Overview

Robert Krimmer[1], Rüdiger Grimm[2]

[1]E-Voting.CC gGmbH
Competence Center for Electronic Voting and Participation
Pyrkergasse 33/1/2, A-1190 Vienna, Austria
r.krimmer@e-voting.cc

[2]Universität Koblenz-Landau
Institute for Information Systems Research
Universitätsstraße 1, D-56016 Koblenz, Germany
grimm@uni-koblenz.de

This fourth proceedings volume of the EVOTE conference series features an impressive set of papers dealing with various aspects of electronic voting. It is the task of this conference series to enable the discourse amongst specialists working in academia, administration, politics and industry so that understanding, cooperation and future research can emerge. The conference includes discussions of practical work, its evaluation and theoretical foundation. In particular, it takes up the most urgent challenges that came up during the past two years. Therefore, special topics include end-to-end verifiability and certification of electronic voting systems. The papers are presented in the following.

The **first session** deals with the recent experiences made in the United States and Austria. First *Thad Hall, Charles Stewart, and R. Michael Alvarez* present the connex between voting technology and voter experience in the gubernational races in New Jersey and Virginia. Then *Robert Krimmer, Andreas Ehringfeld and Markus Traxl* present findings from the evaluation of the contested 2009 federation of students election, which offered electronic voting via the Internet for the first time in Austria. Thirdly the large and designated team consisting of *Alan Sherman, Richard Carback, David Chaum, Jeremy Clark, John Conway, Aleksander Essex, Paul Herrnson, Travis Mayberry, Stefan Popoveniuc, Ronald Rivest, Emily Shen, Bimal Sinha, and Poorvi Vora* report from a mock election using an end-to-end verifiable electronic voting system.

In the **second session** the socio-cultural dimension of electronic voting is discussed. Here *Letizia Caporusso* discusses the role of trust, participation, and identity. Then *Philipp Richter* presents how the voter experience with Internet-based voting could be made as similar as voting in the polling station.

The **third topic** is dealing with certification and evaluation of electronic voting. Here *Rüdiger Grimm, Katharina Hupf, and Melanie Volkamer* start an extension of the formal model presented at EVOTE08. *Niels Menken* and *Kai Reinhard* show to which degree the remote e-voting system POLYAS is complaint with the common criteria protection profile. *Komminist Weldemariam* and *Adolfo Villafiorita* go on from there and present the current state in the development of e-voting systems.

Session four will host the presentation of *Axel Schmidt, Melanie Volkamer and Johannes Buchmann* on an evaluation approach for voting service providers.

In the **fifth session** *Rojan Gharadaghy and Melanie Volkamer* try to explain end-to-end verifiability to the non expert. In a different approach *Jordi Pujol-Ahulló, Roger Jardí-Cedó, Jordi Castellà-Roca* will classify these systems. Then *Stefan Popoveniuc and Andrew Regenscheid* will present a practical approach of a end-to-end-verifiable voting system.

In **session six** we will come back to e-voting experiences, where *Thad Hall and Leontine Loeber* will discuss the political environment and how it influences the discussion around e-voting. *Roberto Verzola* will show an innovative way on how to input voting results based on basic booking-keeping principles. *Andreas Ehringfeld, Larissa Naber, Thomas Grechenig, Robert Krimmer, Markus Traxl, and Gerald Fischer* discuss the Council of Europe Recommendation Rec(2004)11 how the experiences with the attacks on the federation of students' election in 2009 could be reflected.

In the **seventh session** e-voting protocols are discussed. Here *Jordi Puiggali and Sandra Guasch* present an universally verifiable efficient re-encryption mixnet. Then *Reto Koenig and Eric Dubuis* discuss how blind signature based internet voting systems can be made more secure using bulletin boards.

In the **final session** on theoretical and practical implications of e-voting *Oliver Spycher and Rolf Haenni* discuss how hybrid voting systems can be made coercion-resistant. *Masahiro Iwasaki* closes with a description of e-voting in Japan.

These papers give a good overview on the fast developments in the past two years. It also shows the necessity and importance of interdisciplinary research. Further we hope Castle Hofen will for long be home to these fruitful discussions.