Lecture Notes in Computer Science 3193

Pierangela Samarati   Peter Ryan
Dieter Gollmann   Refik Molva (Eds.)

Computer Security – ESORICS 2004

9th European Symposium on Research in Computer Security
Sophia Antipolis, France, September 13 - 15, 2004
Proceedings

Springer

Volume Editors

Pierangela Samarati
Università degli Studi di Milano, Dipartimento di Tecnologie dell'Informazione
Via Bramante 65 - 26013 Crema, Italy
E-mail: samarati@dti.unimi.it

Peter Ryan
University of Newcastle upon Tyne, School of Computing Science
Newcastle upon Tyne, NE1 7RU, UK
E-mail: peter.ryan@ncl.ac.uk

Dieter Gollmann
Technische Universität Hamburg-Harburg
Harburger Schloßstraße 20, 21079 Hamburg, Germany
E-mail: diego@tu-harburg.de

Refik Molva
Institut Eurécom Corporate Communications Department
2229 Route des Crêtes, BP 193, 06904 Sophia Antipolis Cédex, France
E-mail: molva@eurecom.fr

Library of Congress Control Number: 2004111116

CR Subject Classification (1998): E.3, D.4.5, C.2.0, H.2.0, K.6.5, K.4.4

ISSN 0302-9743
ISBN 3-540-22987-6 Springer Berlin Heidelberg New York

Springer is a part of Springer Science+Business Media

springeronline.com

Typesetting: Camera-ready by author, data conversion by Olgun Computergrafik
Printed on acid-free paper SPIN: 11315414 06/3142 5 4 3 2 1 0

Preface

Foreword from the Program Chairs

These proceedings contain the papers selected for presentation at the 9th European Symposium on Research in Computer Security (ESORICS), held during September 13–15, 2004 in Sophia Antipolis, France.

In response to the call for papers 159 papers were submitted to the conference. These papers were evaluated on the basis of their significance, novelty, and technical quality. Each paper was reviewed by at least three members of the program committee. The program committee meeting was held electronically; there was an intensive discussion over a period of two weeks. Of the papers submitted, 27 were selected for presentation at the conference, giving an acceptance rate lower than 17%. The conference program also included an invited talk.

A workshop like this does not just happen; it depends on the volunteer efforts of a host of individuals. There is a long list of people who volunteered their time and energy to put together the workshop and who deserve special thanks. Thanks to all the members of the program committee, and the external reviewers, for all their hard work in the paper evaluation. Due to the large number of submissions the program committee members were really required to work hard in a short time frame, and we are very thankful to them for the commitment they showed with their active participation in the electronic discussion. We are also very grateful to all those people whose work ensured a smooth organization process: Refik Molva, who served as the General Chair, Marc Dacier, the Sponsoring Chair, Yves Roudier, who served as the Publicity Chair and maintained the Web pages, Sabrina de Capitani di Vimercati, who helped in the review process, Dieter Gollmann, who served as the Publication Chair and collated this volume, and Anne Duflos and Laurence Grammare for helping with the local arrangements.

Last, but certainly not least, our thanks go to all the authors who submitted papers and all the attendees. We hope you find the program stimulating.

Peter Ryan and Pierangela Samarati
(Program Co-chairs)

Foreword from the General Chair

Initially established as the European conference in research on computer security, ESORICS has reached the status of a main international event gathering researchers from all over the world. Taking place in a different European country every other year during its first seven occurrences, it has been a yearly conference since 2003.

ESORICS 2004 was organized by the Institut EURECOM and took place in Sophia Antipolis, France, September 13–15, 2004.

The organization of such an important event required a major effort and we wish to express our sincere appreciation to the organization committee members for their excellent work.

We would like to express our special appreciation to the Program Chairs Pierangela Samarati and Peter Ryan for coming up with a high-quality technical program that was the result of a complex evaluation process they handled very smoothly.

We are also indebted to the Institut EURECOM who not only allowed us and other organization committee members to dedicate considerable time and energy to the organization of this event, but also provided logistic and financial support to host it.

Sophia Antipolis, September 2004 Refik Molva

Program Committee

Vijay Atluri	Rutgers University, USA
Giampaolo Bella	Università di Catania, Italy
Joachim Biskup	Universität Dortmund, Germany
Jan Camenisch	IBM Research, Switzerland
Germano Caronni	Sun Microsystems Laboratories, USA
David Chadwick	University of Salford, UK
Ernesto Damiani	University of Milan, Italy
Sabrina De Capitani di Vimercati	University of Milan, Italy
Yves Deswarte	LAAS-CNRS, France
Alberto Escudero-Pascual	Royal Institute of Technology, Sweden
Csilla Farkas	University of South Carolina, USA
Simon Foley	University College Cork, Ireland
Dieter Gollmann	TU Hamburg-Harburg, Germany
Joshua D. Guttman	MITRE, USA
Sushil Jajodia	George Mason University, USA
Sokratis K. Katsikas	University of the Aegean, Greece
Maciej Koutny	University of Newcastle upon Tyne, UK
Peng Liu	Pennsylvania State University, USA
Javier Lopez	University of Malaga, Spain
Roy Maxion	Carnegie Mellon University, USA
Patrick McDaniel	AT&T Labs-Research, USA
John McHugh	CERT/CC, USA
Catherine A. Meadows	Naval Research Lab, USA
Refik Molva	Institut Eurécom, France
Peng Ning	NC State University, USA
LouAnna Notargiacomo	The MITRE Corporation, USA
Eiji Okamoto	University of Tsukuba, Japan
Stefano Paraboschi	University of Bergamo, Italy
Andreas Pfitzmann	TU Dresden, Germany
Bart Preneel	Katholieke Universiteit Leuven, Belgium
Jean-Jacques Quisquater	Microelectronic Laboratory, Belgium
Peter Ryan (co-chair)	University of Newcastle, UK
Pierangela Samarati (co-chair)	University of Milan, I
Steve Schneider	University of London, UK
Christoph Schuba	Sun Microsystems Inc., USA
Michael Steiner	IBM T.J. Watson Research Lab., USA
Paul Syverson	Naval Research Laboratory, USA
Kymie M. C. Tan	Carnegie Mellon University, USA
Dan Thomsen	Tresys Technology, USA
Moti Yung	Columbia University, USA

Additional Reviewers

Carlos Aguilar, Farid Ahmed, Ben Aziz, Walid Bagga, Endre Bangerter, Lejla Batina, Alex Biryukov, Rainer Böhme, R. Bouroulet, Laurent Bussard, David Byers, Alex Bystrov, Shiping Chen, Ioan Chisalita, Mathieu Ciet, Sebastian Clauß, Stefano Crosta, Roberto Delicata, Alex Dent, Thomas Dübendorfer, Claudiu Duma, Neil Evans, Ulrich Flegel, Elke Franz, Qijun Gu, James Heather, Almut Herzog, Manuel Hilty, John Iliadis, Ryszard Janicki, Mohamed Kaâniche, Ioanna Kantzavelou, Kevin Killourhy, Herbert Klimant, Stefan Köpsell, Spyros Kokolakis, Thomas Kriegelstein, Klaus Kursawe, Costas Lambrinoudakis, Thomas Leineweber, Benoît Libert, Donggang Liu, Pietro Michiardi, Jose A. Montenegro, Fabrice Mourlin, Vincent Nicomette, Melek Onen, Sassa Otenko, Giuseppe Pappalardo, Jörg Parthe, E. Pelz, Olivier Pereira, Thomas Quillinan, Josyula R. Rao, Douglas S. Reeves, Marc Rennhard, Pankaj Rohatgi, Rodrigo Roman, Yves Roudier, Dagmar Schönfeld, Diana Senn, Stefaan Seys, Barbara Sprick, Sandra Steinbrecher, Reto Strobl, Linying Su, Kun Sun, Eduard Turcan, Torben Weibert, Duminda Wijesekera, Sandra Wortmann, Dingbang Xu, Jun Xu, Meng Yu, Wanyu Zang, Christophe Zanon, Homgbin Zhou

Organisation Committee

Refik Molva (General Chair), Yves Roudier (Publicity Chair), Marc Dacier (Sponsoring Chair), Dieter Gollmann (Publication Chair), Anne Duflos (Conference Secretary), and Laurence Grammare (Communications)

ESORICS 2004 was supported by SAP, @sec, and Conseil Régional Provence Alpes Côte d'Azur.

Steering Committee

Elisa Bertino (University of Milan, I), Joachim Biskup (Universität Dortmund, D), Frédéric Cuppens (ENST-Bretagne, F), Marc Dacier (Eurecom, F), Yves Deswarte (LAAS-CNRS, F), Gérard Eizenberg (ONERA, F), Simon Foley (University College Cork, IE), Dieter Gollmann (TU Hamburg-Harburg, D), Franz-Peter Heider (debis IT Security Services, D), Jeremy Jacob (University of York, UK), Sokratis Katsikas (University of the Aegean, GR), Helmut Kurth (atsec, D), Peter Landrock (Cryptomathic, UK), Jean-Jacques Quisquater (UCL, B), Peter Ryan (University of Newcastle, UK: Steering Committee Chair), Pierangela Samarati (University of Milan, I: Steering Committee Vice-Chair), Einar Snekkenes (Gjøvik University College, N), Michael Waidner (IBM Research, CH).

Table of Contents