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

IFIP is the global non-profit federation of societies of ICT professionals that aims at achieving a worldwide professional and socially responsible development and application of information and communication technologies.

IFIP is a non-profit-making organization, run almost solely by 2500 volunteers. It operates through a number of technical committees and working groups, which organize events and publications. IFIP's events range from large international open conferences to working conferences and local seminars.

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 generally smaller and occasionally 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.

IFIP distinguishes three types of institutional membership: Country Representative Members, Members at Large, and Associate Members. The type of organization that can apply for membership is a wide variety and includes national or international societies of individual computer scientists/ICT professionals, associations or federations of such societies, government institutions/government related organizations, national or international research institutes or consortia, universities, academies of sciences, companies, national or international associations or federations of companies.

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Jaap-Henk Hoepman · Stefan Katzenbeisser (Eds.)

# ICT Systems Security and Privacy Protection

31st IFIP TC 11 International Conference, SEC 2016 Ghent, Belgium, May 30 – June 1, 2016 Proceedings



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#### **Preface**

It is our great pleasure to present the proceedings of the 31st IFIP International Conference on ICT Systems Security and Privacy Protection, which was held in Ghent, Belgium, between May 30 and June 1, 2016. IFIP SEC conferences are the flagship events of the International Federation for Information Processing (IFIP) Technical Committee 11 on Information Security and Privacy Protection in Information Processing Systems (TC-11).

Continuing the tradition of previous years, we sought for a balanced program that covers all significant aspects of information security, ranging from software security over platform security to human factors. The selection of papers was a highly challenging task. We received 145 submissions in response to our call for papers, of which six were withdrawn before the reviewing process started. From these 139 submissions we selected 27 full papers to be presented at the conference, based on their significance, novelty, and technical quality. Each paper received at least three reviews by members of the Program Committee.

We wish to thank all contributors who helped make IFIP SEC 2016 a success: the authors who submitted their latest research results to the conference, as well as the members of the Program Committee who devoted significant amounts of their time to evaluate all submissions. We would like in particular to thank the organizing chair Vincent Naessens and the general chair Bart de Decker for their support and their efforts to organize the conference in beautiful Ghent.

We hope that this proceedings volume provides inspirations for future research in the area of information security!

March 2016

Stefan Katzenbeisser Jaap-Henk Hoepman

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