine, USA), and Rolf Oppliger (Informatikstrategieorgan Bund, ISB, Switzerland). The panel was chaired by Günther Pernul (University of Regensburg, Germany). The reviewed paper sessions covered a broad range of topics, from access control models to security and risk management, and from privacy and identity management to security protocols. The conference attracted 80 submissions, each of which was assigned to four referees for review. The Program Committee ultimately accepted 28 papers for inclusion in the proceedings.

We would like to express our thanks to the various people who assisted us in organizing the event and formulating the program. We are very grateful to the Program Committee members and the external reviewers, for their timely and rigorous reviews of the papers. Thanks are also due to the DEXA Organizing Committee for supporting our event, and in particular to Gabriela Wagner for her help with the administrative aspects.

Finally, we would like to thank all of the authors that submitted papers for the event, and contributed to an interesting set of conference proceedings.

September 2007

Costas Lambrinoudakis
Günther Pernul
A Min Tjoa

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Trustbus'07 Keynote Talk
Privacy Enhanced Personalization

Alfred Kobsa

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Abstract. Web personalization has demonstrated to be advantageous for both online customers and vendors. However, current personalization methods require considerable amounts of data about users, and the benefits of personalization are therefore counteracted by privacy concerns. Personalized systems need to take these concerns into account, as well as privacy laws and industry self-regulation that may be in effect. Privacy-Enhanced Personalization aims at reconciling the goals and methods of user modeling and personalization with privacy considerations, and to strive for best possible personalization within the boundaries set by privacy. This talk surveys recent research on factors that affect people's personal information disclosure and on personalization methods that bear fewer privacy risks, and presents design recommendations based thereon.

C. Lambrinoudakis, G. Pernul, A M. Tjoa (Eds.): TrustBus 2007, LNCS 4657, p. 1, 2007.

Panel Discussion
Managing Digital Identities – Challenges and Opportunities

Günther Pernul[1], Marco Casassa Mont[2], Eduardo B. Fernandez[3], Socrates Katsikas[4], Alfred Kobsa[5], and Rolf Oppliger[6]

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[2] Hewlett-Packard Laboratories, UK
[3] Florida Atlantic University, USA
[4] University of Piraeus, Greece
[5] University of California, Irvine, USA
[6] Informatikstrategieorgan Bund, ISB, Switzerland

Identity Management (IdM) comes in two dimensions: First, the secure and efficient creation, use, and administration of personal attributes which make up a digital identifier of a human and used in large scale global networks, such as the Internet. Second, as in-house IdM which is a core component of enterprise security management. In this panel we will be focusing on both.

In open networks the major question is how IdM has to be organised to enable efficient user identification (on request) and how it would still be possible at the same time to safeguard privacy by avoiding the scenario of a "transparent system user". The challenges for global IdM are manifold but linked to a basic trade-off-situation: Service providers will only grant electronic access upon successful authentication of a requester, but at the same time users should be able to protect their privacy and transactions shall not be linkable. In addition, in the wake of terrorist threat, the request for global unique electronic identifiers has gained more popularity than ever.

In-house IdM is influenced by organisational and technical drivers. It deals with the management of digital identities during their lifecycle within organisations. Some years ago, technologies like stand-alone Single-Sign-On modules or meta-directories quite often already were branded with the term IdM. Lately researchers as well as software vendors have realised that companies need more than just technical components to solve their identity chaos: Organisations need a comprehensive IdM Infrastructure, bearing in mind technical as well as organisational aspects. In addition to that, the emerging demand for sharing identity information between organisations results in a greater need for standardized data exchange channels.

For IdM on a global as well as on a local scale many technical, organisational and political questions are still to be solved. Data ownership, compliance with laws and regulations, data privacy issues are examples for questions which need to be faced in an efficient way in the future.

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Recognition of Authority in Virtual Organisations

Tuan-Anh Nguyen, David Chadwick, and Bassem Nasser

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Abstract. A Virtual Organisation (VO) is a temporary alliance of autonomous, diverse, and geographically dispersed organisations, where the participants pool resources, information and knowledge in order to meet common objectives. This requires dynamic security policy management. We propose an authorisation policy management model called *recognition of authority* (ROA) which allows dynamically trusted authorities to adjust the authorisation policies for VO resources. The model supports dynamic delegation of authority, and the expansion and contraction of organizations in a VO, so that the underlying authorisation system is able to use existing user credentials issued by participating organisations to evaluate the user's access rights to VO resources.

1 Introduction

A Virtual Organisation (VO) is a temporary alliance of autonomous, diverse, and geographically dispersed organisations, where the participants pool resources, information and knowledge in order to meet common objectives. The objectives of an alliance can evolve and the relationships between the different parties may change. Therefore virtual organisations are naturally dynamic. Consequently, management, especially security management in such a dynamic environment must be provided with suitable dynamic mechanisms. There are several areas of security under consideration for VOs but in this paper we are concerned with authorisation and access control.

The behaviour of an organisation's authorisation system is normally governed by an authorisation policy, written by the policy officer (or Source of Authority - SoA). In a dynamic environment like a VO, organisations may continually join or leave the collaboration. When joining a VO, an organisation may need to provide access to its protected resources to users from other organisations in the VO. When the organisation leaves the VO, access rights to its protected resources from users outside the organisation have to be removed. In these cases, the authorisation policy of the organisation has to be *dynamically modified and updated* to cater for these dynamic changes. However,

1. in a VO, which is a pan-organisational system, the number of attributes and users can be in the hundreds or thousands. Managing these attributes and users and their relationships is a formidable task that can not realistically be done by one person ([16]).

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