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Emerging Technologies for Authorization and Authentication

First International Workshop, ETAA 2018
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Proceedings

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Preface

This book contains the papers selected for presentation at the First International Workshop on Emerging Technologies for Authorization and Authentication (ETAA 2018), which was held in Barcelona, Spain, on September 7, 2018, co-located with the 23rd European Symposium on Research in Computer Security (ESORICS 2018).

The workshop program included eight full papers and two short ones concerning the workshop topics, in particular: new techniques for biometric and behavioral-based authentication, authentication and authorization in the IoT and in distributed systems in general, techniques for strengthening password-based authentication and for dissuading malicious users from stolen password reuse, an approach for discovering authentication vulnerabilities in interconnected accounts, and strategies to optimize the access control decision process in the big data scenario.

We would like to express our thanks to the authors who submitted their papers to the first edition of this workshop, thus contributing to making it a successful event. We would like to thank the sponsors of the workshop: the EU Commission-funded projects: Collaborative and Confidential Information Sharing and Analysis for Cyber Protection (**C3ISP**), and European Network for Cyber Security (**NeCS**), Marie Sklodowska-Curie Actions (MSCA), and Innovative Training Networks (ITN). Last but not least, we would like to express our gratitude to the members of the Technical Program Committee for their valuable work in evaluating the submitted papers.

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NeCS: European Network for Cyber Security, Grant Agreement no. 675320

September 2018

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Andrea Saracino

ETAA Workshop Introduction

IT devices are rapidly becoming more pervasive in several application fields and in everyday life. The major driving factors are the ever-increasing coverage of Internet connectivity, the extreme popularity and capillarity of smartphones, tablets, and wearables, together with the consolidation of the Internet of Things (IoT) paradigm. Indeed, interconnected devices directly control and take decisions on industrial processes, regulate infrastructures and services in smart cities, and manage quality of life and safety in smart homes, taking decisions with user interactions or even autonomously. The involvement of these devices in so many applications unfortunately introduces a set of unavoidable security and safety implications, related to both the criticality of the aforementioned applications and to the privacy of sensitive information produced and exploited in the process. To address these and other related issues, there is an increasing need of instruments to control the access and the right to perform specific actions on devices or data. These instruments must be able to cope with the high complexity of the considered applications and environments, being flexible and adaptable to different contexts and architectures, from centralized to fully distributed ones, able to handle a high amount of information as well as taking into account non-conventional trust assumptions. The considered technologies should regulate the actions of both human users and autonomous devices, being effective in enforcing security policies, still without introducing noticeable overhead, both in terms of performance and user experience. Hence, the design of advanced, secure, and efficient mechanisms for continuous authentication and authorization, requiring limited-to-no active interaction is solicited.

The ETAA workshop aimed at being a forum for researchers and practitioners of security who are active in the field of new technologies for authenticating users and devices, and for enforcing security policies in new and emerging applications related to distributed systems, mobile/wearable devices, and IoT. It aimed to attract original research work covering both theoretical and practical aspects of authentication and authorization.

Paolo Mori
Andrea Saracino

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