The European Union goes Decentralized

Standards and Technical Architecture behind eIDAS v2

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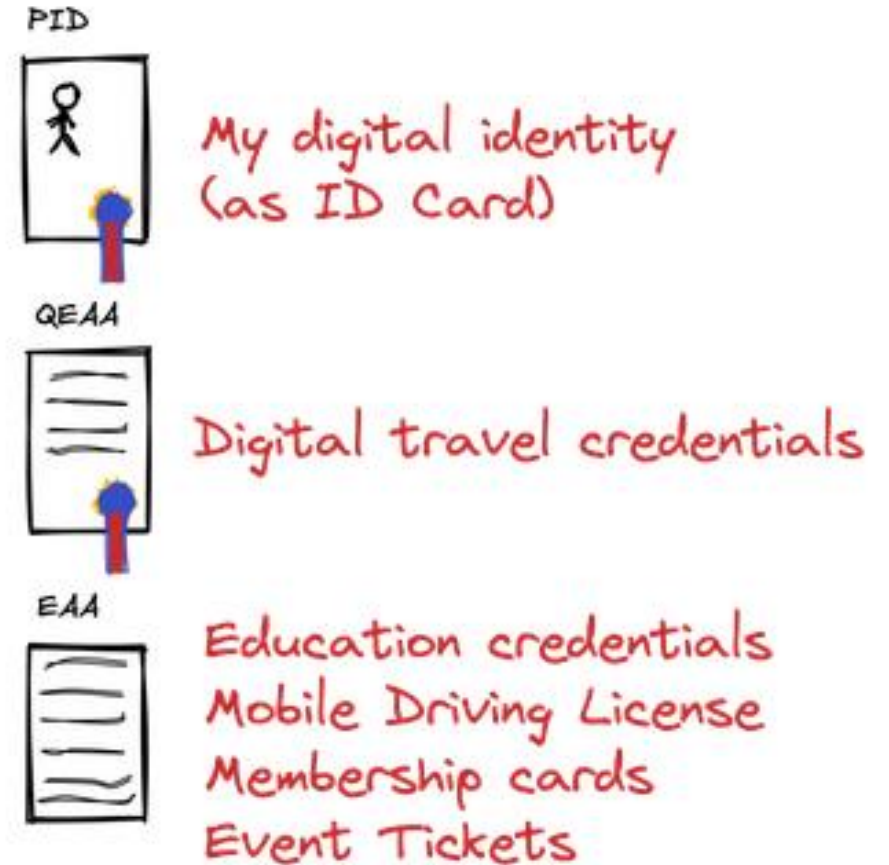
yes IDP GmbH

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The electronic IDentification Authentication and Signature Regulation (eIDAS)

- Introduced a framework for electronic identification (eID) and trust services in 2014.
- It enables EU citizens, companies and public administrations to safely access services and carry out transactions online and across borders.
- In 2020 a revision has started by European Parliament, taking into account technological, market and legal developments in relation to the paradigms of Decentralised Identity and Self-Sovereign Identity. The regulation is not definitive yet.
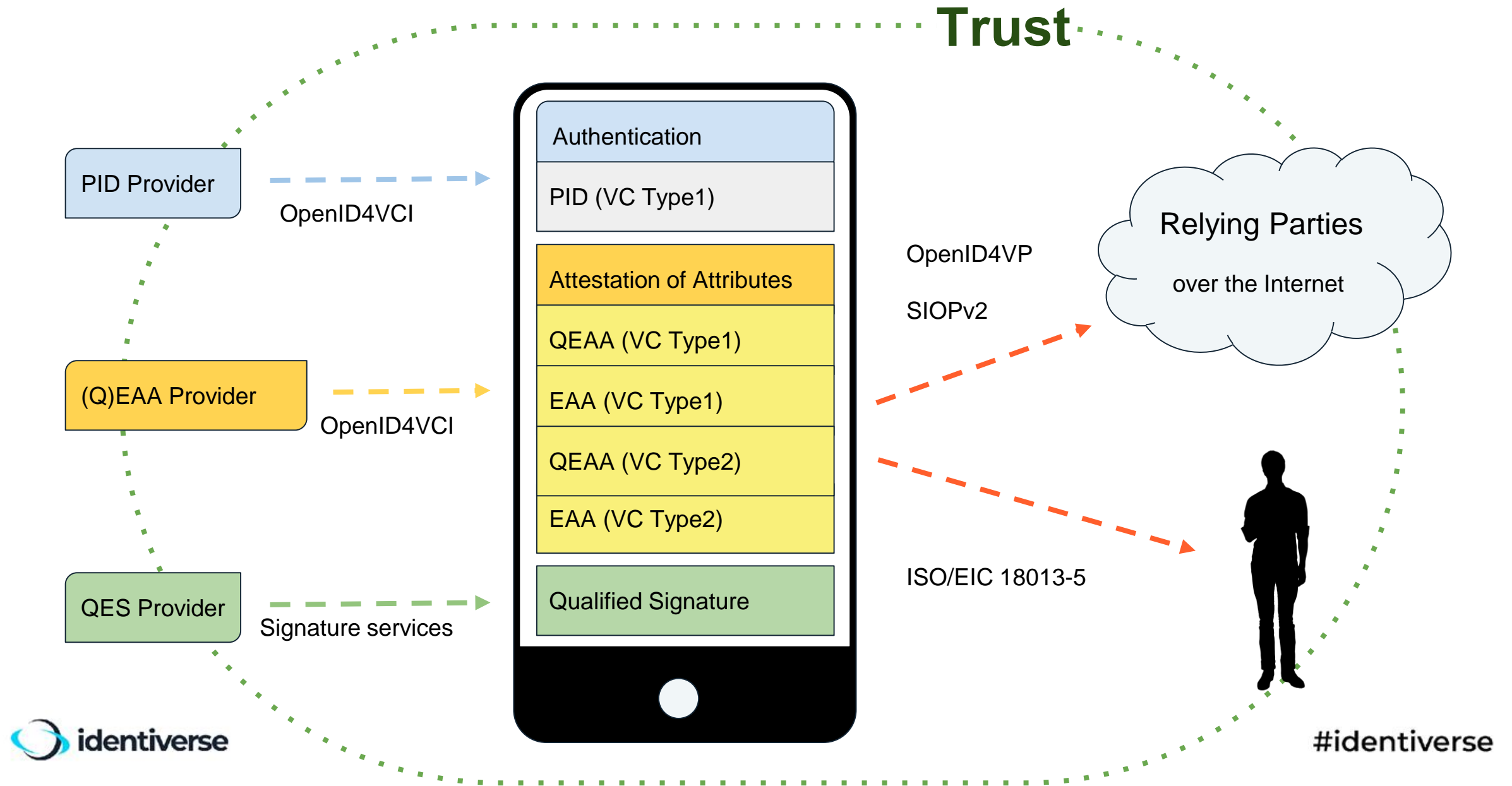
The goal is an harmonized European digital identity infrastructure, based on the concept of European digital identity Wallet, the EUDI Wallet.
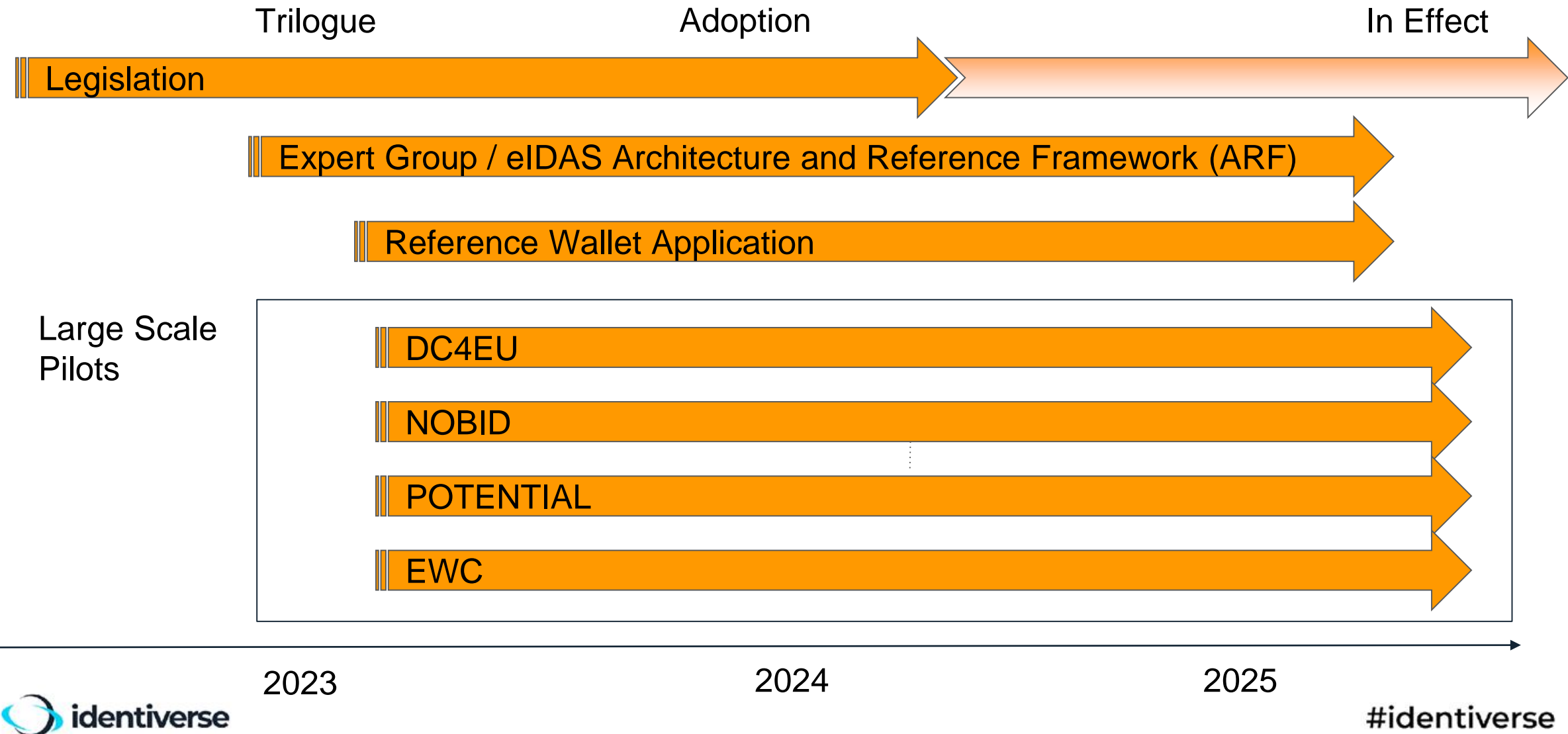
The EUDI Wallet will allow users to ...

- **Authenticate** themself when using Digital **Public and Private Services** → "**open** a Bank account".
- **Proving** the age when **Logging** into Social Networks.
- **Obtain** Medical Prescriptions.
- **Store** and **present** digital documents and membership cards.
- **Sign** contracts.
- **Authorize** payments.

PID

My digital identity (as ID Card)

QEAA

Digital travel credentials

EAA

Education credentials
Mobile Driving License
Membership cards
Event Tickets

The EUDI Wallet at glance

Trust

PID Provider

OpenID4VCI

(Q)EAA Provider

OpenID4VCI

QES Provider

Signature services

Authentication

PID (VC Type1)

Attestation of Attributes

QEAA (VC Type1)

EAA (VC Type1)

QEAA (VC Type2)

EAA (VC Type2)

Qualified Signature

OpenID4VP

SIOPv2

Relying Parties

over the Internet

ISO/EIC 18013-5

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Streams and Timeline

The eIDAS ARF

Along with the regulation, European Member States were asked to define a technical architecture, standards and **technical specifications**, **common guidelines** and **best practices**.

The first document elaborated by the experts of the Member States, the eIDAS Expert Group, was published on On January 26, 2023, this is called
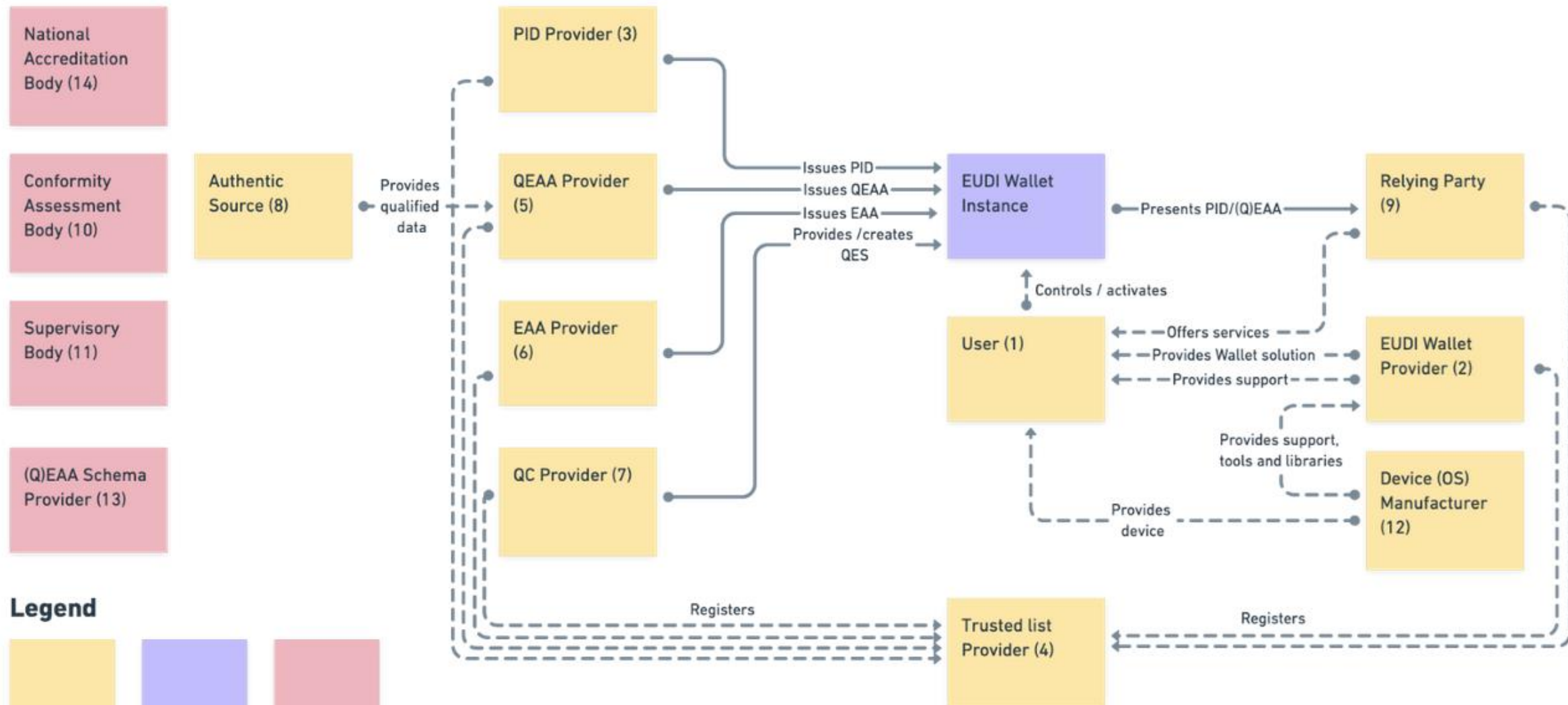
"eIDAS Architecture and Reference Framework"
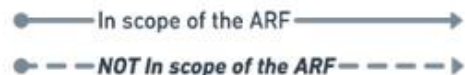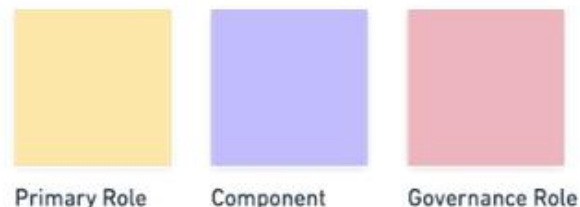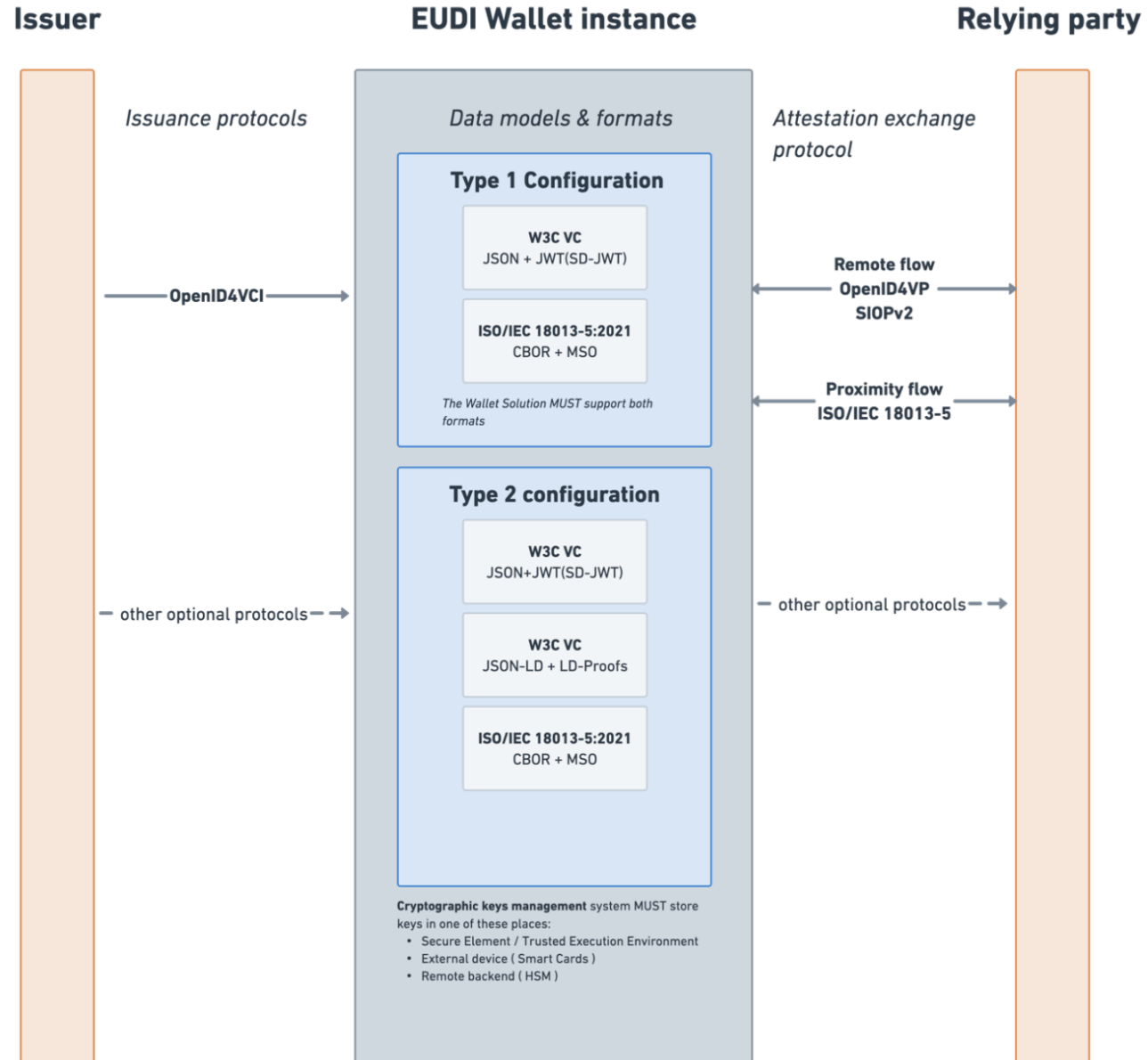
The eIDAS ARF

The eIDAS ARF defines:

- Five Use cases
- Roles of the ecosystem
- Technical specifications references
- Four Authentication flows
- Two Credential types

ARF supports the development of a reference implementation of an EUDI Wallet. The code will be available as open source for re-use by Member States.

Technologies

Credential Format / Protocols	OpenID for Verifiable Credentials (Online)	ISO 18013-5 (Proximity)
Selective Disclosure JWTs (SD-JWT)	◯	✕
ISO mdoc (ISO 18013-5)	◯	◯

- Person Identification Data (PID) MUST be issued in both formats.

ARF has ...

- References to technical specifications and standards

- Roles of the ecosystem

- Terms, acronyms and definitions

- Requirements

Ongoing work ...

- Trust Model

- Revocations

- Privacy and Security Considerations

- Legal Persons Identities

- Additional requirements

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Questions & Answers