

Privacy-respecting Authentication – Ioannis Krontiris



Speaker: Ioannis Krontiris, is a senior researcher in the group of Mobile Business and Multilateral Security at **Goethe University Frankfurt**. Ioannis holds a PhD from Mannheim University, Germany and a MSc degree from Carnegie Mellon University, USA. He is currently involved in the coordination of the EU-Project ABC4Trust (Attribute-based Credentials for Trust) where he is also leading the architecture work package. His main research interests include Identity Management, Online Privacy, Security and Privacy in Pervasive Environments.

Europe aims for an electronic identity management infrastructure as a basis for trustworthy services in e-government and e-commerce to overcome fragmentation, closed solutions and lack of user control and transparency. The outcome of the EU-project ABC4Trust will result in important input for the design of the upcoming electronic identity management infrastructure, by closing the gap between the architectural framework level and the crypto level that slows down the adoption of privacy respecting attribute-based credentials systems (Privacy-ABCs), as well as making the infrastructure independent of specific implementations.

Towards this goal, ABC4Trust is implementing and deploying privacy-ABCs in two actual production pilots. These two user-trials will give the opportunity for the first time to test credentials use and performance on a large scale and provide experiences on their operation, interoperability and user acceptance. The first pilot scenario will be deployed at a school in Soederhamn, **Sweden**, where young students (youngsters and teenagers of both sexes) will be able to communicate in an anonymous and privacy preserving way with other pupils and with school health personnel (doctors, nurses, psychologists and other coaches). The second pilot scenario will be deployed at the University of Patras, **Greece**, where students will be able to anonymously evaluate courses they attended.

Thus, ABC4Trust is building its architecture based on privacy requirements collected within the European setting (e.g. Greece and Sweden). However, privacy concerns differ in the international setting. These differences can be attributed to differences in cultural values and perception of privacy, differences in the familiarity with Web privacy practices, or even differences in regulations. In that respect, international cooperation could greatly help exchanging views with other cultures, collect different application scenarios and requirements from other cultures and effectively broadening the perspective of privacy-ABC architecture.

It is, therefore, an open research question to be discussed how privacy relevant processing with and in countries like Brazil, India or South Africa can be handled within ABC-scenarios. How are concepts like proportionality, unlinkability, minimal disclosure etc. being perceived in such countries? How other legal systems outside Europe can be affected by and have effects on Privacy-ABCs?

Technological research can also be greatly benefited from international cooperation when it comes to taking under consideration the human factor in designing technologies. How people perceive technological solutions and how that affects the adoptability of the corresponding technologies? How to best explain to people the potentials and features of the existing solutions? How to best design user-interfaces to encourage usability and adoptability? The answers to these questions will vary for different cultures and by opening up beyond the European borders will give us a great insight in these aspects and eventually help us design better technology.

To address the above challenges, collaboration opportunities should allow EU-project consortia to open up and include various kinds of actors in the international setting: user communities, governmental organizations, regulatory authorities, and research institutes. A framework for enabling such collaboration should encourage joint working groups, organization of public events with experts from both sides and collaboration in standardization activities.