

Data Spaces Symposium

Eclipse Dataspace Components (EDC)

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Eclipse Dataspace Components (EDC)



“A comprehensive framework for building dataspaces”



Open Source

started in June 2021 – under EF Governance – Apache 2.0 License



Community

long-term committers – active contributors – 20+ adoption projects – > 3500 issues and PR



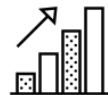
Technology

based on Java – few dependencies



Architecture principles

decentralized - scalable – extensible



Current State

mandatory DS components – releases on mvn-central – samples available – growing community



EDC – Component overview



DataspaceConnector

Contract negotiation, data transfer, authentication protocols, monitor



FederatedCatalog

prototype implementation of a Federated catalog



IdentityHub

W3c complained prototype implementation of a DID: web identity provider



DataDashboard

User Interface for each participant



RegistrationService

Dataspace Authority



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JOINING A DATASPACE



DataDashboard

User Interface for each participant



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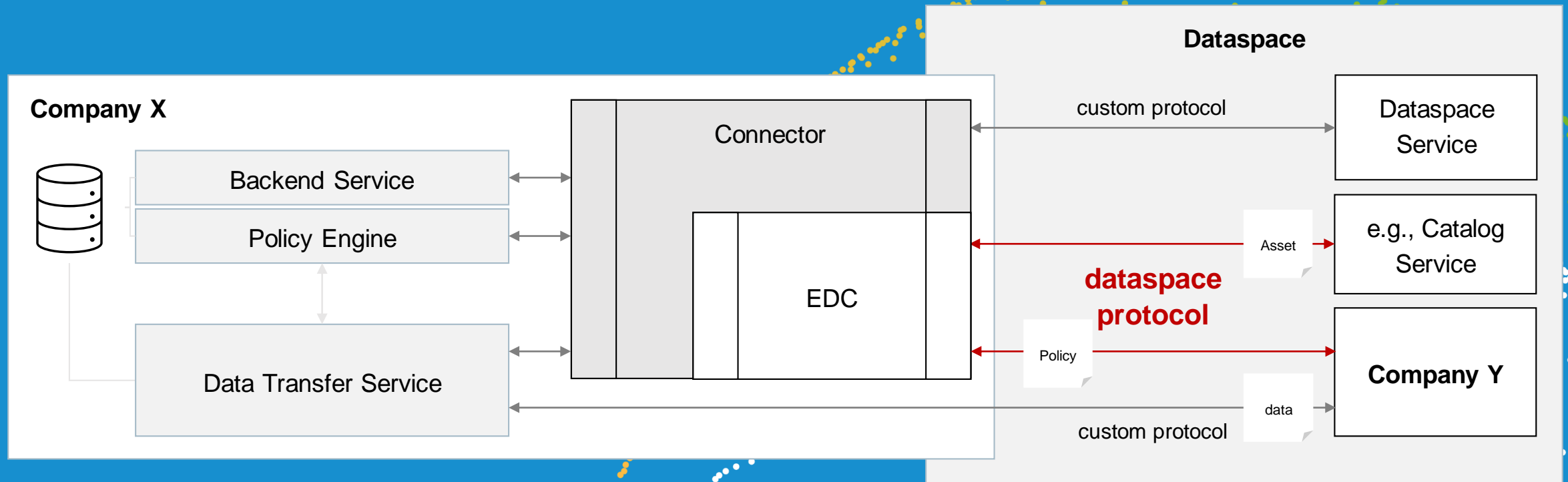
RegistrationService

Dataspace Authority

FEDERATE A DATASPACE

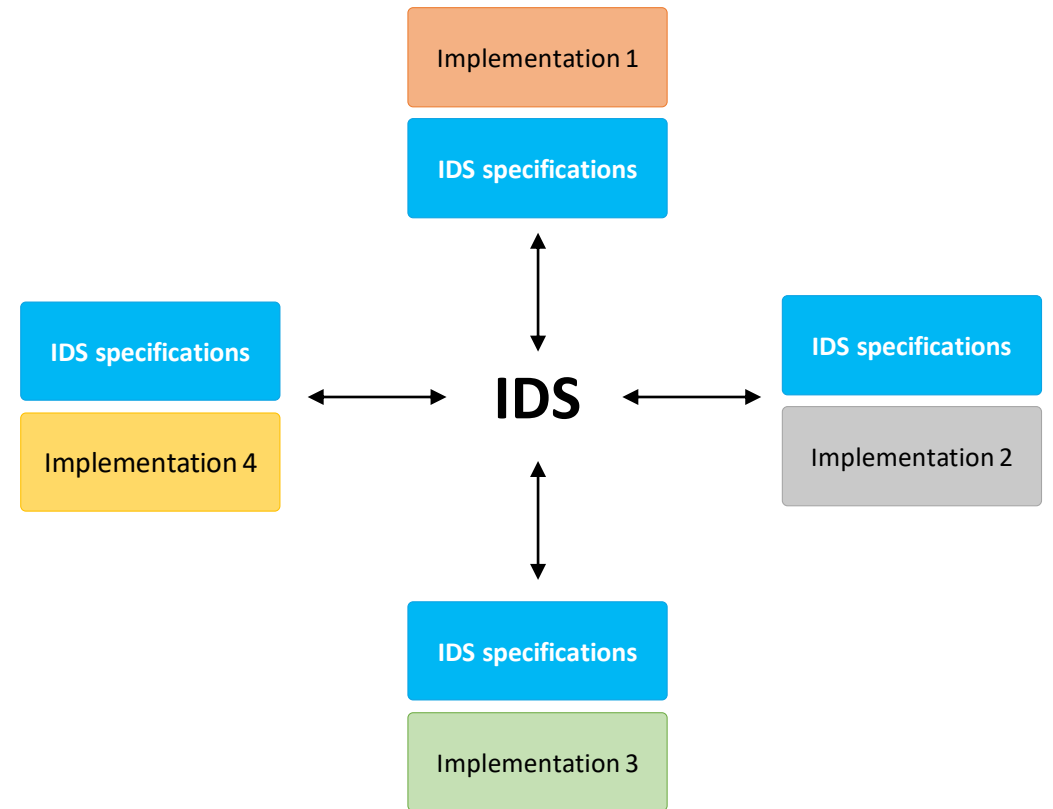


DSP Adoption with the EDC

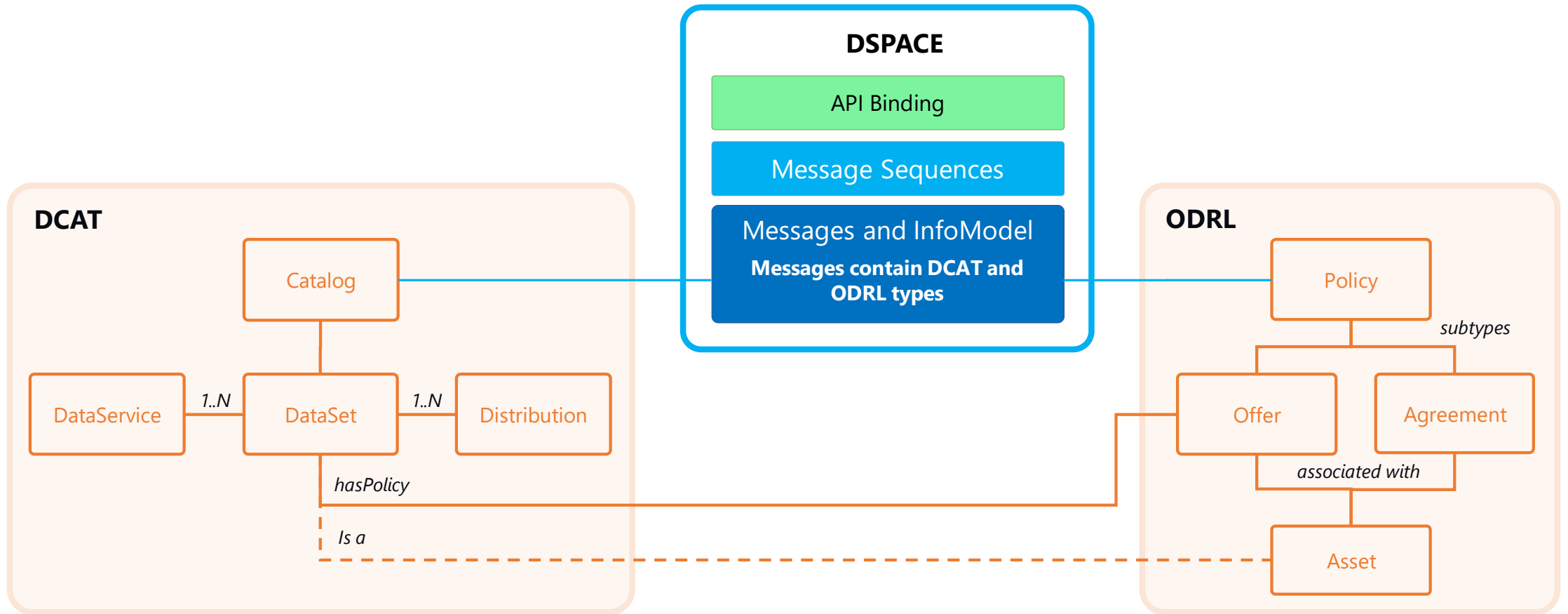


Dataspace Protocol (DSP)

If components are conformant to the Dataspace Protocol Specification, they will be *interoperable*.



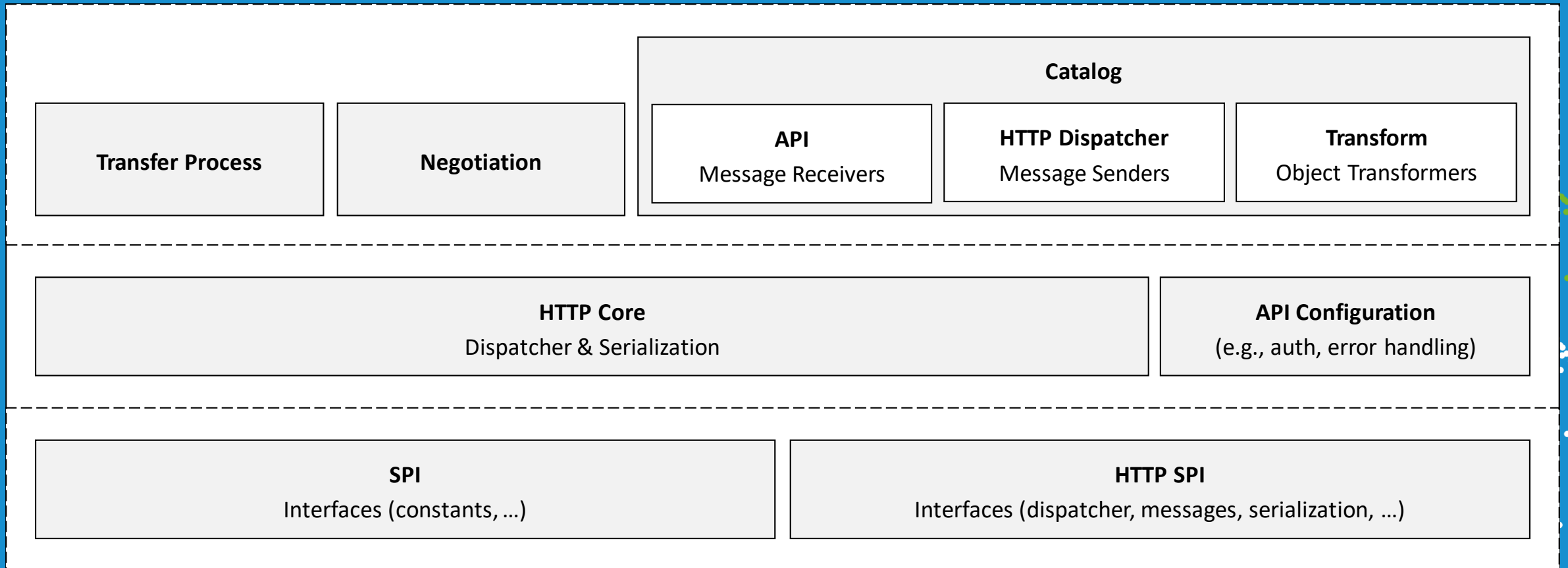
Dataspace Protocol (DSP)



EDC Implementation of the DSP

- Implementation of the DSP Https binding
- Implementation as independent module(s)
- Minimal dependencies
- Registration of API endpoints via EDC's Web Service
- Registration of message dispatchers via EDC's Dispatcher Registry
- Registration of transformers via EDC's Type Transformer Registry
- Support of JSON-LD format also at EDC's Management API

DSP Modules



DSP Modules

:protocols:dsp

:dsp-transfer-process

:dsp-negotiation

:dsp-catalog

:api

Message Receivers

:http-dispatcher

Message Senders

:transform

Object Transformers

:dsp-http-core

Dispatcher & Serialization

:dsp-api-configuration

(e.g., auth, error handling)

:dsp-spi

Interfaces (constants, ...)

:dsp-http-spi

Interfaces (dispatcher, messages, serialization, ...)

Supported DSP Messages

| Messages | Sender | Receiver |
|--|--------|----------|
| Catalog Request Message | x | x |
| Dataset Request Message | x | x |
| Transfer Request Message | x | x |
| Transfer Start Message | x | x |
| Transfer Suspension Message | x | x |
| Transfer Completion Message | x | x |
| Transfer Termination Message | x | x |
| Contract Request Message | x | x |
| Contract Offer Message | x | x |
| Contract Agreement Message | x | x |
| Contract Agreement Verification Message | x | x |
| Contract Negotiation Event Message | x | x |
| Contract Negotiation Termination Message | x | x |

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| Contract Offer Message | | x |
| Contract Agreement Message | | x |
| Contract Agreement Verification Message | | x |
| Contract Negotiation Event Message | x | x |
| Contract Negotiation Termination Message | x | x |

All messages of DSP
release 2024-01 are
supported

Thank you!



<https://projects.eclipse.org/projects/technology.edc>



<https://github.com/eclipse-edc>



<https://boot-x.eu/>