



Creating Identity - Trustworthy Ecosystems (CITE 2017)

to be held in conjunction with the ARES EU Projects Symposium 2017, held at ARES 2017
(ARES 2017 – <http://www.ares-conference.eu>)

August 29 – September 1, 2017, Reggio Calabria, Italy
ARES EU Projects Symposium: August 29, 2017

Project description:



ARIES

Programme: H2020-FCT-2015

ARIES will design and promote a framework that enables the setting up of a reliable electronic identity ecosystem for Europe which combines digital and traditional approaches (i.e. physical and electronic identity documents, virtual identities) in novel ways in order to increase and sustain high technical and procedural levels of quality of security documents and corresponding processes in both virtual and physical worlds. ARIES will propose new security features and harmonized identity lifecycle processes to allow the linkage of physical, officially accepted identities with possible virtual identities that can be derived from the former in order to cope the need of end users to be able to maintain level of privacy preserving but at the same time based on technologies for quality control and verification of such identities to allow law enforcement and mechanisms to allow efficient control and threats detection.



Programme: H2020-DS-2015-1

The objective of LIGHTest is to create a global cross-domain trust infrastructure that renders it transparent and easy for verifiers to evaluate electronic transactions. By querying different trust authorities' worldwide and combining trust aspects related to identity, business, reputation etc. it will become possible to conduct domain-specific trust decisions. This is achieved by reusing existing governance, organization, infrastructure, standards, software, community, and know-how of the existing Domain Name System, combined with new innovative building blocks. This approach allows an efficient global rollout of a solution that assists decision makers in their trust decisions. By integrating mobile identities into the scheme, LIGHTest also enables domain-specific assessments on Levels of Assurance for these identities.



Workshop Description:

An ever increasing number of transactions are conducted virtually over the Internet. How can you be sure that the person making the transaction is who they say they are?

Traditionally, we often knew our business partners personally, which meant that impersonation and fraud were uncommon. Whether regarding the single European market place or on a Global scale, there is an increasing amount of electronic transactions that are becoming a part of people's everyday lives, where decisions on establishing who is on the other end of the transaction is important. Clearly, there is a need for assistance by authorities to certify electronic identities.

The EC-funded LIGHTest and ARIES projects attempt to solve this problem from two different angles. While LIGHTest is focused on building a global trust infrastructure where any authorities can publish their trust information and make it globally discoverable, ARIES' main goal is to deliver a comprehensive framework for reliable e-identity ecosystems in order to improve identity, trust and security. On top of that it aims at to better supporting law enforcement in addressing the new cybersecurity threats, while achieving positive, far-reaching socio-economic impacts.

The CITE workshop will be focused on the challenges deriving from a digital environment where there is an increasing amount of identity crimes, and at the same time there is the need for a trustworthy ecosystem to verify virtual identities in order to take advantage of the new paradigm in the growing digital market.

We plan to organize several talks from different EU R&D projects articulated around the topics of interest (see next section), with a final networking session, as a space where experts can present and exchange their views on digital trust and Identity challenges, as well as to give the audience the opportunity to interact with the speakers.

Topics of interest include, but are not limited to: (for example)

- Trustworthy identity ecosystem
- Trustable identity virtualization
- Trusted identities and privacy
- Trust scheme publication, translation and delegation
- Automatic trust verification
- Trust propagation of derived mobile IDs

Program Chair

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Preliminary Program

Time	Agenda Item	Duration	Speaker
11:00 h	Identity and Trustworthy Ecosystem	30	Jon Shamah
11:30 h	Introduction to ARIES	10	Eduardo González
11:40 h	Introduction to LIGHTEST	10	Heiko Roßnagel
11:50 h	The Aries Ecosystem	20	Jorge Bernal
12:10 h	The LIGHTest reference architecture	20	Sven Wagner
Lunch			
13: 30 h	Blockchain-based Smart Contracts for Accountable Data Usage Control	20	Ricardo Neisse
13: 50 h	DNS as the Foundation of the LIGHTest Infrastructure	20	Martin Hoffmann
14: 10 h	CREDENTIAL - Towards a Cloud-Based yet Privacy-Friendly Identity Provider	20	Stephan Krenn
14.30 h	Wrap up and discussion	30	
TOTAL DURATION		180	

Workshop Chair

Jon Shamah. EEMA

Detailed information about the program

11:00 Initial Keynote: The Identity and Trustworthy Ecosystem

- **Speaker:** Shamah, Jon
- **Affiliation:** EEMA
- **Country:** England
- **Abstract:** Identity is in the public awareness. Whether it is “identity cards”, “identity theft” or “National Identity”. However your definition, it reduces down to trust, Whether it is between individuals, between individuals and organisations or governments, or between organisations.



This keynote will look at some of the trends and issues that must be addressed in the short to medium term and their importance to everyone.

11:30 Introduction to ARIES

- **Speaker:** González, Eduardo
- **Affiliation:** Atos
- **Country:** Spain
- **Abstract:** ARIES main goal is to deliver a comprehensive framework for reliable e-identity ecosystem comprising new technologies, processes and security features that ensure highest levels of quality in eID based on trustworthy security documents and biometrics for highly secure and privacy-respecting physical and virtual identity management, with the specific aim to tangibly achieve a reduction in levels of identity theft, fraud and associated crimes.

11:40 Introduction to LIGHTest

- **Speaker:** Heiko Roßnagel
- **Affiliation:** Fraunhofer IAO
- **Country:** Germany
- **Abstract:** The objective of the EC-funded LIGHTest project is to create a global cross-domain trust infrastructure that renders it transparent and easy for verifiers to evaluate electronic transactions. By querying different trust authority's world-wide and combining trust aspects related to identity, business, reputation etc. it will become possible to conduct domain-specific trust decisions. This is achieved by reusing existing governance, organization, infrastructure, standards, software, community, and know-how of the existing Domain Name System, combined with new innovative building blocks. The EC and Member States can use this infrastructure to publish lists of qualified trust services, as business registrars and authorities can in health, law enforcement and justice. In the private sector, this can be used to establish trust in inter-banking, international trade, shipping, business reputation and credit rating. Companies, administrations, and citizens can then use LIGHTest open source software to easily query this trust information to verify trust in simple signed documents or multi-faceted complex transactions. This presentation gives an overview on the objectives, principles, and possible application fields of LIGHTest.

11:50 The ARIES Ecosystem

- **Speaker:** Bernal, Jorge
- **Affiliation:** University of Murcia
- **Country:** Spain
- **Abstract:** This talk introduces the ARIES identity ecosystem aimed at setting up a reliable identity framework which provides means for stronger and more trusted authentication, in a user-friendly and efficient manner. The Aries identity ecosystem allows the citizen to generate virtual identities linked with their eIDs/ePassports, using biometrics and, at the same time, to store enrolment information in a secure vault only accessible for law enforcement authorities in case of identity fraud and associated crimes.



12:10 The LIGHTest Reference Architecture

- **Speaker:** Wagner, Sven
- **Affiliation:** University of Stuttgart, IAT
- **Country:** Germany
- **Abstract:** Within the LIGHTest project, a lightweight trust infrastructure is developed, which provides parties of electronic transactions with automatic validation of trust based on their individual trust policies.

To ease integration and improve availability on any system, LIGHTest makes use of the existing global Domain Name System (DNS) for publication, querying, and cross-jurisdiction translation of information relevant to make such decisions, including levels of assurance. This presentation describes the reference architecture of LIGHTest, in particular it refers to the fundamental macroscopic system structures to be realized in LIGHTest. This includes architectural principles and both functional and technical goals addressed by the architecture as well as high level explanation of the involved components. In addition, scenario descriptions for the basic functionality of LIGHTest are provided.

13:30 Blockchain – based Smart Contracts for Accountable Data Usage Control

- **Speaker:** Neisse, Ricardo
- **Affiliation:** European Commission Joint Research Center (JRC)
- **Country:** Italy
- **Abstract:** In this talk I will present our ongoing work on an approach where blockchain-based smart contracts are used to track data provenance and to provide accountability of privacy preferences using data usage control policies. Our approach uses smart contracts to record the data flows and to encode the behavior of data usage policies without revealing details about the accessed data. In this way, data subjects are able to query the smart contracts in order to verify if data consumers are using their data in the intended way. Furthermore, it also support data consumers in demonstrating the data used and stored by them was acquired in a legitimate manner without breaching any user privacy preferences.

13:50 DNS as the Foundation of the LIGHTest Infrastructure

- **Speaker:** Hoffmann, Martin
- **Affiliation:** NLNet Labs
- **Country:** Germany
- **Abstract:** The LIGHTest reference architecture provides a system for publishing and querying trust relationships between various entities. This presentation introduces how the Domain Name System (DNS) can be as the existing foundation for a lightweight infrastructure for trust-related information. It details, how the DNS can be used to publish information for discovery and verification and outlines how the principles of design and operation of DNS inform the overall architecture of LIGHTest.

14:10 CREDENTIAL – Towards a Cloud-Based yet Privacy-Friendly Identity Provider



- **Speaker:** Krenn, Stephan
- **Affiliation:** AIT Austrian Institute of Technology GmbH
- **Country:** Austria
- **Abstract:** Despite the many advantages and benefits of existing cloud-based identity providers, a couple of challenges and issues remain, in particular with regards to privacy and user-empowerment. Namely, existing solutions require high trust assumptions in the IdP, as users need to fully delegate the control over their plaintext identity data to this service. The H2020 innovation action CREDENTIAL is dedicated to developing an easy-to-use IdP which gives high authenticity guarantees on the identity data to service providers, yet leaves the user in full control over which data is revealed to which information to reveal to which service. This talk will discuss shortcomings of the state-of-the-art, the steps forward made within the project, and illustrate the efficiency and usability of the developed solutions.