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## **IFIP – The International Federation for Information Processing**

IFIP was founded in 1960 under the auspices of UNESCO, following the First World Computer Congress held in Paris the previous year. An umbrella organization for societies working in information processing, IFIP's aim is two-fold: to support information processing within its member countries and to encourage technology transfer to developing nations. As its mission statement clearly states,

*IFIP's mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.*

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

- The IFIP World Computer Congress, held every second year;
- Open conferences;
- Working conferences.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is also rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

Any national society whose primary activity is about information processing may apply to become a full member of IFIP, although full membership is restricted to one society per country. Full members are entitled to vote at the annual General Assembly, National societies preferring a less committed involvement may apply for associate or corresponding membership. Associate members enjoy the same benefits as full members, but without voting rights. Corresponding members are not represented in IFIP bodies. Affiliated membership is open to non-national societies, and individual and honorary membership schemes are also offered.

Simone Fischer-Hübner  
Elisabeth de Leeuw Chris Mitchell (Eds.)

# Policies and Research in Identity Management

Third IFIP WG 11.6 Working Conference, IDMAN 2013  
London, UK, April 8-9, 2013  
Proceedings

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ISSN 1868-4238

ISBN 978-3-642-37281-0

DOI 10.1007/978-3-642-37282-7

Springer Heidelberg Dordrecht London New York

e-ISSN 1868-422X

e-ISBN 978-3-642-37282-7

Library of Congress Control Number: 2013933703

CR Subject Classification (1998): K.6.5, C.3, D.4.6, E.3, J.1

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*Typesetting:* Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

# Preface

This volume contains the papers presented at IFIP IDMAN 2013: the Third IFIP WG 11.6 Working Conference on Policies and Research in Identity Management held during April, 8–9, 2013, at Royal Holloway, University of London, UK. Building on the success of IDMAN 2007 and 2010 (which were held in Rotterdam and Oslo, respectively), this conference focused on the theory, technologies, and applications of identity management.

The world of the twenty-first century is, more than ever, global and impersonal. As a result of increasing cyber fraud and cyber terrorism, the demand for better technical methods of identification is growing, not only in companies and organizations but also in the world at large. Moreover, in our society digital identities increasingly play a role in the provision of eGovernment and eCommerce services. For practical reasons, identity management systems are needed that are usable and interoperable. At the same time, individuals increasingly leave trails of personal data when using the Internet, which allow them to be profiled and which may be stored for many years to come. Technical trends such as cloud computing and pervasive computing make personal data processing non-transparent, and make it increasingly difficult for users to control their personal spheres. As part of this tendency, surveillance and monitoring are increasingly present in society, both in the public and private domains. While the original intention is to contribute to security and safety, surveillance and monitoring might, in some cases, have unintended or even contradictory effects. Moreover, the omnipresence of surveillance and monitoring systems might directly conflict with public and democratic liberties. These developments raise substantial new challenges for privacy and identity management at the technical, social, ethical, regulatory, and legal levels. Identity management challenges the information security research community to focus on interdisciplinary and holistic approaches, while retaining the benefits of previous research efforts.

Papers offering research contributions to the area of identity management were solicited for submission to the Third IFIP WG 11.6 IDMAN conference. There were 26 submissions to IFIP IDMAN 2013. Each submission was reviewed by at least three Program Committee members. The Program Committee decided to accept six full and four short “work in progress” papers. The program also included two invited talks by Angela Sasse, University College London, and Bart Jacobs, Radboud University Nijmegen, as well as a panel on “Risk Analysis Approaches for Identity Management Systems” organized in cooperation with the Norwegian PETweb II project. IFIP IDMAN 2013 was also collocated with a workshop organized by the EPSRC-funded Future of Identity Network of Excellence, which took place immediately after the end of conference. These proceedings include the accepted full and short papers, the keynote paper by Bart Jacobs, as well as short position papers by the panelists.

We would like to thank all authors, especially those who presented their work selected for the program. Moreover, we are very grateful to all PC members and additional reviewers, who contributed with thorough reviews and participated in the PC discussions. We owe special thanks to David Chadwick and Jozef Vyskoc, who volunteered to shepherd some of the accepted papers.

We gratefully acknowledge the contributions of the Organizing Committee Chairs Haitham Al-Sinani and Marcelo Carlomagno Carlos. We also thank the EasyChair conference system provider for granting us free access to their excellent conference management system. Last but not least, we would like to thank all sponsors for their generous support.

January 2013

Simone Fischer-Hübner  
Elisabeth de Leeuw  
Chris Mitchell



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