Gaia-X Hackathon #3

Intermediate Results Day 1

Agenda

gaia-x

01 Hackathon Statistics

02 Service & Tool Support Track

03 GXFS Track

04 ACME Track

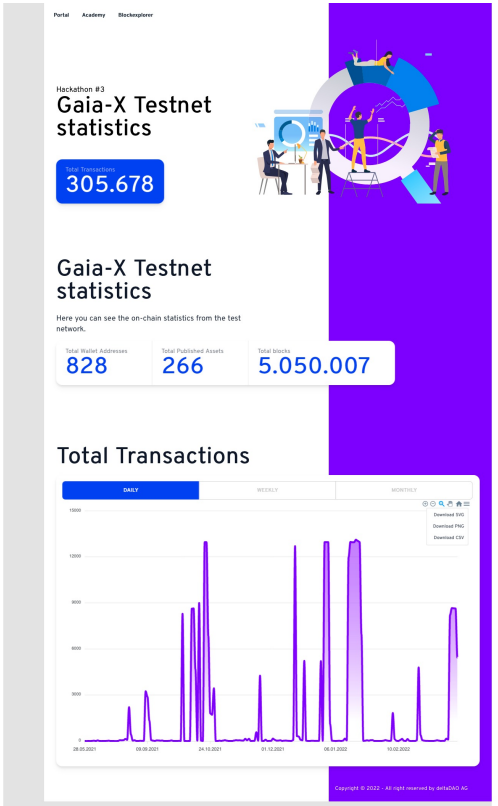
05 Eclipse Dataspace Connector Track

06 Deployment / Minimal Viable Gaia-X Track

01

Hackathon Statistics

Hackathon Statistics Minimal Viable Gaia-X



https://stats.minimal-gaia-x.eu/

May 2021 – March 2022

Total Transactions
314.087

Hackathon 3
4622 Transactions
94 Gaia-X Participant Credentials issued

Total Wallet Addresses	Total Published Assets	Total blocks
1.008	266	5.071.189

Repositories

https://github.com/deltaDAO/gaia-x-testnet-statistics-api
https://github.com/deltaDAO/gaia-x-testnet-statistics
https://github.com/deltaDAO/gaia-x-snapshot

gaia-x

02

Hack Track 2:
Service & Tool Support Track

Fraunhofer FIT

dNation DevOps Nation

walt.id

deltaDAO

ocean

Hack Track 2 sessions

gaia-x

01 Onboarding Session Track 2 (presentation)

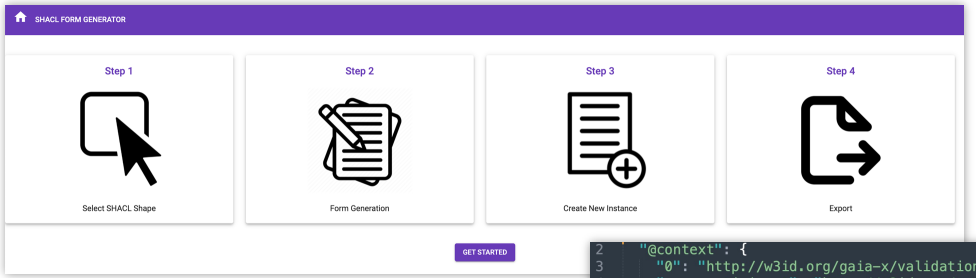
02 SD Toolkit

03 Guided Deployment of Trust Components (Verifier, Wallet, Issuer) (presentation)

04 Utilize Hyperledger Aries for SD-Trust Issuance

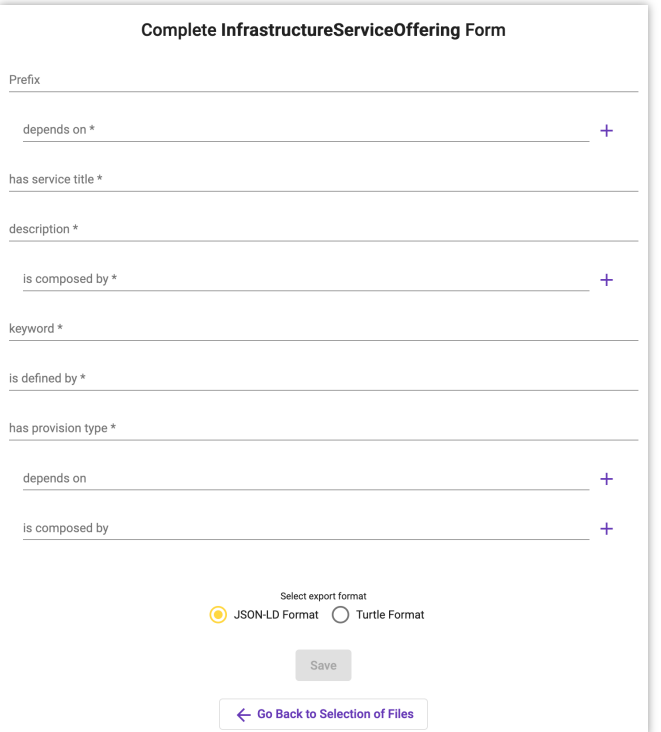
Self-Description Toolkit / SHACL Form Generator

- Introduction and Demonstration of the Self-Description creation and validation UI

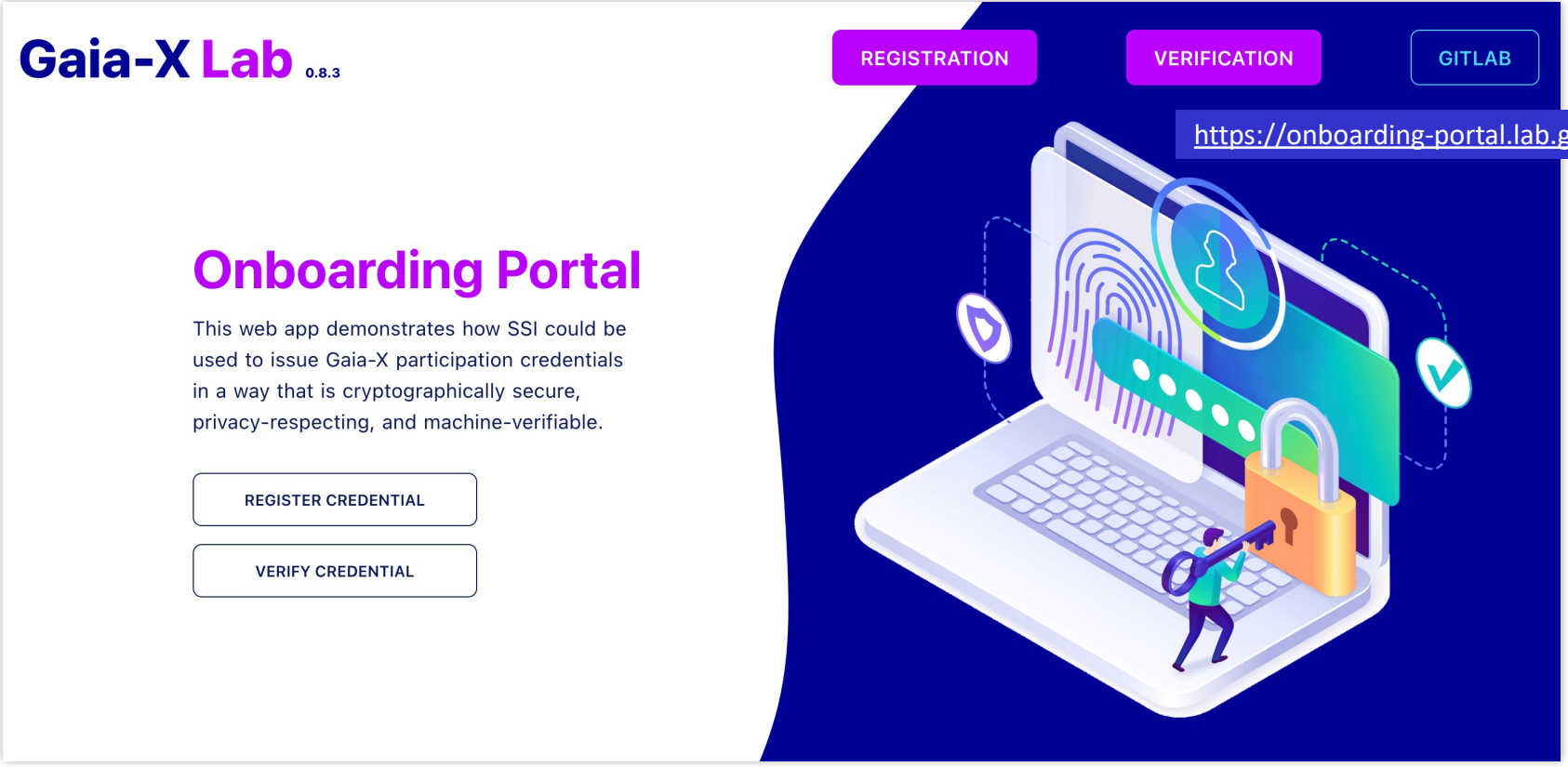


https://gaia-x.fit.fraunhofer.de/


```
{
  "@context": {
    "0": "http://w3id.org/gaia-x/validation#",
    "gax-participant": "http://w3id.org/gaia-x/participant#",
    "sh": "http://www.w3.org/ns/shacl#",
    "xsd": "http://www.w3.org/2001/XMLSchema#",
    "vcard": "http://www.w3.org/2006/vcard/ns#",
    "gax-core": "http://w3id.org/gaia-x/core#"
  },
  "@id": "http://example.org/participant-dp6gtq7i75lmk9p4j2tfg",
  "@type": "gax-participant:participant",
  "gax-participant:hasRegistrationNumber": {
    "@value": "DEK1101R.HRB170364",
    "@type": "xsd:string"
  },
  "gax-participant:hasLegallyBindingName": {
    "@value": "deltaDAO AG",
    "@type": "xsd:string"
  },
  "gax-participant:hasJurisdiction": {
    "@value": "GER",
    "@type": "xsd:string"
  },
  "gax-participant:hasCountry": {
    "@value": "GER",
    "@type": "xsd:string"
  },
  "gax-participant:leiCode": {
    "@value": "391200FJBNU0YW987L26",
    "@type": "xsd:string"
```

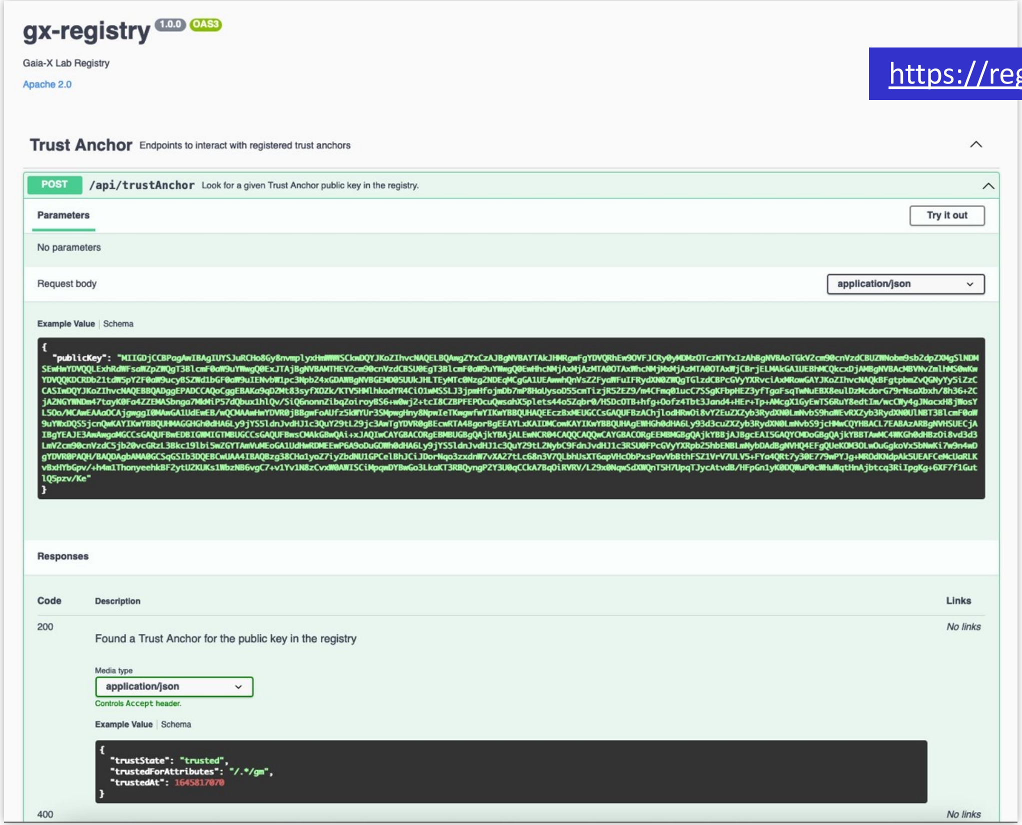



Gaia-X Lab Portal / Gaia-X Verifiable Credentials



Gaia-X Lab / Gaia-X Registry now available

gaia-x

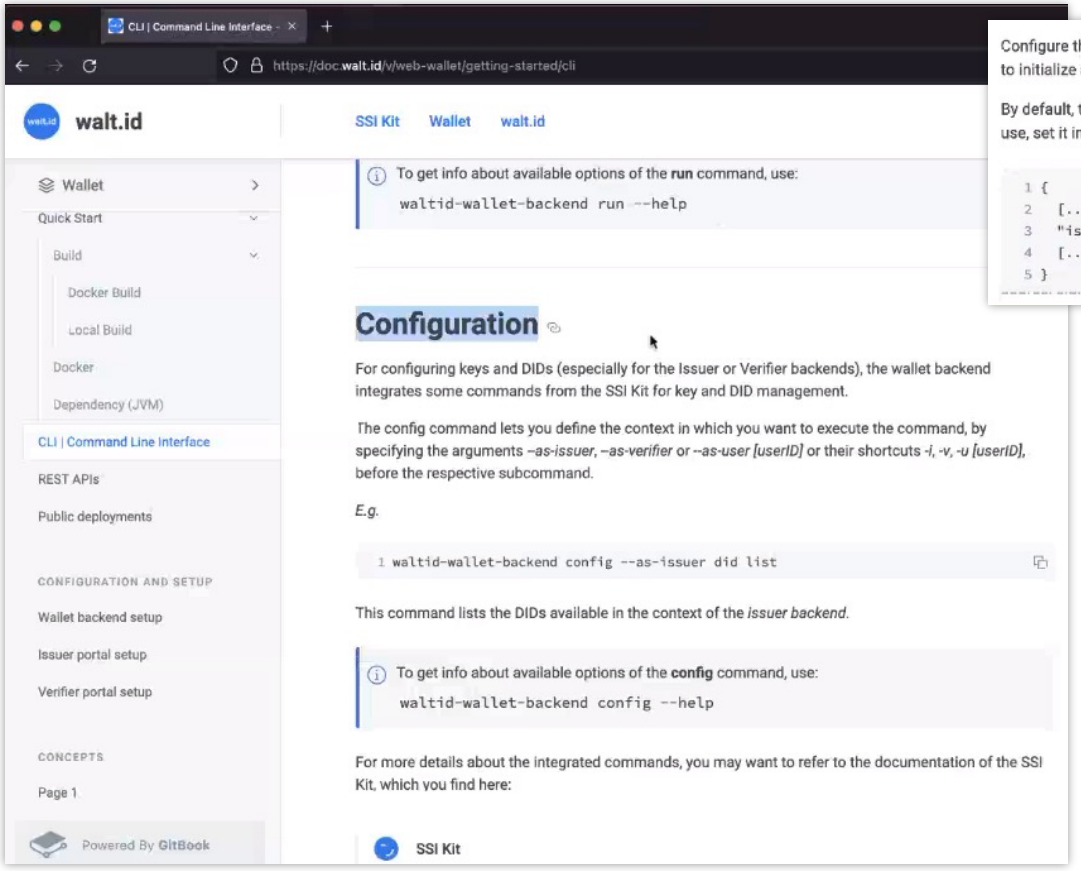


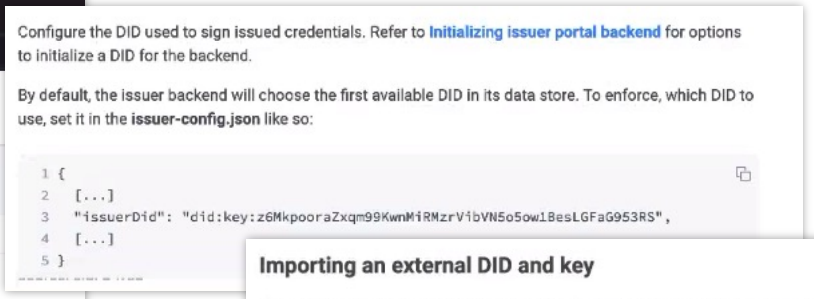
https://registry.gaia-x.eu/api-docs/#/Trust%20Anchor/post_api_trustAnchor

3. List of defined trust anchors

Name	Defined as
State	The Trust Service Providers (TSP) must be a state validated identity issuer. - For `participant`, if the `legalAddress.country` is in EEA, the TSP must be **eIDAS** compliant. - Until end of 2022 Q1, to ease the onboarding and adoption this framework **DV SSL** can also be used. - **Gaia-X** association is also a valid TSP for Gaia-X association members.
eiDAS	Issuers of Qualified Certificate for Electronic Signature as defined in eIDAS Regulation (EU) No 910/2014 (homepage: https://esignature.ec.europa.eu/efda/tl-browser/#/screen/home) (machine: https://ec.europa.eu/tools/lotl/eu-lotl.xml)
DV SSL	Domain Validated (DV) Secure Sockets Layer (SSL) certificate issuers are considered to be temporarily valid Trust Service Providers. (homepage: https://wiki.mozilla.org/CA/Included_Certificates) (machine: https://ccadb-public.secure.force.com/mozilla/IncludedCACertificateReportPEMCSV)
Gaia-X	*To be defined after 2022Q1.*
EDPB CoC	List of Code of Conduct approved by the EDBP (homepage: https://edpb.europa.eu/our-work-tools/documents/our-documents_fr?f%5B0%5D=all_publication_type%3A61&f%5B1%5D=all_topics%3A125)
gleif	List of registered LEI issuers. (homepage: https://www.gleif.org/en/about-lei/get-an-lei-find-lei-issuing-organizations) (machine: https://api.gleif.org/api/v1/registration-authorities)

Guided Deployment of Trust & Compliance Services





Walt.id Quick Start
https://doc.walt.id/getting-started/quick-start

Walt.id SSI KIT Documentation
https://docs.walt.id/ssikit/

Documentation Wallet https://doc.walt.id/v/web-wallet/getting-started/quick-start

Gaia-X Lab Repositories and Documentation

- **Repositories**
  - Demonstration Portal: https://gitlab.com/gaia-x/lab/compliance/gx-issuer-portal
  - Demonstration Verifiable Credential Issuer: https://gitlab.com/gaia-x/lab/compliance/ssi-backends
  - Demonstration Verifiable Credential Verifier: https://gitlab.com/gaia-x/lab/compliance/ssi-backends
  - Demonstration Cloud Wallet: https://gitlab.com/gaia-x/lab/compliance/ssi-backends
  - SSI backend: https://github.com/walt-id/waltid-wallet-backend
  - Demonstration Verifiable Credential Library: https://github.com/walt-id/waltid-ssikit-vclib/tree/master/src/main/kotlin/id/walt/vclib/credentials/gaiax
- **Documentation**
  - Gaia-X Trust Framework: https://gaia-x.gitlab.io/policy-rules-committee/trust-framework/
  - Walt.id SSI KIT Documentation: https://docs.walt.id/ssikit/

Hyperledger Aries Cloud Agent for SD-Trust Issuance

- **What is done**:

https://gitlab.com/gaia-x/gaia-x-community/gx-hackathon/gx-aries-kit

  - Introductory manuals for issuing and verifying VC with Hyperledger Aries
  - User friendly CLI tool that is able to issue and verify VC using Hyperledger Aries as a backend

- **What needs to be done:**
  - Minor CLI tool improvements
  - Test CLI tool with real SD schemas

gaia-x

06

Hack Track 6:
Deployment / Minimal Viable Gaia-X

dNation DevOps Nation

vmware

deltaDAO

THREEFOLDTECH

ocean

IONOS

Hack Track 6 sessions

gaia-x

01 Onboarding Session Track 6 (presentation)

02 Bootstrapping a Minimal Viable Gaia-X ecosystem (presentation)

03 Bootstrapping a Structura-X ecosystem (presentation)

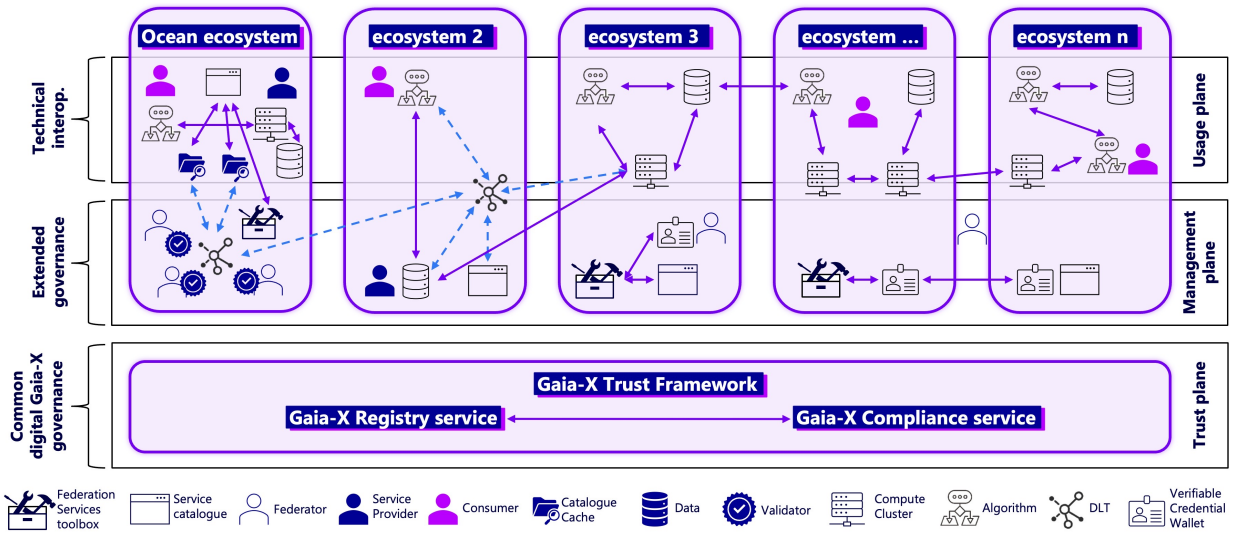
04 Self-Description of MVG infrastructure and service offerings (Federators, Providers) (presentation)

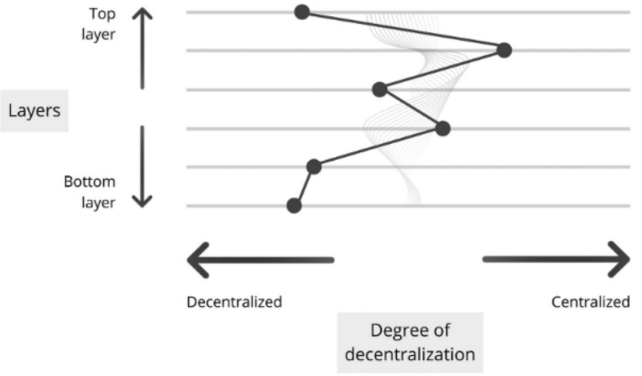
05 Rapid Cloud-Agnostic Deployment of Federation Services (presentation)

06 Pilot-005 deployment and integration of the authorization provider

Bootstrapping a decentralized Gaia-X Ecosystem

Federation of interoperable autonomous Gaia-X ecosystems

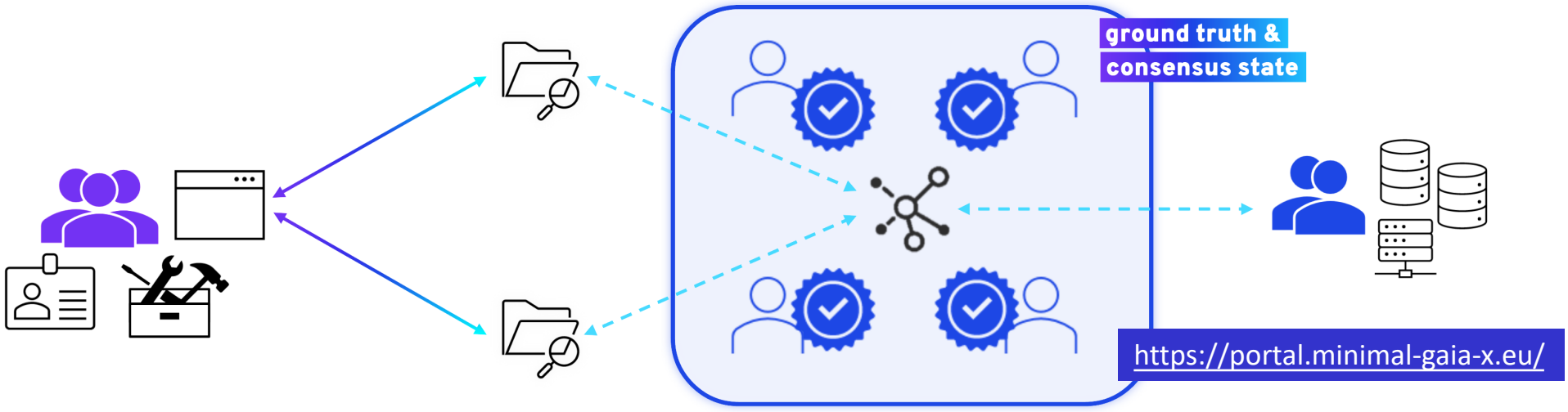




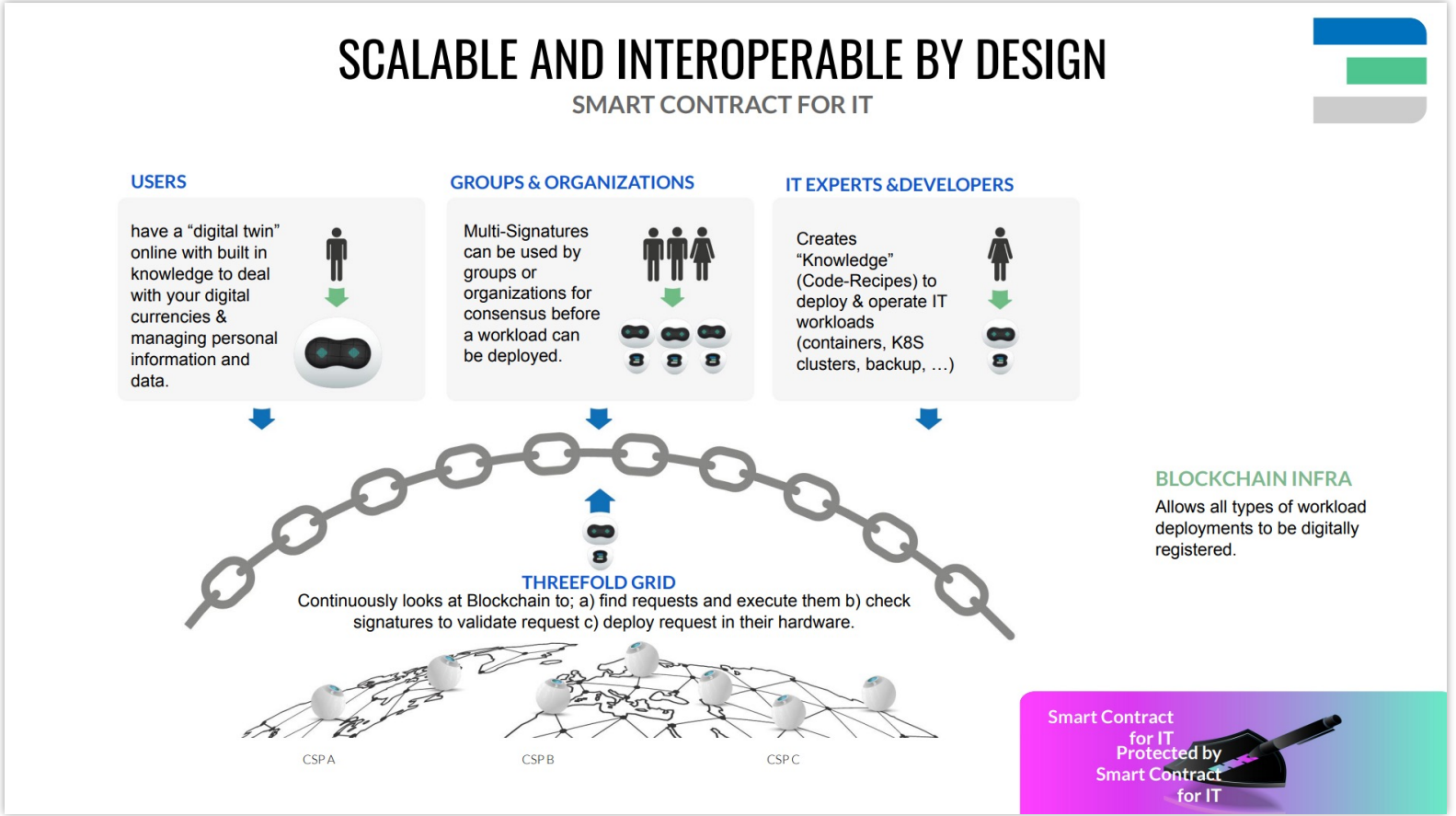
© Thibault Schrepel, Blockchain + Antitrust

https://portal.minimal-gaia-x.eu/

Bootstrapping a decentralized Gaia-X Ecosystem



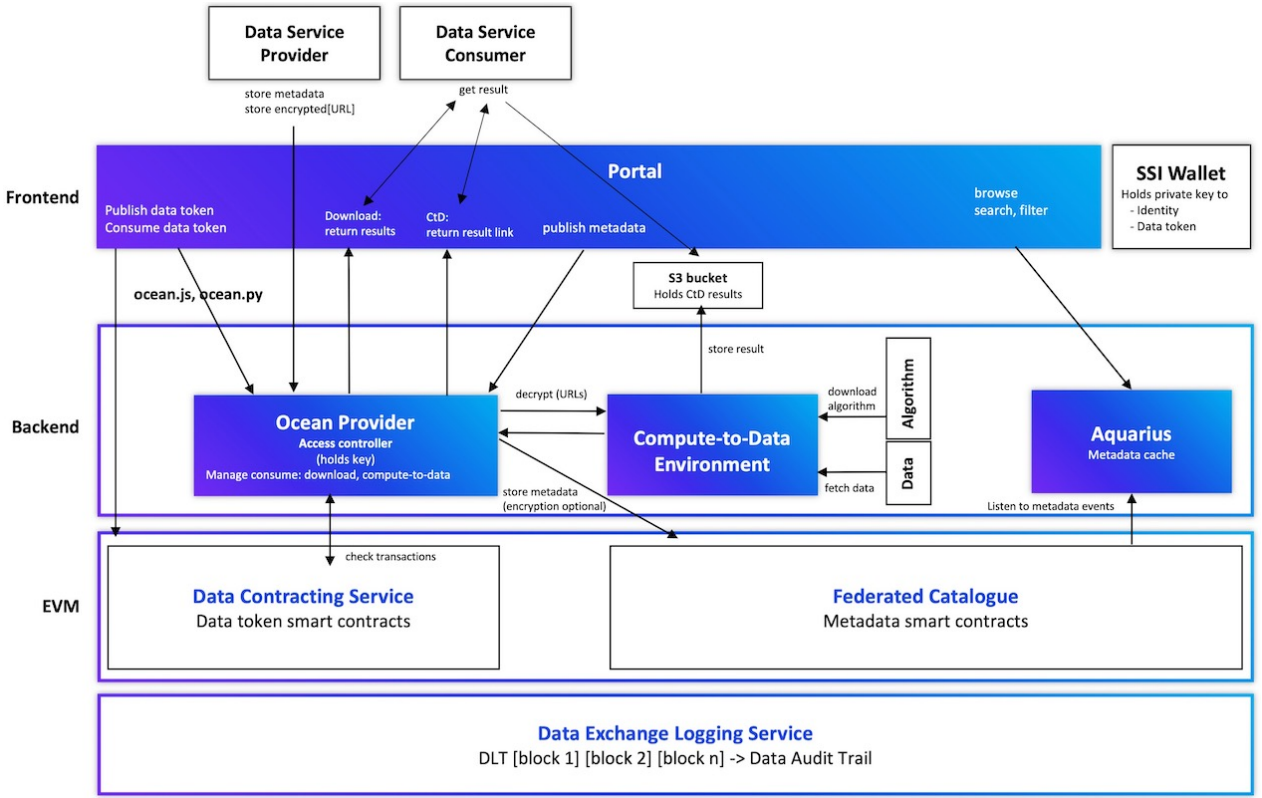
Bootstrapping a Structura-X Ecosystem (Threefold)



Self-Descriptions for MVG infrastructure & services

https://raw.githubusercontent.com/deltaDAO/SelfDescriptions/main/CtD_Architecture.pdf

https://github.com/deltaDAO/SelfDescriptions



Portal

K8s

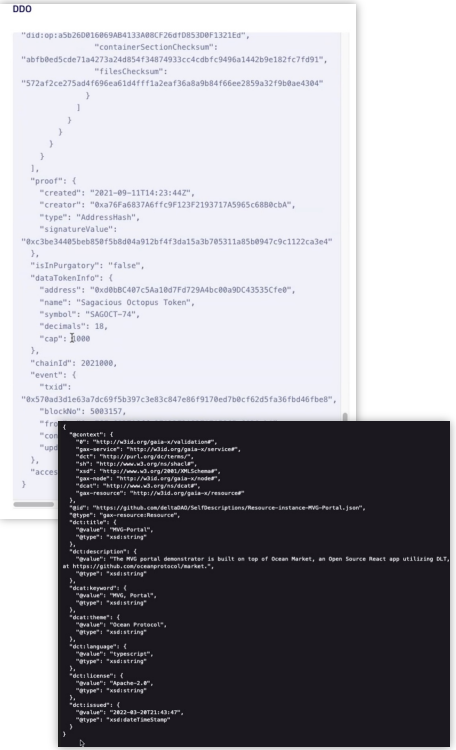
Catalogue Cache Provider

Operator Engine

Operator Service

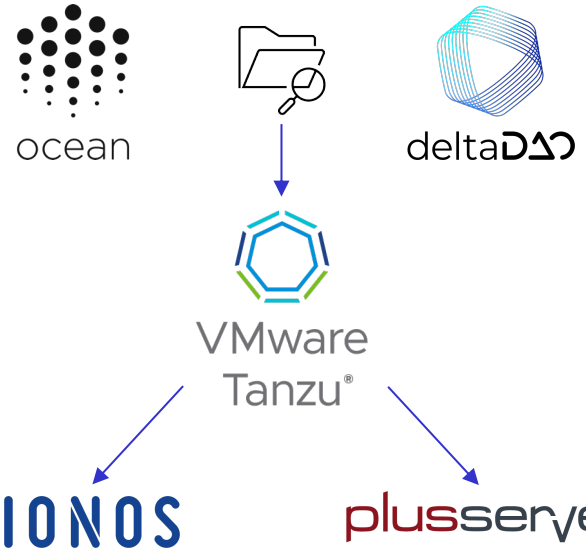
Catalogue

DLT Layer



Service Portability w. VMware Tanzu & Ocean Protocol

- deploy a Federation Service on any cloud with VMware Tanzu
- interoperable, reversible & portable
- cloud agnostic / rapid deployment



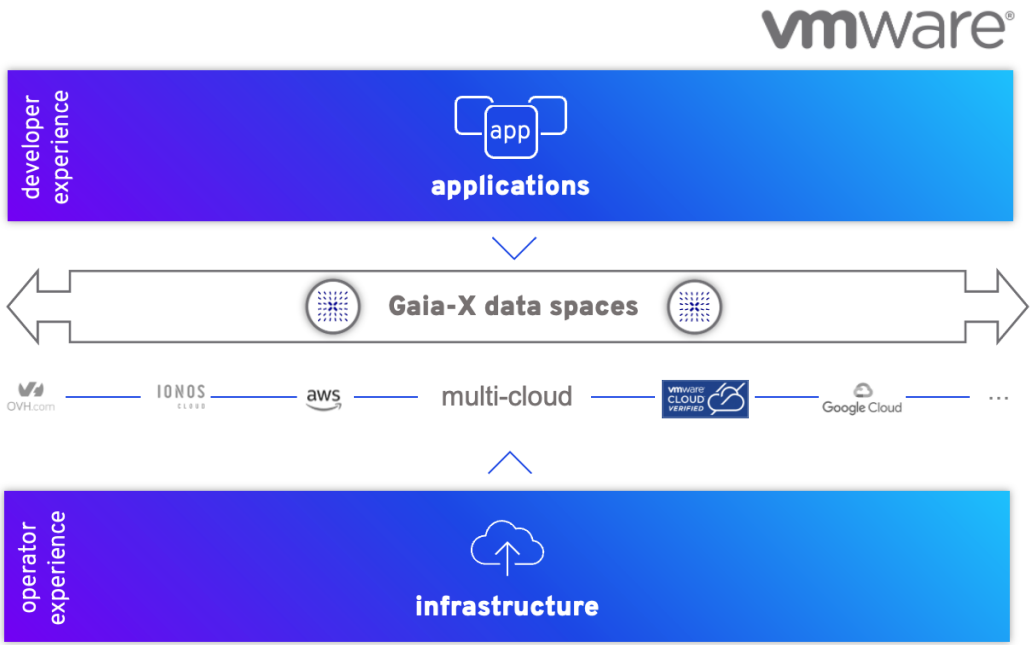


Image is licensed under a CC BY 4.0 license, VMware.
Remixed by deltaDAO AG for illustration purposes.

https://github.com/vmware-tanzu

Tanzu Package Manager Link: https://mvg-catalog-repo.delta-dao.com/packages/mvg-catalog-repo

Service Portability w. VMware Tanzu & Ocean Protocol

https://github.com/deltaDAO/files/raw/main/MVG_Tanzu_DeploymentGuide.pdf

install VMware Tanzu

install a MVG Federation package on any cloud: Federated Catalog Cache

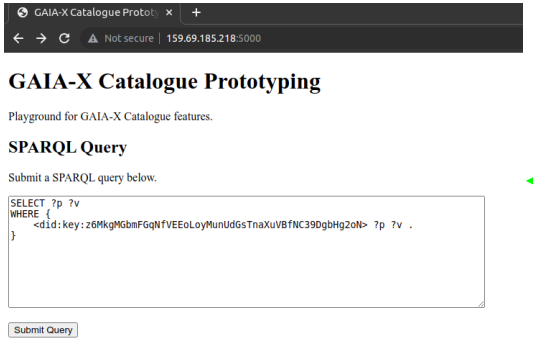
connect the Federated Catalog Cache to the decentralized core grid

crawl, cache and serve data service offering from the Federated Catalog

display data service offering on any MVG Portal

Pilot-005, Data to Compute

GOAL: Integrate GAIA-X Catalogue to the MVG Pilot-005 architecture



Gaia-X Catalogue

Done:

- G-X Catalogue deployed in cloud
- G-X Catalogue registry bootstrapped with SDs

Could be improved:

- Ability to get whole SD without SPARQL

Trust Component

Done:

- Trust Component integrated with G-X Catalogue

Could be improved:

- Lot of “FIXME” comments because of SPARQL responses that are parsed and mapped to the SD template

gaia-x

THANK YOU