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The why, what, how and who of ARIES

ReliAble euRopean Identity EcoSystem



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The need (Why)

In a modern hyper-connected society individuals possess and use many digital identities to carry out online transactions in everyday life. Businesses and processes become increasingly digital although related online services are offered, in some cases, without appropriate level of assurance for identity verification and authentication.

On the other hand, citizens are afraid of losing control over data revealed by the use of their digital identities in online transactions, especially in digital ecosystems that rely on centralized identity providers. This on-going and increasing lack of trust derives from the current experiences with extended use of low assurance digital credentials, from identity providers such as social networks that reveal too much attributes to service providers. Added to this problem is the need to address identity-related fraud by law enforcement agencies.

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The challenge (What)

ARIES aims to set up a reliable identity ecosystem combining mature technologies for high level of assurance, such as biometrics or use of secure elements, with innovative credential derivation mechanisms. ARIES advocates management practices that ensure user-centricity and flexibility when it comes to secure and privacy-respecting virtual identity management processes. The project will help to tangibly achieve a reduction in levels of identity fraud, theft, and associated crimes.



Identity ecosystem

New technologies, processes and security features for physical and virtual identity management



Biometric identity

Strengthening the link between physical documents linked to the biometric and the digital (online and also mobile) identity



Impact

Address key legal, ethical, socio-economic, technological and organisational aspects of identity-related crimes

The solution (How)

While use of government issued electronic identity documents such as e-ID cards or e-Passports is now widely extended, secure derivation of credentials and partial or virtual identities from it is still in the early stages. In ARIES we derive virtual identities from government issued document that in its turn rely on breeder documents, such as birth registry or similar, strengthening the links in identity lifecycle.

We adopt technologies and elements that contribute to the high level of assurance, including biometric verification and non-tampered secure elements, available on secured mobile and smart devices for trustworthy online authentication.

The consortium (Who)

The ARIES consortium has the required technical expertise and the knowledge of legal, societal and ethical topics related to e-identities and is able to research and find the right solutions.



ARIES Validation Scenarios

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Secure and privacy preserving eCommerce

This demonstrator is aimed at showing effectiveness of the ARIES ecosystem in reducing identity theft and related crime prevention in the context of eCommerce. Providing a friendlier, yet secure, authentication service, such as ARIES, which relies on enrollment based on existing government issued e-identities might stimulate more people to engage in eCommerce trade and ultimately improve their lives (convenience, time-saving and autonomy are among the improvements one can have using eCommerce).

A first Proof of Concept involving web and mobile solutions was validated through an end-users workshop in September and feedback on usability, level of confidence with ARIES multi-factor authentication and proposed improvements being considered for the next technical iteration.

Identity Virtualization (Smart Airport)

This demonstrator is aimed to validate the effectiveness of ARIES in issuing virtual credentials with high level of assurance to be used to control access in physical environments with a high demand for security such as airports. This demonstrator will target passengers with residence in and flights within the Schengen Area. In this case the airport security requirements mostly concern the boarding time and it is less strict if a border security is involved.

This demonstrator will show how ARIES technologies can be used to prevent and reduce the risk of identity fraudsters to take advantages of facility identity issuance procedures; assess the level of assurance that can be obtained with face-to-face and self-issued virtual identities; test the identity vault which contains the relevant identity information previously generated by ARIES; and showcase the level of security and privacy that can be attained by the usage of ARIES derived identities for physical access control.

Includes a use case for issuance at the airport, and with the assistance of local Law Enforcement Authorities, of an ARIES virtual identity which could be used as Emergency Travel Document for travelers that have lost their travel document and boarding pass to obtain a new boarding pass and in the longer term to possibly be allowed plane boarding.

ARIES at the Council of the EU

On November 16th 2017, ARIES was presented to the Council of the EU. A delegation of the project represented by Mr. Alberto Crespo from Atos and Mr. Antonio Skarmeta from the University of Murcia, participated in the Working Party meeting on Frontiers / False Documents with focus on "Registration of Identity" . The project was invited by the Estonian Presidency of the Council and the audience consisted of a wide representation of member state experts in identity management. The purpose was to raise awareness on recent research advances, including innovative e-Identity solutions carried out under the scope of the EU Framework Programme for Research and Innovation H2020. ARIES builds on synergies with other on-going research efforts and aims to raise the security of citizens' online interactions, helping to reduce identity-related crimes and their serious consequences. It is well aligned with some strategic objectives of EU Security Union /European Agenda on Security and specifically with key action points in the **"European Action Plan to strengthen response to travel document fraud"**

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