

# Gaia-X AISBL & Gaia-X Digital Clearing Houses

- Gaia-X Policy Rules Committee
  - Defines a set of policy rules for compliance <https://docs.gaia-x.eu/policy-rules-committee/compliance-document/24.06/>
  - Today: Focus on user requirements towards Cloud Service Providers
- Gaia-X Technical Committee <https://docs.gaia-x.eu/technical-committee/architecture-document/24.04/>
  - Defines the technical “Gaia-X Trust Framework), translating “Policy Rules” to credentials (a validated digital record of provider claims)
  - Validation mechanisms for individual claims (e.g. natural or personal ID)
  - Mechanism to calculate level of compliance (Label Level 1, 2, 3)
  - Provides ”Registry (Schema & Trust Anchors)”, Synchronization and publication services to the set of distributed Gaia-X Digital Clearing Houses (GXDCH)
  - The Gaia-X Trust Framework can be extended by Dataspaces, Industry Domains,...
- Gaia-X Digital Clearinghouses
  - A distributed set of operators running the software provided by the AISBL
  - Gaia-X Digital Clearing Houses (GXDCH) issue Verifiable Credentials (Gaia-X credentials) for service descriptions submitted by a service provider

## Gaia-X Lab

Compliance Registry Notary

1.14.0 1.10.0 1.7.0

UP UP UP

## Aire Networks

Compliance Registry Notary

1.14.0 1.10.0 1.7.0

UP UP UP

## Arsys

Compliance Registry Notary

1.14.0 1.10.0 1.7.0

UP UP UP

## Aruba

Compliance Registry Notary

1.13.2 1.9.6 1.6.3

UP UP UP

## T-Systems

Compliance Registry Notary

1.14.0 1.10.0 1.7.0

UP UP UP

## deltaDAO

Compliance Registry Notary

1.14.0 1.10.0 1.7.0

UP UP UP

## OVHCloud

Compliance Registry Notary

1.14.0 1.10.0 1.7.0

UP UP UP

<https://docs.gaia-x.eu/framework/?tab=clearing-house>

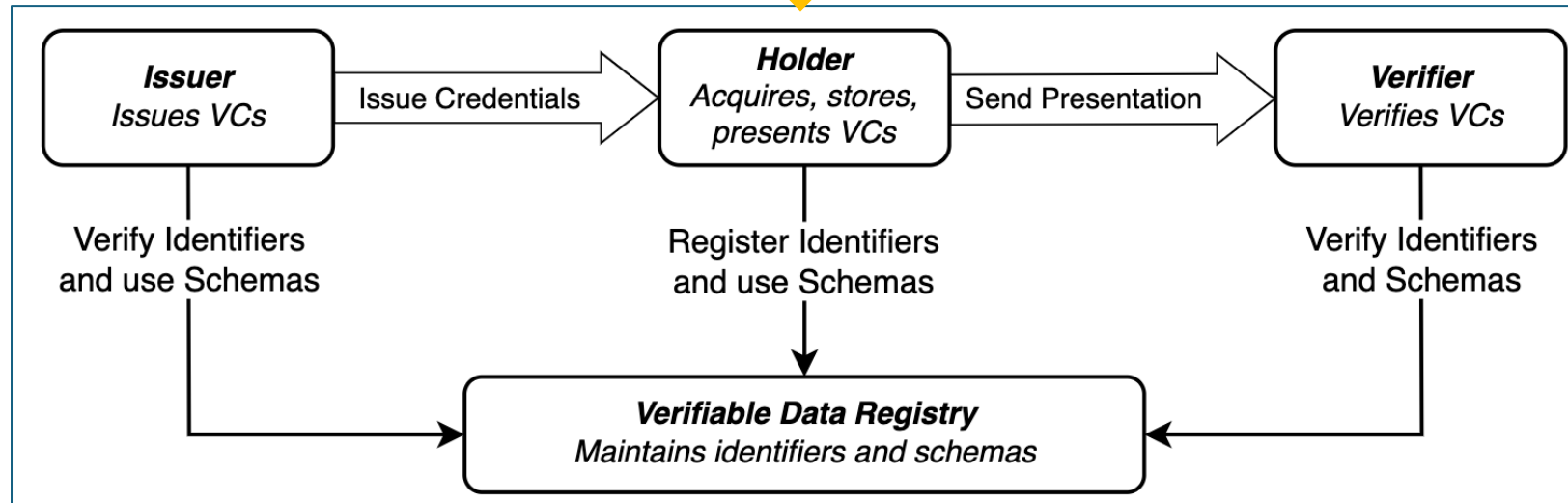
# What's in it for me as SME

- As a user of Cloud Infrastructure
  - I can select from a catalogue of services where the (infrastructure) service providers have declared adherence to the Gaia-X compliance document
  - Transparency on Identity, Location of service, adherence to EU regulation (GDPR, Interoperability, Portability, Cybersecurity...)
- As a participant in a Dataspace
  - I can validate my Identity (as natural person or legal entity) and claim compliance to the criteria of the compliance document
    - → this is a common (although not always comprehensive requirement to join a Dataspace)
  - Negotiating Data Exchange with my Business Partner
    - The validated claims can be used in the individual negotiation for data sharing transactions
- As a provider of services
  - The Gaia-X credential proofs to others that I am compliant to the policy rules

# W3C Verifiable Credentials

(decentralized validation and verification of claims)

That's you as a provider



GXDCH  
Issuing the  
Gaia-X  
credential  
(confirming  
your  
compliance)

The “Schema” (the template we use to describe yourself and your services)

And the “Trust Anchors” which can validate your claims

As a user you check catalogues for available Gaia-X credentials and/or ask the GXDCH for validation of the the holder (service provider) credentials

# Gaia-X Compliance Document

- The Gaia-X compliance Document defines 68 criteria for Cloud Service Providers to ensure adherence to EU regulation (and 6 criteria for Data Exchange Services) and has identified “permissible Standards” that can be used as attestation to compliance (e.g. ISO 27.000, C5, SecNumCloud, TISAX, various CoC...)
  - → scope of current GXDCH
- It does not contain ecosystem specific schema, trust anchor and compliance mechanisms
- Extensions are described in the Architecture Document  
<https://docs.gaia-x.eu/technical-committee/architecture-document/24.04/>

# The Analogue World

# A/D Conversion by PRC / Domain / Ecosystem

# Digital representation and codification PRC / Domain / Ecosystem

# Participant

Different Governance Levels

Ecosystem Extensions  
(e.g. commercial agreements)



Domain Extensions  
Regulation/Standards



(Regional)  
Legislation/Regulation



- Domain Standards

↑  
*extension*

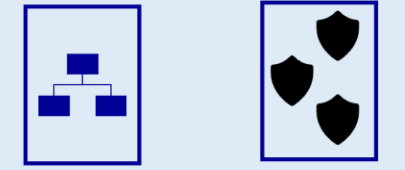
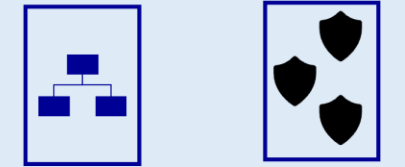
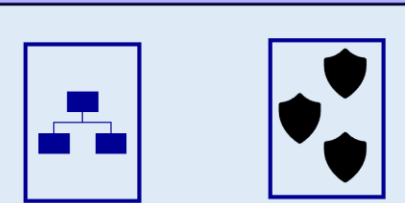


- Domain Standards
- (e.g. Manufacturing, health....)

↑  
*extension*



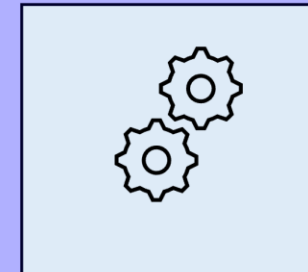
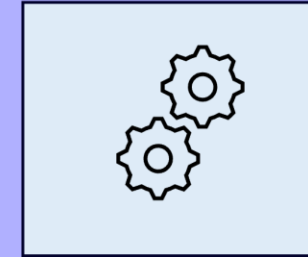
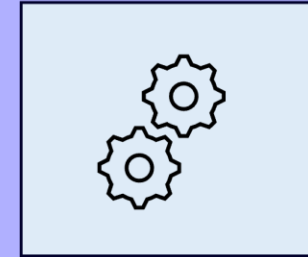
- High level objectives
- Criteria
- Possible validations
- **Gaia-X: PRC Document**



*Schema*  
W3C  
RDF

*List of Trust Anchors*

Registry Services



Compliance Services

*e.g. compliant to specific ecosystem*

Digitally Signed attestation

*e.g. compliant to health regulation*

Digitally Signed attestation

*Label*

*Gaia-X Credential*

Digitally Signed attestation

Translation to specific criteria

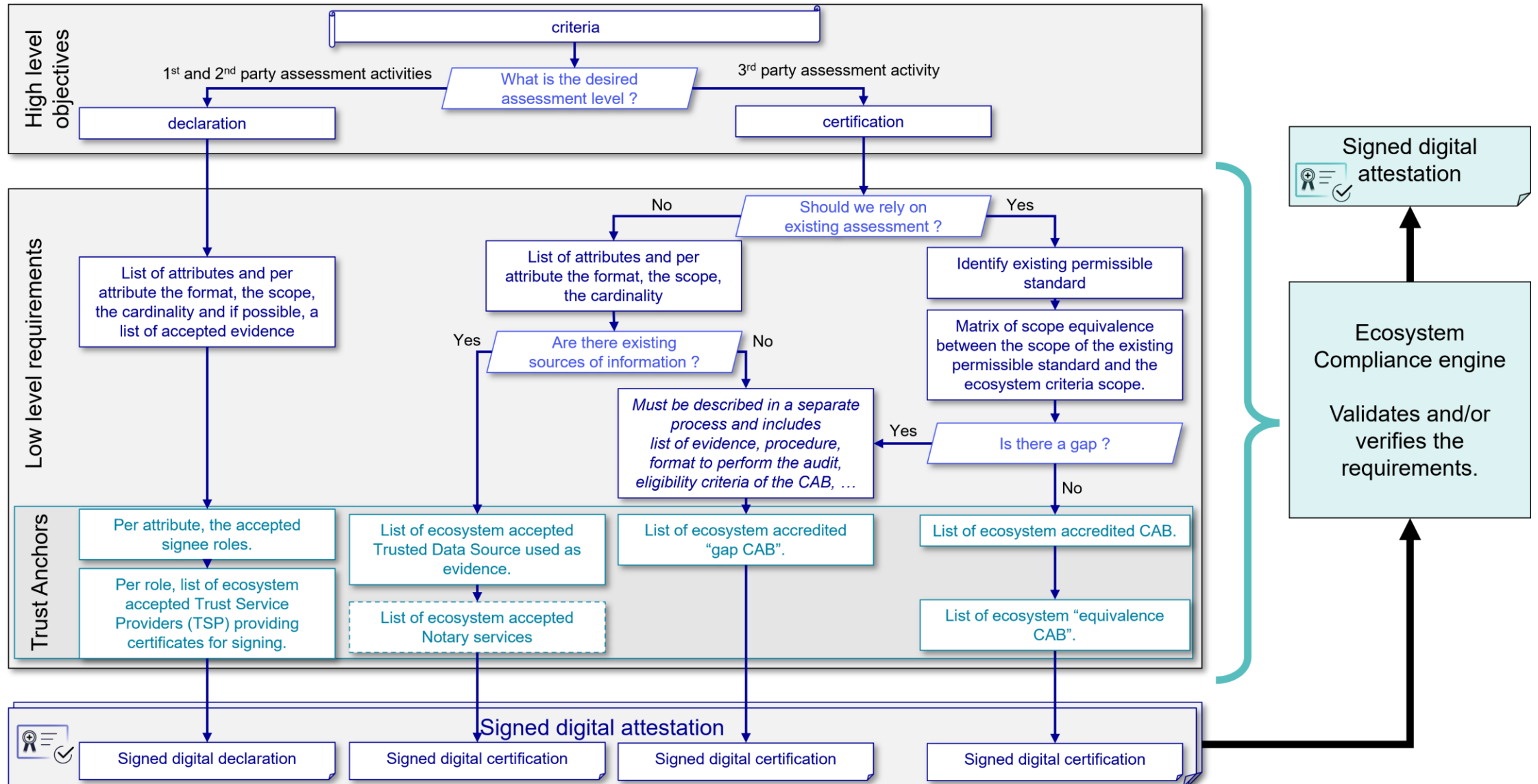
Analogue Rules

Trust Protocol

Digital Trust Framework

Digital representation of Identity or Service Offering

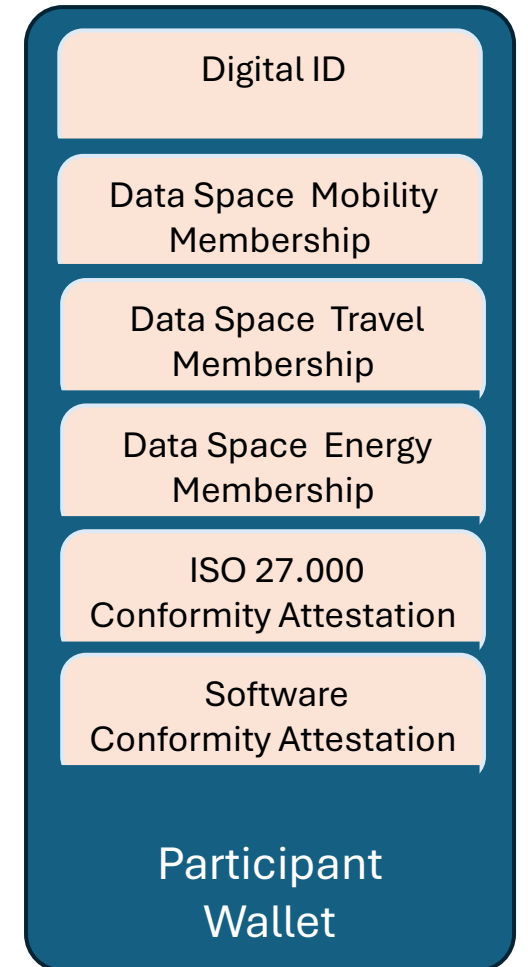
# Translate of ISO 17.000 (CASCO) to VC



# A collection of credentials in a Participant Wallet

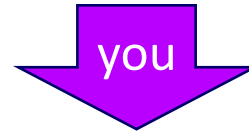


- Can act as a “membership card” to various Data Spaces
- Provides proof of Identity and compliance to rules set
  - By the Gaia-X Digital Clearing House
  - By Ecosystem specific services using the Gaia-X Trust Framework to issue own membership or compliance credentials
- Can be used for individual Contract Negotiation within the **Dataspace Protocol** takes place between participants
  - To validate claims





# Federation of Ecosystems



**Participants** offer and/or consume services based on individual negotiation and proof of conformity to the ecosystem rules they connect to

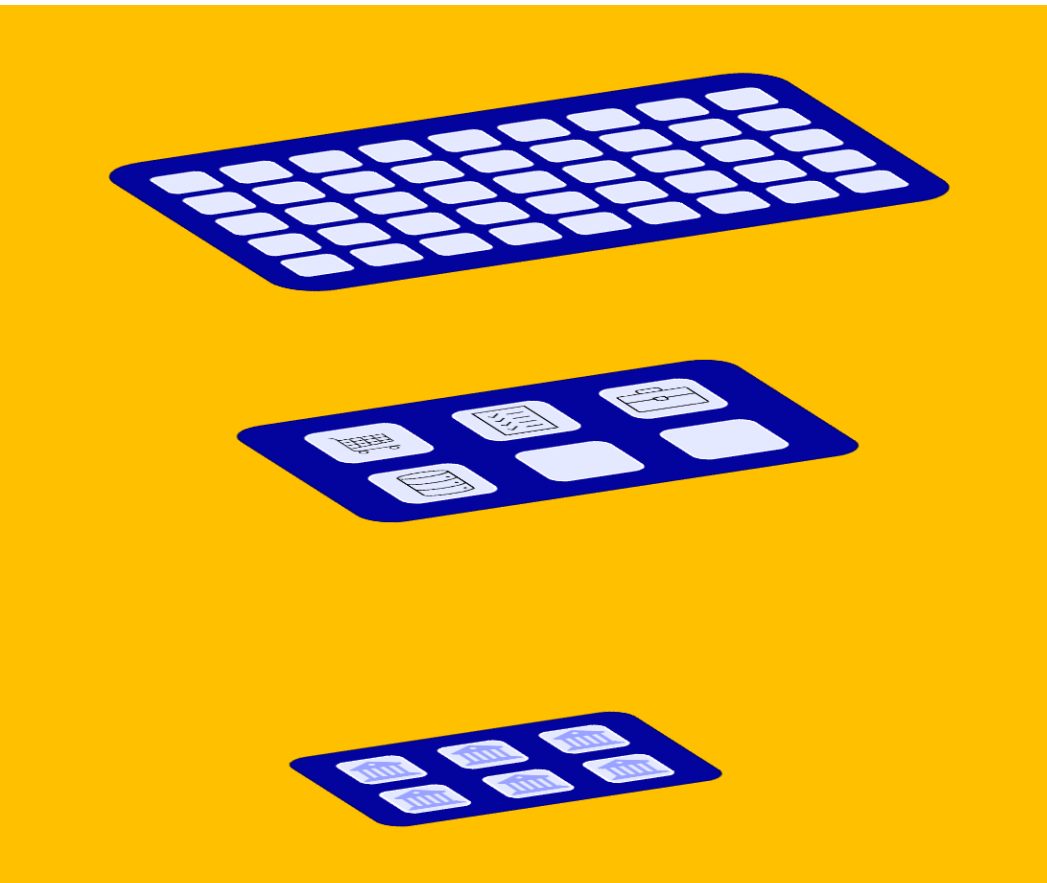
**Ecosystem Operators** can provide services to participants across different ecosystems if they adhere to the compliance rules of (all) the respective ecosystem

**Trust Service Providers (TSP)** can provide services for multiple Ecosystem Governance Authorities (EGA) and to Participants from multiple eco-systems, based on the agreed definitions of the EGAs. TSPs can define trust relationships between each other

**Ecosystem Governance Authorities** can agree on common Policy Rules, Schemas and Trust Anchors and Compliance rules

- Rules applicable to all eco-systems of a particular ecosystem
- Individual agreements between ecosystems

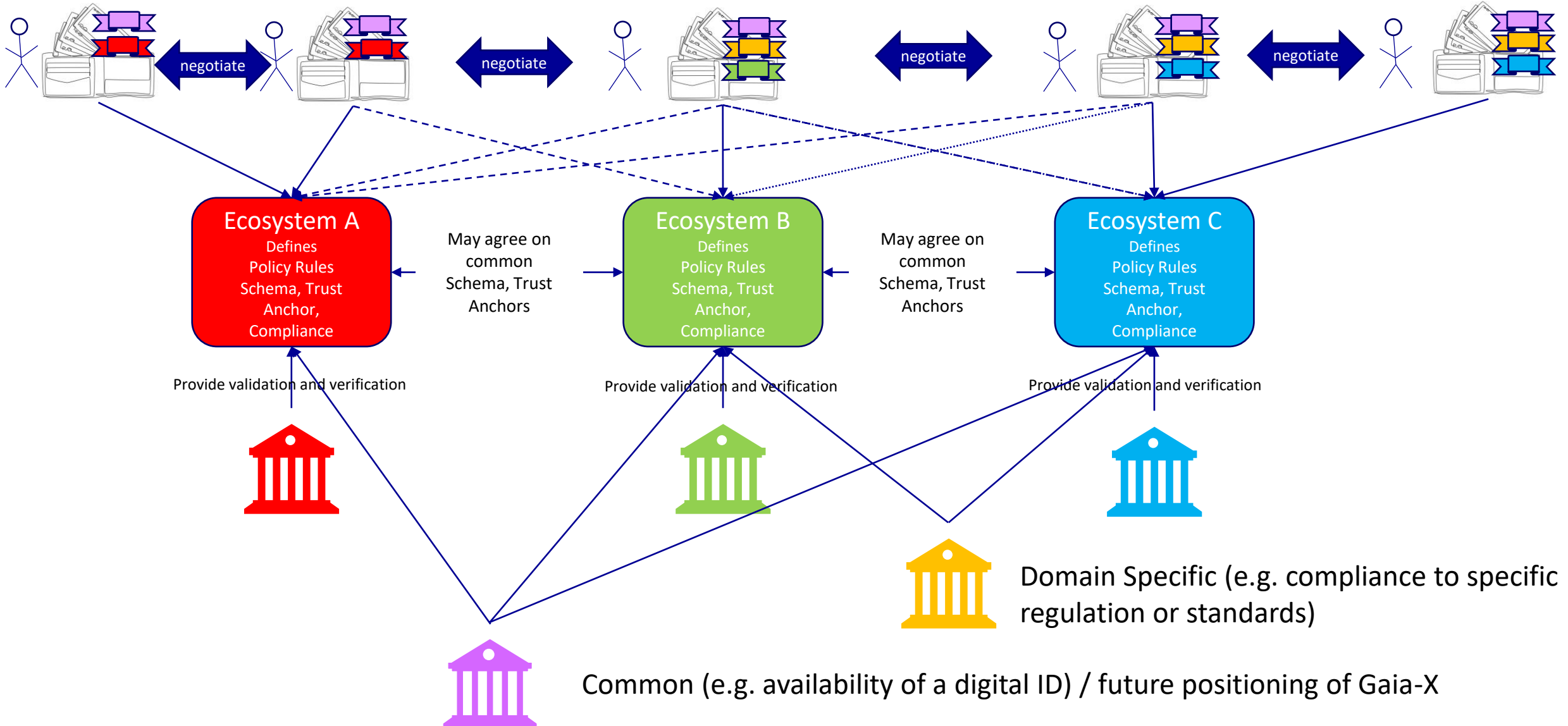
These definitions are modular and extensible



# Ecosystem Federation

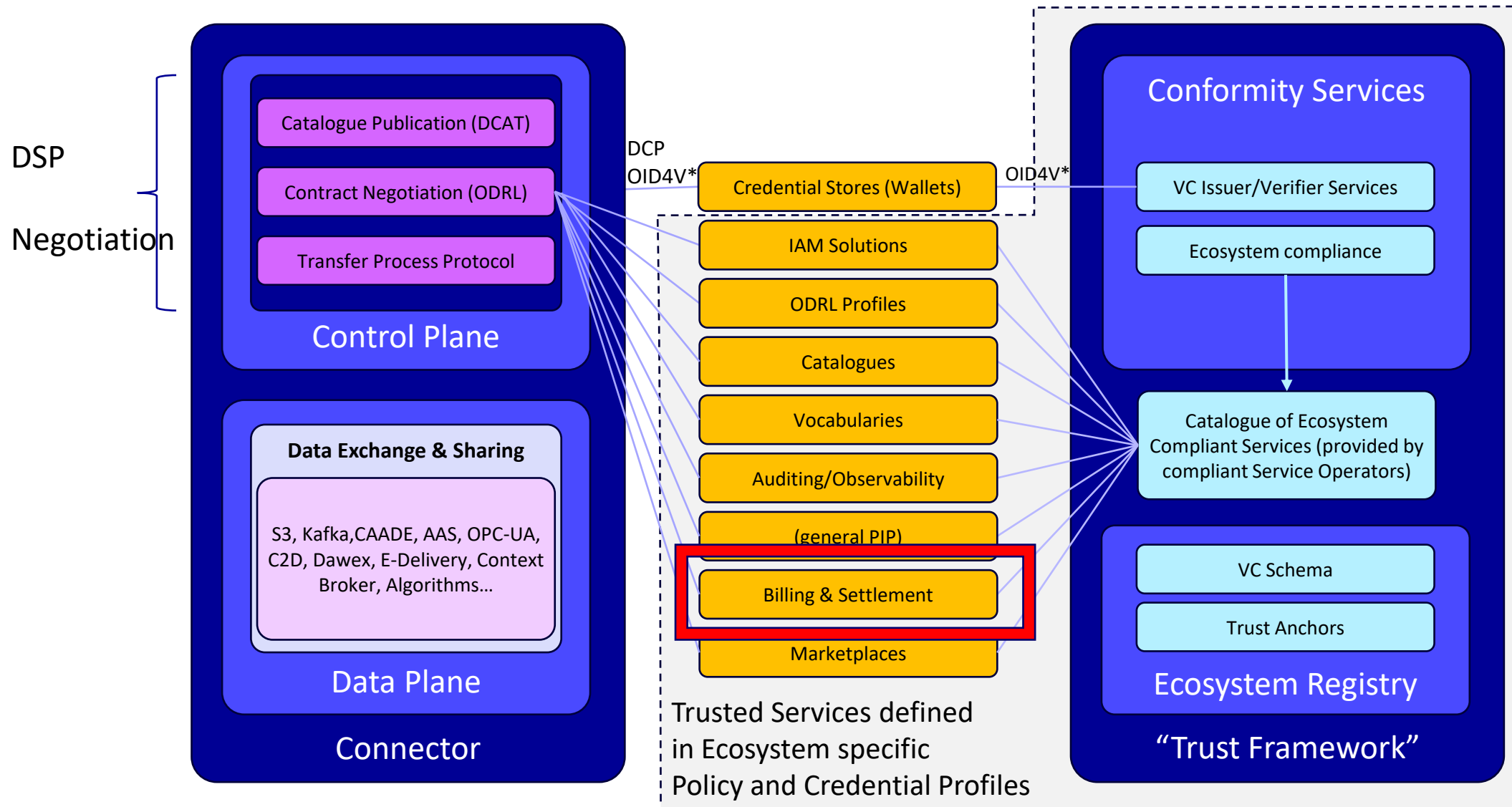


- Fulfills all ecosystem requirements
- Fulfills requirements agreed between two ecosystems
- Fulfills only global requirements



# Dataspace Connector

## Evolution of Dataspace Protocol & Integration of Trust Framework



# Eviden "financial" Clearinghouse for Data Spaces: How does it work?

## Different steps of the Clearing House

### BEFORE sharing data

#### Establishing data products and services:

- Which services and products do I want to make available to data consumers?

#### Establishing contract templates and usage policies:

- Which boundaries and policies do I want to enforce for the use of the data that is offered by the data provider?

#### Establishing contracts between data consumer and data provider

- Who can use the data and for which purposes? What are the payment conditions?

#### Clearing the data transaction

- Verify whether a data consumer can be allowed to receive the data

### DURING sharing data

#### Logging of the data transaction metadata

#### Monitoring and reporting of data transaction

#### Settlement of the data transaction

- Based on administered distribution model
- Create revenue lines for distribution of payment to all necessary stakeholders

### AFTER sharing data

#### Payment

- Online
- Prepaid wallet
- Postpaid

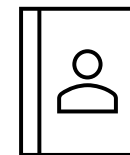
#### Billing & invoicing

- Send invoices (regular, selfbilling, third party, receipt note, ...) to all necessary stakeholders

# Clearing Houses... ;-)



IDSA Clearinghouse	Gaia-X Clearinghouse	Eviden Clearinghouse
Now:  Observability, Logging of Data Transactions	Issuance of Gaia-X credentials	Management of financial transactions resulting from the Exchange of data (currently implemented with Athumi in BE)



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