Impact of European Digital Identity Wallet on NRENs

GÉANT Innovation Programme 2021
3 March 2022
Agenda

- European Digital Identity Wallet
- eWallet use cases in research and education
- NREN roles and SWOTs
- Role of GÉANT related to eWALLETS
- Q & A
value through innovation
European Digital Identity Ecosystem

Conformity Assessment Bodies (CABs)
Provide certifications for EUID Wallets, Qualified Trust Services Providers

Supervisory Bodies (SBs)
Supervise Trust Service Providers, maintain Trust Lists

Qualified Electronic Attestation of Attributes (QEAA) Providers
(Qualified Trust Service Provider - QTSP)
Provide attributes

Qualified Electronic Signature/Seal Providers
(Qualified Trust Service Provider - QTSP)
Provide qualified attestations

Provide qualified certs for signatures

Non-qualified Electronic Attestation of Attributes Providers
Provide non-qualified attestations

Registries of Trust Sources
Provide info for verification of EUID Wallet, PID, QEAA, EAA, QES

Catalogues of attributes and EAA providers
Provide info for discovery of attestations

Authentic sources
Civil registries, universities, vehicles DB

Person Identification Data Provider
(civil registry, eID card...)
Provide PID

Relying Parties
(e.g. banks, online platforms, airports, Healthcare)
Provide interfaces to share PID, QEAA, EAA
Core eWallet functions

• Identification/authentication
  o Personal Identification Data (PID) including a unique and persistent identifier (‘EU eID’)

• Pseudonymous or anonymous authentication by providing a privacy preserving proof of possession

• Storing or retrieving identity data, credentials, attributes

• Providing attributes and attestations to relying parties

• Create qualified electronic signatures
eWallets: what will change

• Shift from ‘identity only’ eID to a wide range of (identity related) attributes

• Every member state must make available at least one eWallet for its citizens

• eID not only for the public sector, but also for private sector use cases
Some eWallet requirements

- eWallets must support authentication at the eIDAS Assurance level ‘High’
- In some legally specified use cases eWallets must be accepted by private organisations - f.i. for student registration at educational institutes
- In other use cases, users may not be forced to use an eWallet
- eWallets must be available for free to the user
- eWallet and attestation providers are not allowed to use eWallet usage data – unless permissioned by the user
Planning

- **Agreement on process and working procedures**
  - 3 months
  - 2/6/2021 - 1/9/2021

- **Agreement on technical architecture outline**
  - 3 months
  - 2/9/2021 - 1/12/2021

- **Identification of specific technical architecture, standards and references, guidelines and best practice**
  - 3 months
  - 2/12/2021 - 1/3/2022

- **Pilots**
  - 12 months
  - 1/4/2022 - 3/1/2023

- **Rollout**
  - 15 months
  - 1/4/2023 - 3/31/2024

Adoption 2/6/21

Agreement between the Member States, in close cooperation with the Commission 30/9/22

Publishing of the toolbox by the Commission 30/10/22

Deadline for MS implementation 30/6/24
Research questions

1. How does the EU Digital Identity Wallet ecosystem impact the role of NRENs and providers of credentials in the research and education domain?

2. How can existing NREN initiatives be leveraged to support the EU Digital Identity Wallets?

3. Is there a coordinating or supporting role to be played by GÉANT in this ecosystem?
Which existing NREN initiatives could benefit from the EU digital identity wallets?

- edugain
- MyAcademicID
- EU Student Identifier
- eduid
- Europass
- ORCID
- Researcher ID?
- Assurance & Identity for Researchers
- Supporting student mobility
- European Student Card
- Euroeq
- Diploma to healthcare to get national recognition as healthcare provider
- Affiliation student for webshops (student discount)
- Student services associated with enrollment; like housing, banking, signing up for insurance
- More general: European Universities
- Collaboration for internships etc.
  Bringing ID of supporting staff (guests) into the edu-sector
- Providing diploma in a trusted manner for HR departments
eWallet use cases in research and education

- Student registration
- Supporting identity federations
- Providing educational attributes and attestations to relying parties
- (International) student and staff mobility
- Life Long Learning
- International research and development
Roles in EU wallet ecosystem (simplified view)

Main roles
- Wallet Provider
- Person Identification Data Provider
- Authentic Source
- Electronic Attestation of Attributes Provider
- Relying Party
- Trusted Lists Provider
NREN as Relying Party

In this role, the NREN consumes and verifies EU eIDs, eduIDs and related attributes (educational qualifications, titles and licenses) provided by eWallets, on behalf of the receiving educational institutes.
NREN as Relying Party

**Strengths**

- NRENs experienced with ID federation
- Trust and trust building are most valuable NREN assets
- NRENs capable of connecting many different wallets
- Strong eduID's and infrastructure already available

**Weaknesses**

- Central RP role not fully in line with SSI principles
- Certain NRENs are understaffed

**Opportunities**

- Institutes must accept eWallets for student registration
- Facilitate Life Long Learning
- Improve (international) student mobility
- Student IDs in eWallets reduce fraud by sharing ID chipcards
- Provide RP services to institutes, for other use cases

**Risks**

- Competition from other (new) trustworthy (RP) service providers
- [Other wallet use-cases may drive] institutes to take-up this role themselves
NREN as Authentic Source / Attestation Provider

In this role, the NREN issues eduIDs and related attributes (educational qualifications, titles and licenses) to eWallets, on behalf of the issuing educational institutes.

Also, the NREN provides attestations for such IDs and attributes to relying parties, for instance to other institutes or employers.
NREN as Authentic Source / Attestation Provider

**Strengths**
- NRENs experienced with ID federation
- Strong track record for innovating identity infrastructures
- Trust and trust building are most valuable NREN assets
- Strong eduID's and infrastructure already available

**Weaknesses**
- Institutes may decide not to issue eduID's and attributes to wallets
- For other identity use-cases, NRENs may lack experience
- Some NRENs are not authorized to issue diploma's etc.
- Lack of standards for wallet contents

**Opportunities**
- Provide international standards for Research and Education wallet content
- Facilitate Life Long Learning
- Improve (international) student mobility
- Provide AS / AP services to institutes, for other use cases
- See [www.jisc.ac.uk/hedd](http://www.jisc.ac.uk/hedd) and [www.switch.ch/verify](http://www.switch.ch/verify)

**Risks**
- eWallets may be not fit for purpose
- Research and Education may not be allowed into the EU wallet ecosystem
- (Other wallet use-cases may drive) institutes to take-up this role themselves
- Other wallet use-cases may drive institutes to use other (new) trustworthy service providers

**EU eID replaces eduID's**
NREN as Wallet Proxy

In this role, the NREN handles eWallets for the educational and research institutes, in order to allow them to continue using their existing identity frameworks whilst supporting eWallets.

In fact, this role combines the roles of Relying Party and Authentic Source.
1. Authenticate with national eID

2. Issue EU eID to wallet

Onboarding in eIDAS Identity Framework
1. Authenticate with EU eID
2. Issue eduID
3. Issue eduID to wallet
4. Provide eduID
5. Access service
1. Authenticate with eduID
2. Provide eduID
3. Access service

Authenticating in R&E Identity Framework
1. Authenticate with EU eID Wallet proxy
2. Provide EU eID Service provider (RP)
3. Access service
NREN as Wallet Proxy

**Strengths**

- NRENs experienced with ID federation
- Infrastructure services are NREN core business
- Strong track record for innovating identity infrastructures
- Trust and trust building are most valuable NREN assets
- Strong eduID’s and infrastructure already available

**Weaknesses**

- I’d guess that most students don’t know of their NREN’s existence. The idea that your EU identity is going to be proxied by something you’ve never heard of is going to take a lot of careful messaging...
- Lack of staff and resources in certain NRENs
- In general: very EU focused. It will not solve problems/challenges with worldwide scope

**Opportunities**

- Enable institutes to take up eIDAS wallet roles themselves, in their own tempo
- Facilitate Life Long Learning
- Improve (international) student mobility
- Provide wallet proxy services to other identity frameworks

**Risks**

- As a proxy model by definition enables snooping on user data, it might not be permissible under the eIDAS regulation
- Over time, institutes may abandon eduID and only use EU ID
- Fully dependent on students having a wallet, problems with foreign students etc.
NREN as Trusted Lists Provider

In this role, the NREN provides trusted lists containing all institutes that are verified data sources, trust providers and/or relying parties in the research and education domain.
NREN as Trusted Lists Provider

**Strengths**

- NRENs experienced with ID federation
- Trust and trust building are most valuable NREN assets
- Strong infrastructure already available
- Strong track record for innovating identity infrastructures

**Weaknesses**

- NRENs not positioned as service provider for all research and education organisations
- NREN costs may be too high for (very) small organisations
- Not all educational organisations are affiliated with the NREN
- Business case?

**Opportunities**

- Become the national TLP for all research and education organisations in the country

**Risks**

- Member states may assign this role to other parties
- There are collaborations which are 'stateless' or state membership is not obvious. Risk if this must be vetted through a member state
NREN as infrastructure provider

In this role, the NREN provides eIDAS infrastructure services to educational and research institutes.
An example would be to provide ledger services.
The NREN has no eIDAS process role at all; these are taken up by the institutes and third parties.
NREN as infrastructure provider

**Strengths**
- Infrastructure services are NREN core business
- Strong track record for innovating identity infrastructures

**Weaknesses**
- Requires member institutes to implement wallet roles and processes themselves or turn to other service providers
- Many NRENs are by their (by)laws not allowed to offer services to other wallet providers
- Users might prefer different ‘general’ wallets for different sectors. So not only focusing on the EU wallet, but there might be a need for a Education Wallet next to it.

**Opportunities**
- Provide infrastructure services to other wallet service providers

**Risks**
- Other wallet use-cases may drive institutes to use other (new) trustworthy service providers - with own infrastructures
Is there a coordinating or supporting role to be played by GÉANT in this ecosystem?

**General Information**

- **Programme**: Digital Europe Programme (DIGITAL)
- **Work programme part**: Digital Europe Work Programme 2021-2022
- **Call**: Accelerating best use of technologies (DIGITAL-2022-DEPLOY-02)
- **Work programme year**: DIGITAL-2021-2022
- **Type of action**: DIGITAL-SIMPLE DIGITAL Simple Grants
- **Type of MGA**: DIGITAL Action Grant Budget-Based [DIGITAL-AG]
- **Deadline model**: single-stage
- **Opening date**: 22 February 2022
- **Deadline date**: 17 May 2022 17:00:00 Brussels time

**Topic description**

**Expected Outcome**:

- At least 4 large scale pilots to test the deployment of the European Digital Identity Wallet in priority use cases and regarding the once-only principle under the Single Digital Gateway regulation. These pilots will deploy the European Digital Identity Wallet in national eID ecosystems by Member States.
- Successful implementation of the revised eIDAS regulatory framework by public and private sector service providers (i.e. SMEs) to exchange digital identity credentials in several Member States.

**Objective**:

- The objective of the topic is to develop, implement and scale up the European Digital Identity framework, based on the revised eIDAS regulatory framework as well as the exchange of evidence as set out in article 14 the Single Digital Gateway Regulation. The broader objective of European Digital Identity is to improve citizens’ access to highly trusted and secure electronic identity means and trust services such as digital signatures, improve citizens’ possibilities to use them and improve their ability to control over sharing their personal identity data. Reaching these aims requires technical implementation work procured by the Commission in particular in the development phase as well as by organisations providing public and private online services in Member States. The topic aims to develop and pilot tools supporting the implementation of the new European electronic identity for all relevant stakeholders. It also intends to develop and deploy use-cases, including innovative solutions, for the new EU-eID ecosystem leveraging and using synergies with decentralised technologies and the work for a self-sovereign identity framework undertaken at EBSI and developed in the context of the new trust service for electronic ledgers (see topic 5.2.1). It will support the implementation of the once-only principle and the sharing of data between public administrations and citizens. Notwithstanding, the topic might also address interagency and intersector ideas on innovative use of digital identity in the public sector.
Questions and answers