# Demystifying the European Digital Identity Wallet: A Clear Insight

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# Demystify EU Digital Identity Wallet

PART I – The EUDI Wallet for people

# Characteristics of the EU Digital Identity Wallet

What is EU Digital Identity Wallet?

### Free use for all EU citizens

Provided by Member States, all EU citizens may use it for free on a voluntary basis.

### Accepted throughout the Union

Recognised by private and public service providers (relying parties) for all transactions that require authentication.

### Secure and privacy oriented

Citizens can control and protect their identity, personal data and digital assets.
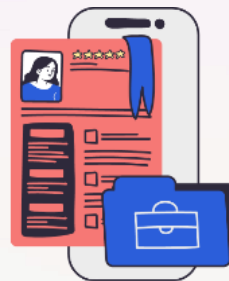
# Functions of the EU Digital Identity Wallet

What can you do with the EU Digital Identity Wallet?

## Identification & authentication

Identification and authentication to access public and private services, payment authorisation, KYC;

## Store & present attestations of attributes

Present educational diplomas/reports for enrolling at university; present your driving license for renting a car

## Sign & seal electronically

Sign a banking agreement

# Open-source and interoperable (1/2)

There will not be one EU Digital Identity Wallet, but many, built to one set of open specifications, created by the European Commission, together with Member States. Each will be interoperable.

Many different wallets in the EU

One set of open specifications

One open-source reference implementation

DRIVING LICENSE
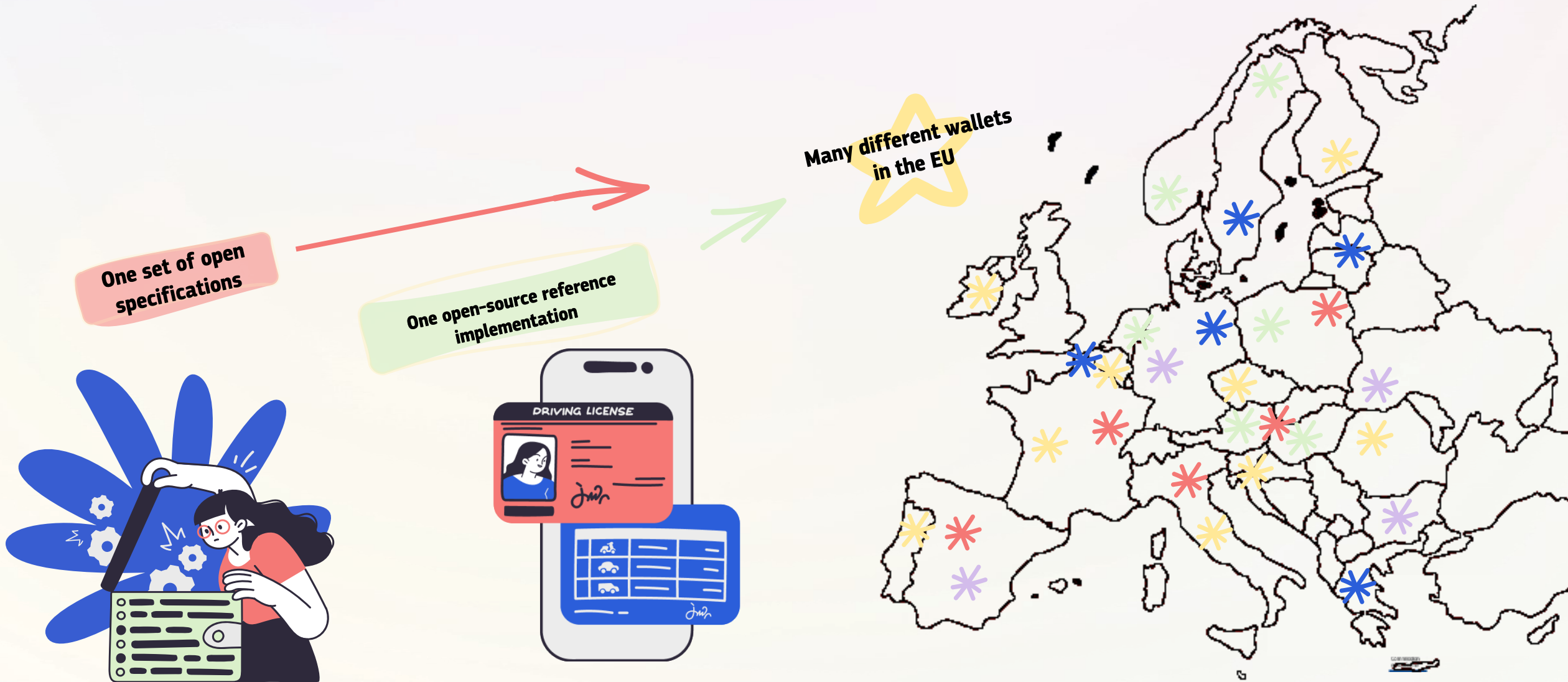
# Open-source and interoperable (2/2)

The transition from national frameworks is being planned with a dual approach that includes both a European-wide framework and national-level implementation.

**The goal is to enhance the security, interoperability, and user-friendliness of digital identities across the EU, facilitating digital transactions and services across borders.**

**Interoperability**, cross-recognition, and acceptance of digital ID credentials is ensured through the **compliance with ARF specifications**.
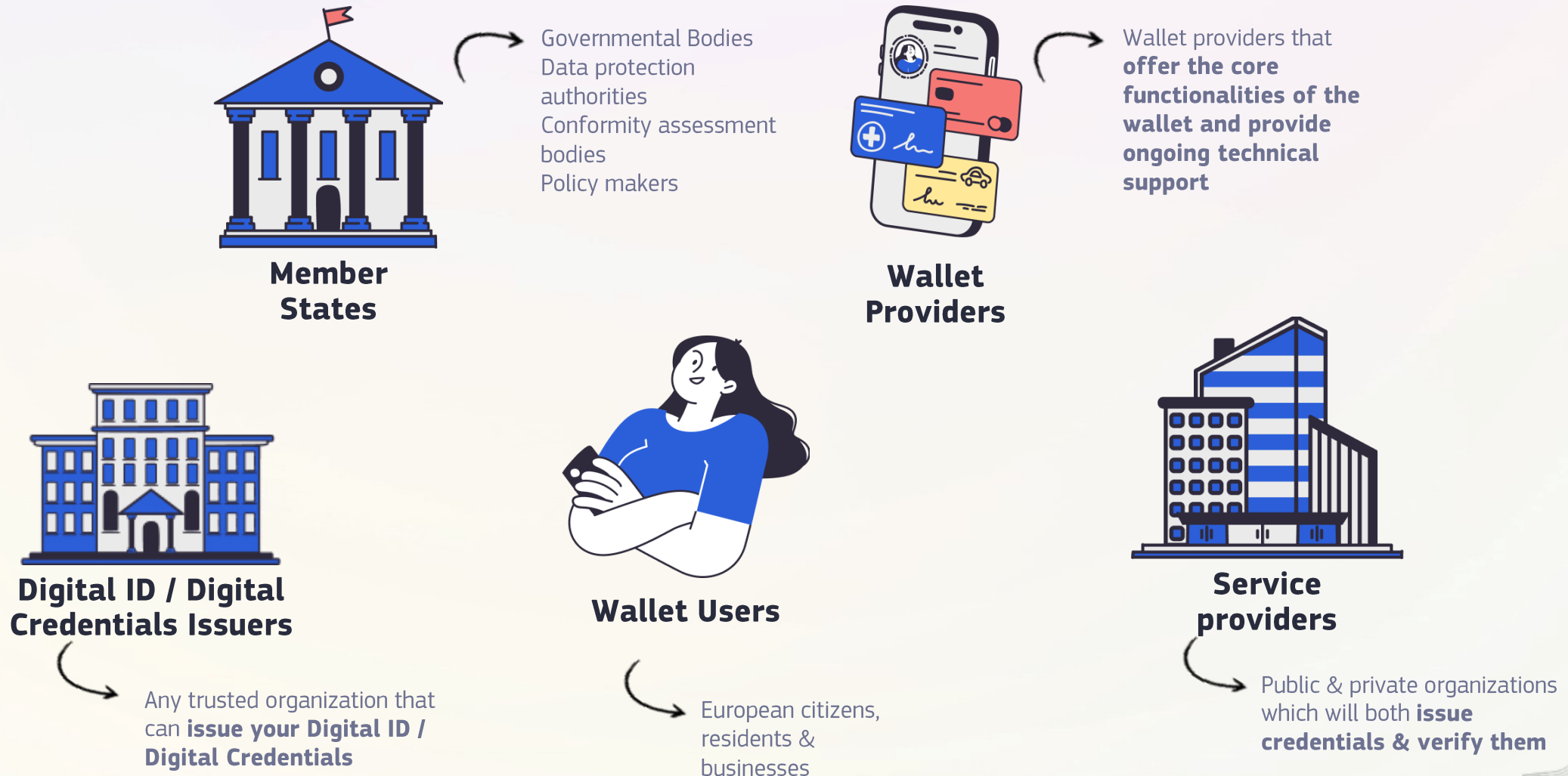
**Consumer accessibility** is driven by regulation and will be **ensured by the Member States** that are obliged to issue at least one wallet.

**Existing eID schemes** at the national level will be reusable for the onboarding of users to the EUDI wallets (see Recital 28, Art. 5a(24) of the EUDI Regulation). Onboarding procedures to be established in Implementing Acts.

# EU Digital Identity Wallet stakeholders

The roles and responsibilities of the parties in the EUDIW ecosystem are outlined in the EUDI Regulation and the ARF.

**Member States**

Governmental Bodies
Data protection authorities
Conformity assessment bodies
Policy makers

**Wallet Providers**

Wallet providers that **offer the core functionalities of the wallet and provide ongoing technical support**

**Digital ID / Digital Credentials Issuers**

Any trusted organization that can **issue your Digital ID / Digital Credentials**

**Wallet Users**

European citizens, residents & businesses

**Service providers**

Public & private organizations which will both **issue credentials & verify them**

# Examples of wallet use cases

**ACCESS GOV SERVICES**

Access digital public services (nationally and across borders) by using your wallet to securely identify and authenticate yourself.

**MOBILE DRIVING LICENCES**

Request a digital version of your driving license. Then always have it ready to share in your wallet.

**EDUCATION**

Never lose the university diploma you worked so hard for again. Easily store and share your most important education credentials.

**HEALTH**

Keep your health close at hand. Identify yourself at your pharmacist's and claim your needed prescriptions with just your wallet.
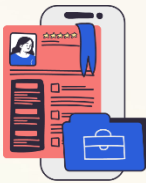
**TRAVEL**

Store and share key travel documents in your wallet. Prove who you are when booking a hotel online, and then easily check-in once you get there.

**ACCESS SOCIAL SECURITY**

Keep tabs on your social security information and use your wallet to access the social security benefits you are entitled to.

**ORGANISATION ID**

Use your wallet to prove who you work for when meeting new and potential clients.

**REGISTER SIM**

Registering a new SIM card just got easier. Your wallet lets you quickly identify yourself.

**OPEN A BANK ACCOUNT**

No need to track down to a bank branch. Verify your identity when opening a new bank account with just your wallet.

**PAYMENTS**

Make your online transactions easier. Use your wallet to identify yourself and authorise payments.

**AGE VERIFICATION**

Your wallet can provide proof of age when requested, without disclosing any information about your identity.

**CONTRACTS**

Your wallet makes business flow. Sign contracts with just your wallet.
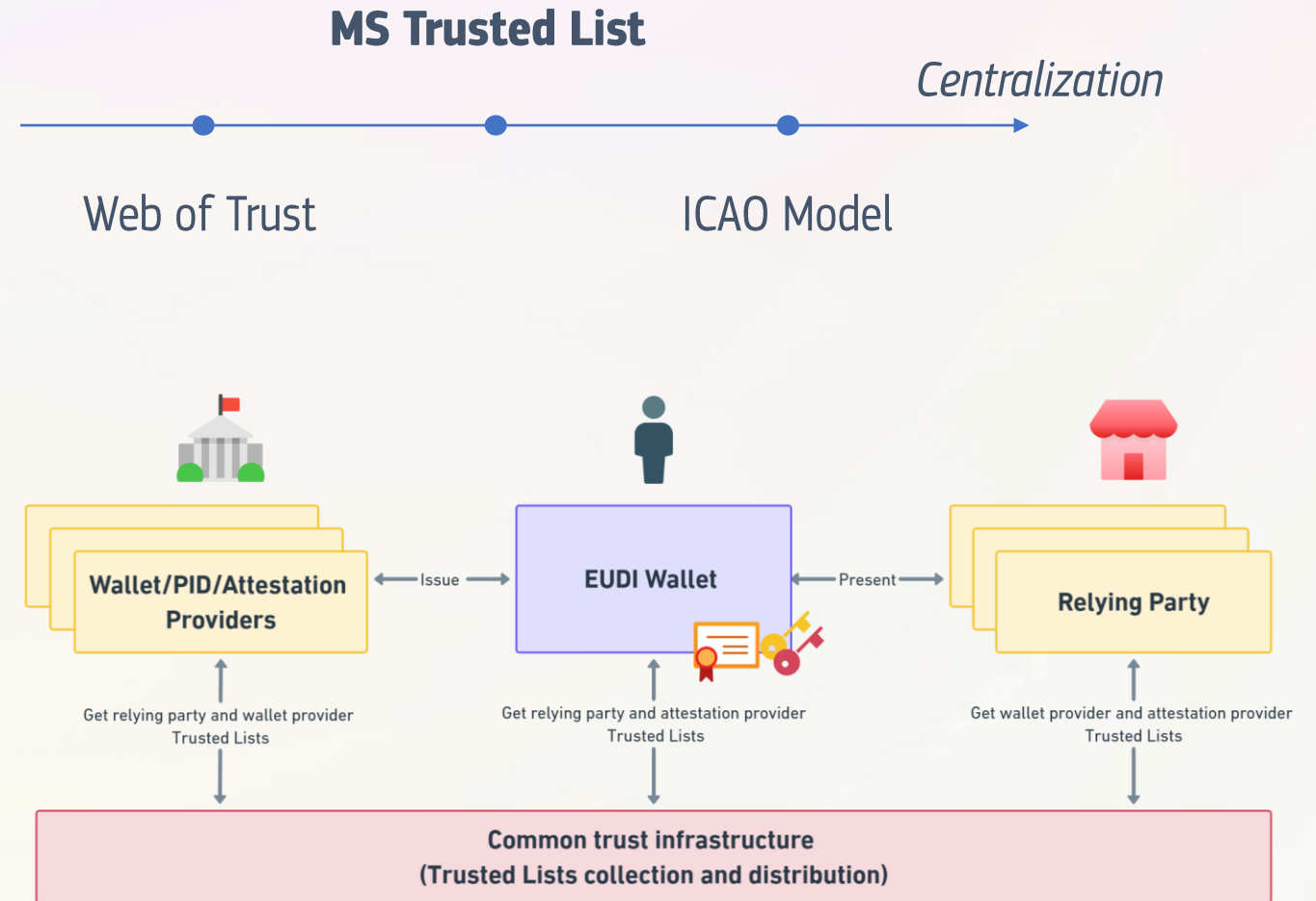
# Demystify EU Digital Identity Wallet

PART II – The EUDI Wallet for experts

# EUDI Wallet Trust Model(s)

**Many models are better than one**

- Support the legacy
- A default model for the common infrastructure, PID and QEAA
- Provide legal value to the identity and signed data, signed by the Issuer and the User
- EAA may support other models based on the rulebook definition

**MS Trusted List**

*Centralization*

Web of Trust                    ICAO Model



Wallet/PID/Attestation Providers ← Issue → EUDI Wallet ← Present → Relying Party

Get relying party and wallet provider Trusted Lists

Get relying party and attestation provider Trusted Lists

Get wallet provider and attestation provider Trusted Lists

**Common trust infrastructure**
**(Trusted Lists collection and distribution)**

# Default Trust Model

## Register to join the game

Each Member State has **two Registrar types**: one registering Certification Authorities on trusted lists, the other identifying Relying Parties and issuing attestations for wallet authentication.

## Obtain and present qualified attestations

Providers issue PIDs or attestations after identifying and authenticating a user. These attestations can be securely presented to relying parties via the user's wallet. Before presentation, the wallet authenticates the relying party by validating its certificate. Finally, the relying party verifies the authenticity of the presented attestation.

## Collect and distribute the trusted list

The trusted lists will be collected and distributed across the Union to enable verification.

The **ARF will provides a detailed description** of the EUDI Wallet ecosystem trust model (see figure).
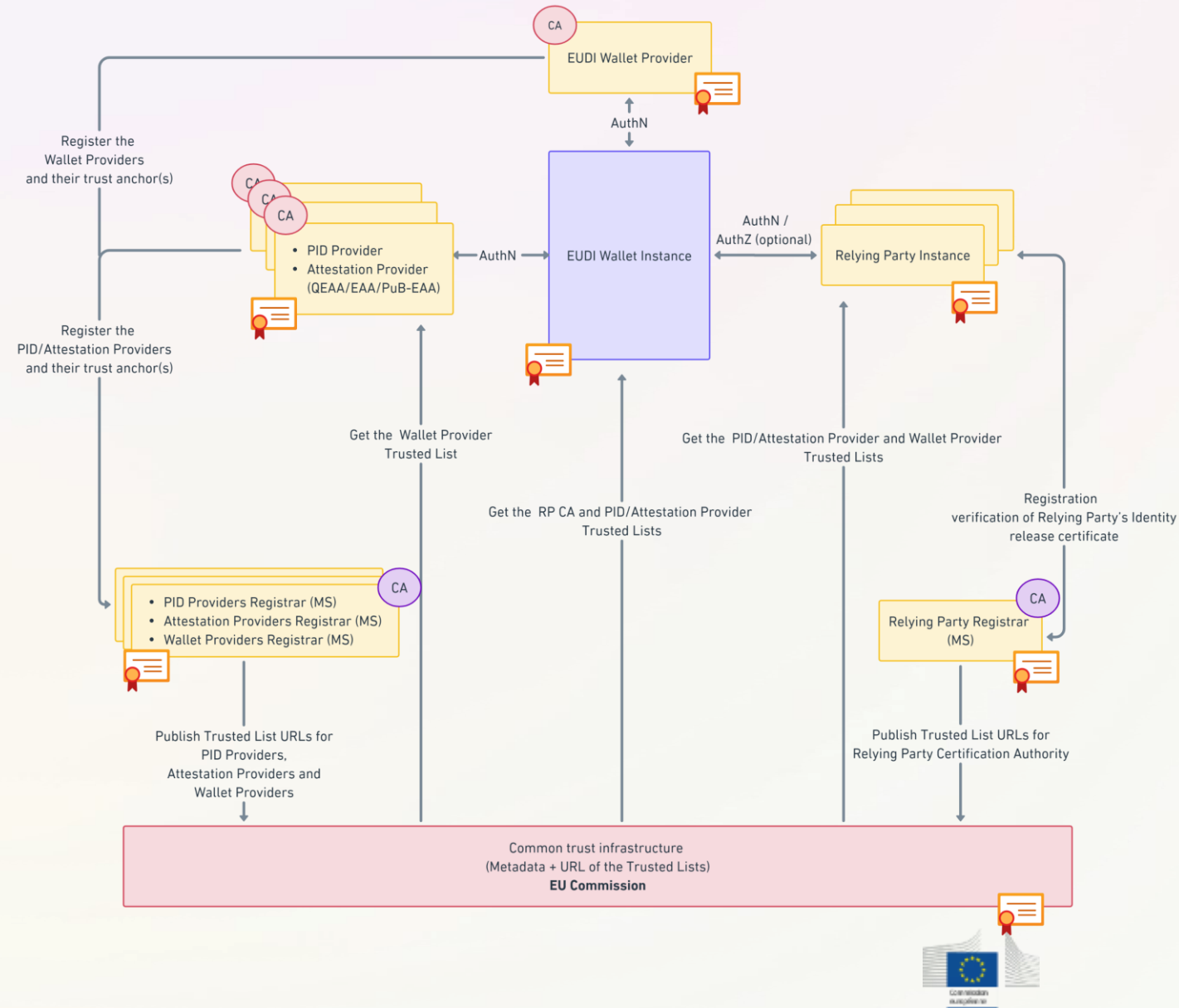
# High Level Architecture

## Components, interfaces and protocols

- High level design architecture for the common requirements

- Attestation Issuance Interface: OpenID4VCI

- Attestation Presentation Interface: OpenID4VP and ISO18013-5

- WSCA/WSCD for crypto assets and functions for LoA High needs to be tamper and duplication proof

- In remote flows will be crucial the interaction with the web browsers and operating systems, it needs to be standardized.



EU Digital Identity Wallet
high level architecture
draft v0.2.4
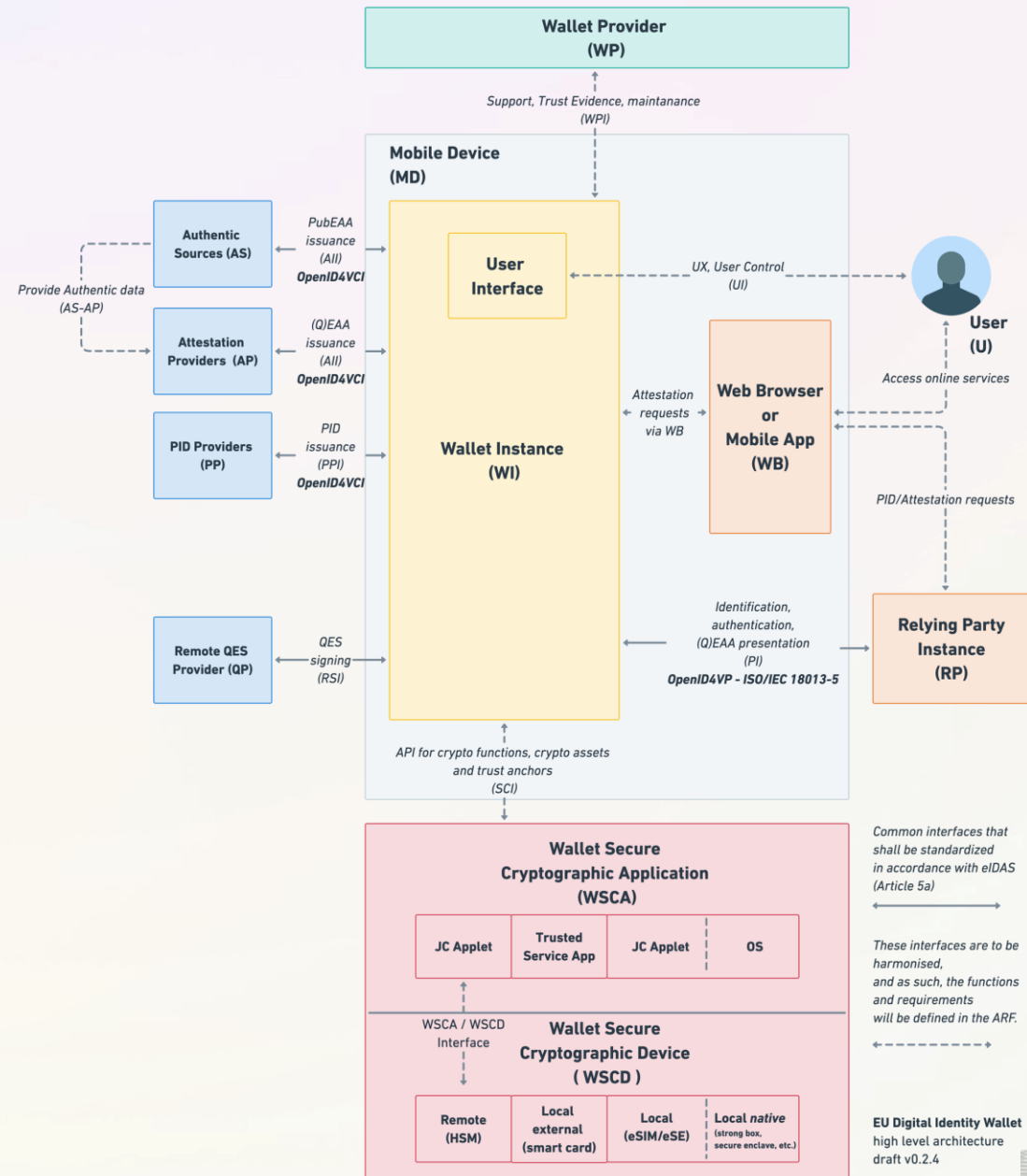
# Security and Privacy (1/2)

The EU Digital Identity Wallet offers the highest degree of security and trustworthiness for identification and authentication for payments, account-opening and other services.

Security and Privacy are **central elements that are being covered in the technical frameworks**. The wallets are anchored in the General Data Protection Regulation (GDPR) and the European Cybersecurity Act.

Wallets will be provided by Member States or by private entities on behalf of Member States. **The EUDI wallets shall be certified by accredited conformity assessment bodies, ensuring that they meet highest standards in security and privacy**.

The wallets inherently incorporate **robust security protocols**, including encryption, multi-factor authentication, and continuous monitoring, which are essential for maintaining a high level of assurance in digital interactions.
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# Security and Privacy (2/2)

By adhering to the European Digital Identity Regulation and leveraging to its framework, wallets ensure that all entities participating in the digital identity ecosystem meet a common set of security standards.

The Wallet empowers users with control over their personal data and the choice of what information to share and with whom (**selective disclosure**).

**User control and transparency** on sharing of data are key elements of the EUDI wallets' design (**privacy-by-design**).

Transparency on data usage is achieved through a **Privacy Dashboard** feature that provides users with complete logs of where they shared data and with whom.

# Demystify EU Digital Identity Wallet

PART III – State of play

# Milestones

**Legislative Process**
Successful regulation adoption and ongoing work on Implementing Acts (IAs)

**Positive EP Vote in February and Council Vote in March**– Final signature expected in the EP Plenary in April and OJ publication expected in May

**Wallet technical specification**
Published ARF 1.3 and working on ARF 1.4

**Published the Architecture Reference Framework (ARF) 1.3**, to be followed by new ARF draft versions to be published on GitHub for public feedback

**Wallet Reference Implementation**
Released first libraries and software components

**Published first release of libraries and software components**, to be followed by regular releases based on feedback from pilots and updates to the ARF

**Large-Scale Pilots**
Approaching 1-year milestones and deliverables

The 4 LSPs are **working towards 1-year milestones and deliverables**

# Wallet Technical Specifications and Reference Implementation

## Wallet Technical Specifications

- The Architecture and Reference Framework represents a set of common standards and technical specifications for the implementation of the wallets

- **The latest version of the document is publicly available on [Github](#)** (version 1.3.0 – February 2024) and is **open for feedback from stakeholders**

- Using the Wallet to authorise payments is one of the key topics under discussion among Member States as part of the eIDAS Expert Group

## Wallet Reference Implementation

- The Commission is providing a reference technical infrastructure to support interoperability and implementation of the EU Digital Identity Framework to be tested in the large scale pilots

- The first open source libraries have been published on Github to demonstrate the feasibility of the specifications, promote standardisation and improve the quality of the wallet through staged public releases

- The Commission will provide support to Member States and other stakeholders in developing, implementing and scaling up the EU Digital Identity Framework

# Large Scale Pilot Overview

Large Scale Pilots are test-driving the EU Digital Identity Wallet

## NOBID CONSORTIUM

A set of Nordic and Baltic countries who, together with Italy and Germany, who are developing a large-scale pilot for the payment use case in the EU Digital Wallet.

# PAYMENTS

## Potential
### For European Digital Identity

Potential is a secure digital ID that will allow citizens to quickly and securely prove their identity as part of their online citizenship procedures.

# MOBILE DRIVING LICENSE

# ACCESS GOV SERVICES

# OPEN BANK ACCOUNT

# HEALTH

# CONTRACTS

# SIM REGISTRATION

## EWC

The EWC aims to harness EU digital identity benefits for Digital Travel Credentials across Member States, building on the Reference Wallet Application for this specific use case.

# PAYMENTS

# TRAVEL

# ORGANISATION ID

## DC4EU

DC4EU supports the education and social security sectors by integrating cutting-edge digital services across Europe within a cross-border trust framework.

# EDUCATION

# SOCIAL SECURITY

# EUDI Wallet Roadmap

| 1999 | 2014 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|------|------|------|------|------|------|------|------|------|

**Legal**
Adoption of electronic signatures directive

**Legal**
Adoption of the eIDAS 1 regulation

**Legal**
Public consultation on eIDAS regulation launched

**Legal**
Public consultation on eIDAS regulation launched

**Legal**
Legislation progresses (EP draft report, toolbox process...)

**Legal**
Legislation trilogues

**Legal**
Legislation adoption; 6-months Implementing Acts published

**Legal**
Commission adopts the recommendation for a common EU toolbox

**Technical**
Technical progress (ARF outline published, common union toolbox...)

**Technical**
Technical progress (ARF publications, LSP kick-off, reference implementation work)

**Technical**
Technical progress (ARF publications, LSPs use cases, reference impl. MVP and following releases published)

**Technical**
First Member States wallets made available

**Technical**
Wallets widely available in all Member States