LIGHT*est*

A Lightweight Infrastructure for Global Heterogeneous Trust Management

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?

LIGHTest - developing a global lightweight trust infrastructure providing parties of electronic transactions with automatic validation of trust based on their individual trust policies through the publication, querying, and cross-jurisdiction translation of information relevant in making decisions.

LIGHT^{est} Project

The project will provide a solution that makes it possible to distinguish legitimate identities from frauds. This is key in being able to bring an efficiency of electronic transactions to a wide application field ranging from simple verification of electronic signatures, over eProcurement, eJustice, eHealth, and law enforcement, up to the verification of trust in sensors and devices in the Internet of Things.

To ease integration and improve availability on any system, LIGHT^{est} 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. Building on top of the existing global infrastructure of the Domain Name System and explicit efforts to reach international acceptance enable LIGHT^{est} to offer truly "global trust lists".

Work In Progress

Creation of a Global Trust Infrastructure at Feasible Effort

LIGHT^{est} addresses this possibly most difficult challenge through reuse of the existing Domain Name System (DNS). In particular, LIGHT^{est} employs the global DNS system as-is. Only marginal additions render it usable as a global trust infrastructure. It does so by following well-established strategies of other kinds of trust management.

Global Acceptance of the Approach Beyond Europe

LIGHTest addresses this challenge by embedding its technical innovations into an inclusive and collaborative strategy that positions LIGHTest from the start as a global initiative, open to extra-European collaboration.

Support for Heterogeneous Trust Models, since Homogeneous Models Fail to Scale Globally

LIGHT^{est} supports heterogeneous models of trust by moving the decision point for who is trusted to the verifier's trust policy. It typically selects and combines the few existing large scale trust schemes (such as that of EU qualified signature) and can further personalize them with local black and white – lists.

Automatic Handling of Subsidiarity Principle in Trust Schemes

LIGHTest addresses this challenge by using the native and massively proven DNS mechanism to delegate the management of sub-domains to third parties. The mechanism can support an arbitrary depth of the hierarchy and the LIGHTest client libraries render the hierarchical structure of trust schemes transparent to verifiers.

Access to Trust Schemes based on Human-Readable Names

LIGHTest addresses this challenge by using DNS domain names to identify trust schemes. For example, the European trust scheme of qualified signatures may be named "qualified.TRUST.ec.eu". Here, qualified is the scheme name, ec.eu the authority responsible for the scheme, and TRUST a standardized constant word used across the trust infrastructure. Using the existing DNS, this name can then be used by software to locate and access the data that is contained in the named trust scheme.

Use of a Single Trust Root to Replace a Multitude of trust Anchors

LIGHTest addresses this challenge by applying the existing, unique, and globally accepted Trust root of the DNS. The standard mechanism of the DNS (with DNSSEC extension) allows to derive Trust in Trust scheme data from this single Trust root and the (domain) name of the Trust scheme.

Integration of Multiple Types of Trust Schemes in a Single Infrastructure

LIGHTest addresses this challenge by using a very generic model of trust scheme and supporting an open number of trust schemes to concurrently.

LIGHT^{est} Project Partners

Coordinator:
FRAUNHOFER GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG EV Germany

Partners:
EUROPEAN ELECTRONIC MESSAGING ASSOCIATION AISBL Belgium

ATOS SPAIN SA Spain

TIME LEX CVBA Belgium

TECHNISCHE UNIVERSITÄT GRAZ Austria

GIESECKE & DEVRIENT GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG Germany

DANMARKS TEKNISKE UNIVERSITET Denmark

TÜRKİYE BİLİMSEL ve TEKNOLOJİK ARAŞTIRMA KURUMU Turkey

UNIVERSITÄT STUTTGART Germany

OPEN IDENTITY EXCHANGE EUROPE United Kingdom

STICHTING NLNET LABS Netherlands

SOCIEDAD ESTATAL CORREOS Y TELÉFGRAFOS SA Spain

IBM DANMARK APS Denmark

UBISECURE Finland

LIGHTest Community Website has been created to allow interested parties to stay involved with the project as it develops and evolves.
The website covers all the latest news and events as well as a closed forum where partners can share ideas and best practice. To find out more, please visit our community website at **www.lightest-community.org**

Programme Information
Project No: **700321**
Start: **September 2016**
Duration: **3 years**
Contact us: **info@lightest.eu**
Web: **www.lightest.eu**

You can also find us on Twitter and LinkedIn

@LIGHTest_trust   **www.linkedin.com/groups/12017516**   10.2017