Member-State Personal Data Interchange

Two Different EU Approaches to Citizen-Centric Transfers

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Digital Europe For All, GLASS-H2020

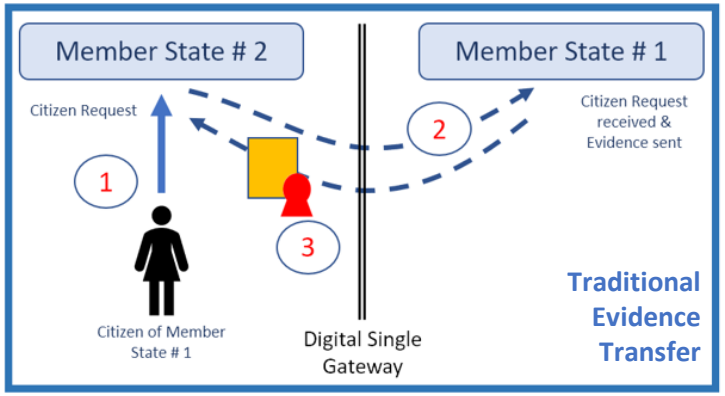
08/07/2022, OID 2022

EU Ambitions

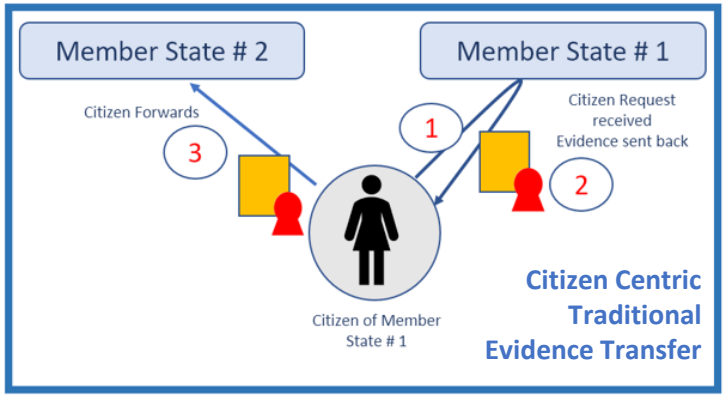
- Citizens should be able to work and live anywhere they wish within the EU with the minimum of effort, but always in control

Two Complimentary Methodologies

- DE4A
  - State Centric via EU Single Digital Gateway
  - DE4A demonstrators and pilots



- GLASS
  - Citizen controlled e-Wallet
  - GLASS Component Toolkit and pilots



Multiple Pilots / Demonstrators

- DE4A - Studying Abroad Pilots (Spain, Portugal, Slovenia)
  - Application for Higher Education
  - Applying for a grant
  - Diploma Recognition
- DE4A – Doing Business Abroad Pilots (Austria, Netherlands, Romania)
  - Registering Companies in another Member State
- DE4A - Moving Abroad Pilots (Luxembourg, Spain, Portugal)
  - Changing Domicile address,
  - Certificates (Civil Status, Birth)

- GLASS – Demonstration Scenarios (Turkey, Greece, Portugal)
  - Moving abroad
  - Visiting abroad temporarily
  - Getting a job abroad

EEMA is responsible for Dissemination and Communications for both DE4A and GLASS

EEMA has also just completed the LOCARD project and is commencing a new cybersecurity project in October

Digital Europe For All

DE4A has received funding from the European Union's Horizon 2020 research and innovation program, under G.A. No. 870635

DE4A Consortium

*DE4A Coordinator

**Linked Third Party

- Funded (H2020) project, 8 M€
- 22 partners from 8 Member States
- Duration: Jan 2020 – Dec 2022

DE4A Digital Europe For All

DE4A Fundamental Principles

1 Subsidiarity & Proportionality The subsidiarity principle requires EU decisions to be taken as closely as possible to the citizen. The proportionality principle limits EU actions to what is necessary to achieve the objectives of the Treaties.	**2 Sustainability** The architecture, the approach and the solutions chosen have to be designed in a way that they will be able to cope with the high and regular usage that is expected for the future.	**3 Openness** The openness principle requires DE4A to use, as far as possible and as long as the requirements are met, open standards or specifications and open source software.
4 Transparency & Accountability Procedures, data flows, interactions, responsibilities, data providers and consumers, are perfectly clear and communicated in an understandable manner. Preservation and non-preservation.	**5 User centricity & empowerment** The user centricity principle requires to put the user and his requirements and needs systematically and truly at the centre.	**6 Equality & Non-discrimination** The equality and non-discrimination principle requires that users have to be treated as equal and that any discrimination shall be prohibited.
7 Security & Trustworthiness The security and trustworthiness principle requires that the architecture and the solutions are designed and implemented using state-of-the-art and interoperable (e.g. eIDAS) security approaches, services and building blocks.	**8 Data protection & Privacy** The data protection principle requires that outmost care and attention be reserved for protecting personal data. The privacy principle requires that the private life, the home and the communications of each citizen are respected – as far as possible by design.	**9 Effectiveness & Efficiency** The effectiveness principle requires that the solution or service really delivers the required result. The efficiency principle requires that the required result is delivered as smoothly, as swiftly and as simply as possible.

DE4A Derived Principles

- **Once-Only Principle (OOP)**
- Digital by Default
- Inclusion & accessibility
- Data control by the user
- Only exchange of structured and authentic evidence that can be automatically and reliably be linked to the right person
- Data minimisation
- Federated, largely decentral OOP technical system
- OOP technical system: an ecosystem relying essentially on open standards, specifications and reusable building blocks
- Authentic sources under the sole control and responsibility of the competent evidence providing authority
- Flexibility and ability to evolve and adapt easily to new needs and technologies
- Reuse before build
- Interoperability
- Mobile first

DE4A Semantic Interoperability

The ability of computer systems to exchange evidence with unambiguous, shared meaning

Meaning

- Ontologies, thesaurus, taxonomies
  (concepts, synonyms, classification)
- Translation

Syntax

- Messages, data & character standards
- Common vocabularies
  (terms, metadata, value domain)

DE4A
Digital Europe For All

DE4A Different Data

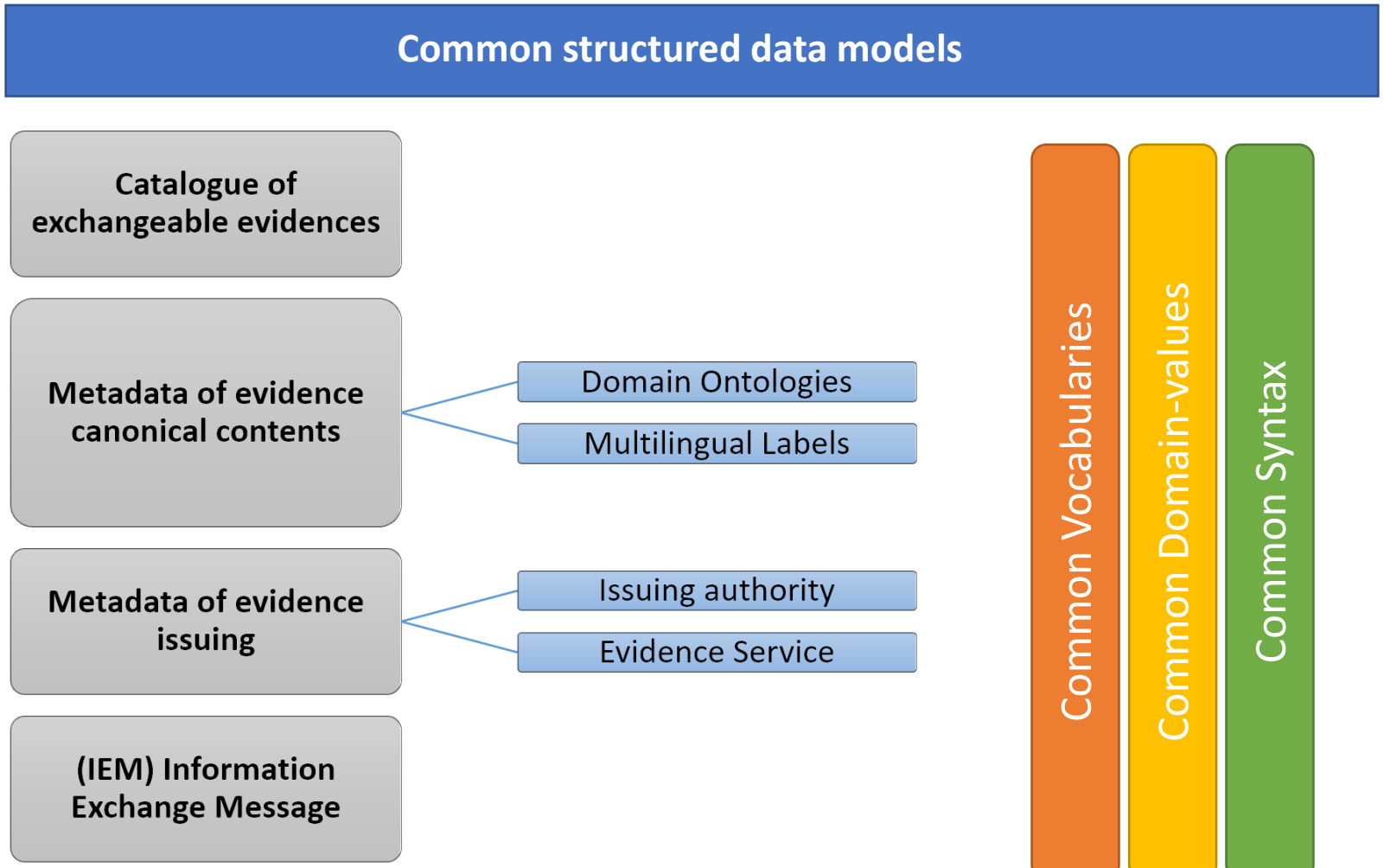
- Data held by public authorities
- Data lawfully issued by competent authorities
- Data shared between public authorities

Evidence issued in an electronic format

- Non-structured data
  (non-machine-readable documents)
- Weak semi-structured data
  (fixed structure of document contents)
- Semi-structured data
  (document metadata as evidence)
- Structured data
- **Lawfully issued in an electronic format for automated exchange (SDG scope)**

Evidence: document or data required by a competent authority to prove facts or compliance with procedural requirements

DE4A Approach



Agreements

GLASS

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 959879

GLASS Consortium

*GLASS Coordinator

- Funded (H2020) project, 4 M€
- 13 partners from 9 Member States
- Duration: Jan 2021 – Dec 2023

GLASS Principles

- Citizens
  - GLASS puts the individual at the heart of controlling their own relationship with government and business

- Business
  - The European Commission considers the 24 million SMEs as the entrepreneurship key to ensuring economic growth, innovation, job creation, and social integration in the EU.

The GLASS Concept

EEMA

Meet Alice !

Glass

GLASS Actors

USER	Main Actor and benefactor of GLASS. USER is a verified Account, who has a unique e-Wallet in GLASS System where they can govern their Evidences by requesting from or issuing to for processes involving digital evidences. A citizen is a USER
Originator	Institutions who are a source of a digital evidence. They process USERs' request for evidence and deliver them to the requestors (USERs). If an Originator has full integration with GLASS System, then it is also a USER and has a unique e-Wallet within GLASS
Consumer	Institutions or individuals who are receiving a digital evidence from GLASS. They may publish a list of required Evidences for their process. In this case USER can download it into their GLASS e-Wallet and gather the required evidences and issue to the Consumer. If a Consumer has full integration with GLASS System, then it is also a USER and has a unique e-Wallet within GLASS

Intermediary	A hybrid Actor, who receives an evidence from USER (Consumer), validates it and either approves or creates a chained evidence attached to the initial evidence (Originator). A notary or a translator professional is a good example of an Intermediary
Proxy	Proxies represent a USER for a predefined period. They are allowed to initiate or track processes on behalf of the initial USER and have access to the granted evidences. A proxy can be a Person (even a relative) or a Corporate
Person	A plain USER who is a unique individual, a citizen or a business professional
Corporate	A professional USER account with more than one USERs have access to a part of their e-Wallets. An authorization hierarchy is created for access grants.
Group	A conceptual USER representing either a department within a corporate or an external conceptual group like hired recruiters or an association. Conceptual Groups are necessary for describing organizational hierarchy and access grants to subsets of evidences of a main e-Wallet

Case	Originator	USER	Consumer
#1	MoDG(EU/Greece)	Alice(EU)	MoJ(EU/Port)
#2	MoDG(EU/Greece)	Konstantinos(EU)	IMM(non-EU)
#3	non-EU	Helin(non-EU)	MoJ(EU/Port), PDM(EU)

Case	Intermediary	Proxy	Person	**Corporate**	**Group**
#1	--	--	Alice, Landowner	PDM, Bank	--
#2	Turkish Translator	Nikos and Kayla	Konstantinos , Nikos, Kayla	--	--
#3	--	--	Helin	PDM	Hired Professionals (by PDM)

Evidences

#	EVIDENCE	Originator		Consumer		Intermediary	
		MoDG	MoJ	IMM	MoJ	MoDG	MoJ
1	Citizen ID	PI		FI	FI		
2	Birth Extract	PI			FI		
3	Passport	PI	FI	FI	FI		
4	Health Insurance / European Insurance Card	PI			PI		
5	Medical History	PI		FI	PI		
6	Valid Stay Authorization		FI	FI	FI		
7	Proof of Income	PI			PI		
8	School Records	PI			PI		
9	Criminal Record	PI	FI		FI		FI
11	Nationality Certificate				PI	PI	
12	Birth Certificate					PI	
13	Proof of Disability	NI		FI			

FI: full integration
PI: partial integration
NI: no integration (to GLASS)

- Evidences are legally binding digital documents either originated by public authorities (ministries, public universities or public institutions), private institutions (banks, universities, companies) or professionals (certified public accountants, notaries, lawyers, sworn translators)
- Digital documents can be verified by their originators (either by square codes, hash codes or digital signatures)
- Evidences may have a validity period
- Evidences are in their owner users' propriety and may be presented permanently or temporarily to third parties by their rightful owners.

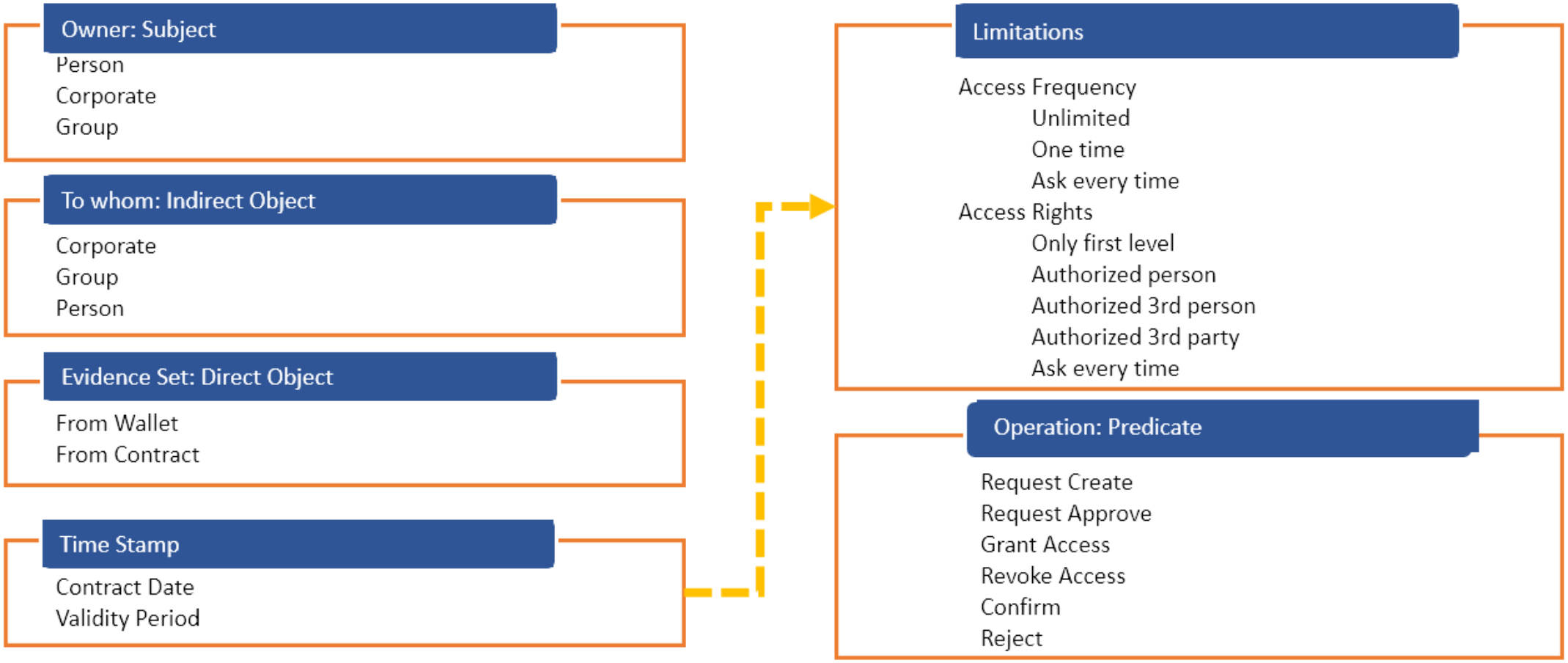
Contracts

- One of the most important part of the GLASS Framework is a Contract
- A contract defines the terms of how an evidence (or a set of evidence) is processed, by whom and how long.
- As a contract is a binding statement, it must be clear and specific. Eventually a created contract is an evidence itself.

For example, a 'Valid Contract' will look like:

Alice (*Owner*), **grants access** (*Operation*), to **PDM** (*To whom*) and their **authorized persons** (*Limitations, Access Rights)* **University Diploma, Passport and Valid Stay Authorization** (*Evidence Set*), for **unlimited times** (*Limitations, Access Frequency*), **starting June 15th, 2021 ending in one month** (*Time Stamp*).

Contract Structure



Glass Technology

- **InterPlanetary File System (IPFS)**
  - IPFS as the backbone file storage of the GLASS model, provides a novel file storage and sharing internal policy, where the files, the information and the generated building blocks of the network are given a unique fingerprint.
- **Distributed Ledger**
  - The GLASS distributed ledger will support the open source, scalable and distributed nature of the network. Ledgers can only be built on Peer-2-Peer decentralized or distributed architectures, thus making it the most suitable mechanism to support our public infrastructure, by ensuring the integrity and validity of all the transactions.
- **Single Sign-on Wallet as a Service (WaaS)**
  - GLASS proposes a multifunctional single sign-on wallet that will provide users with the ability to gather their personal documentation eg. digital ID, digital passport, validated birth certificates, validated marriage certificate, etc.
- **Distributed Application (DAPP) Ecosystem**
  - The ecosystem of DAPPs, libraries, files, reusable smart contracts, piece of software, etc. will be designed, developed and deployed by GLASS stakeholders.
- **Artificial Intelligence Data Schema Transformer**
  - There is a need for high interoperability of all involved in eGovernance model systems. Since the different types of information to be exchanged are not determined beforehand, the definitions of the semantics must change dynamically.

Conclusions

- Cross-Border Interoperability is key to integrating Europe from a citizen's perspective
- There may not be a single pathway to achieving this
- Differing methodologies are being considered to meet citizen's choice and circumstances

Thank You! – Qs ?

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