

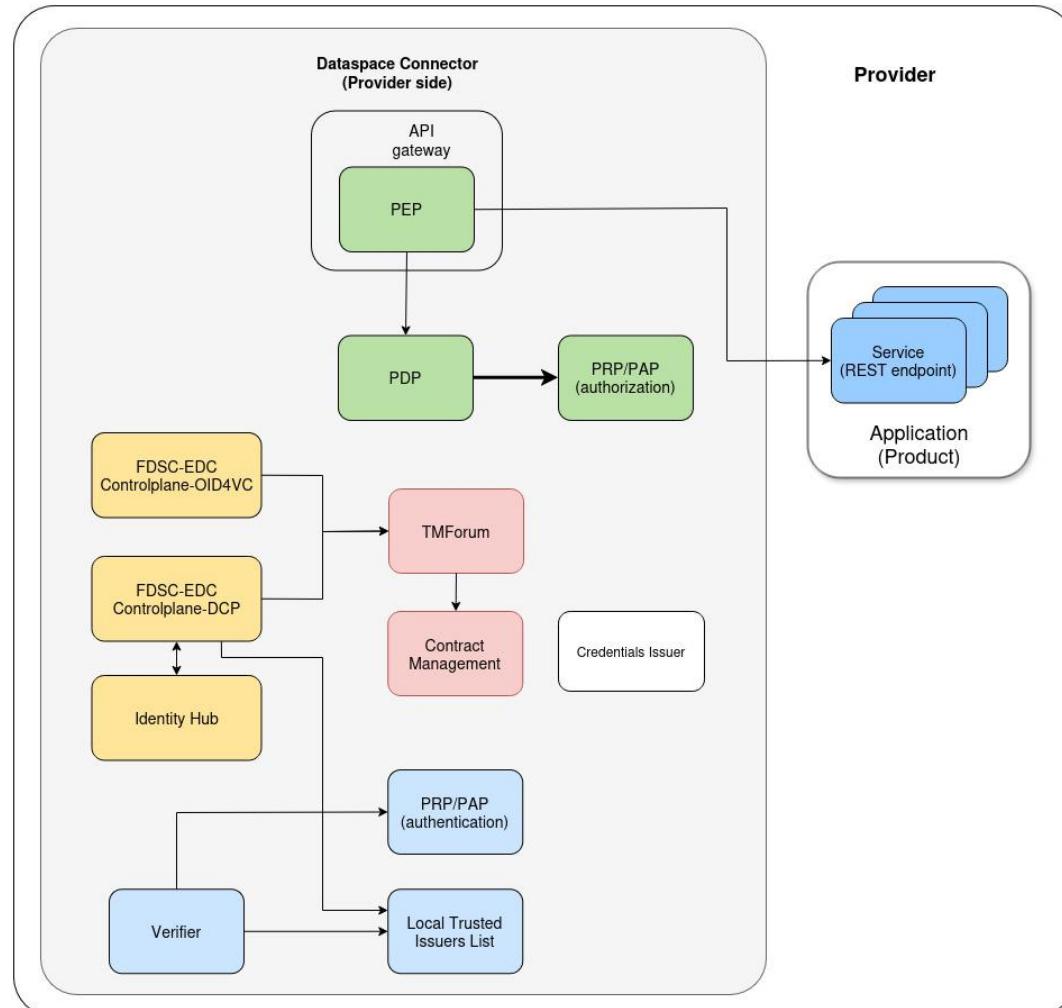
Deploying interoperable Data Spaces with the FIWARE Data Space Connector

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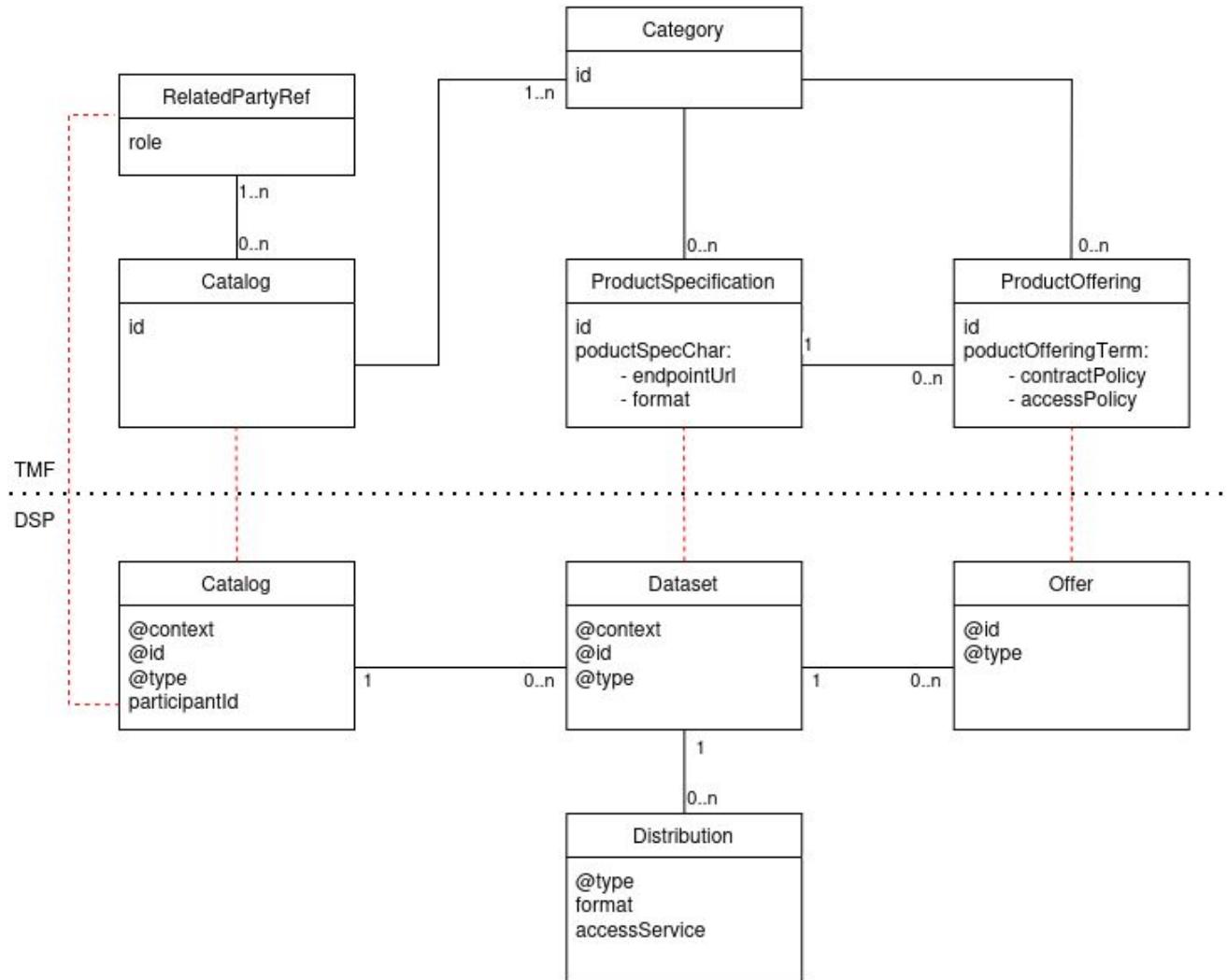
Architecture

- FIWARE implementation of the Eclipse Dataspace Components Controlplane
 - one supporting DCP
 - one supporting OID4VC
- Use TMForum as backend for Catalog, Offerings and Negotiations
- FIWARE Data Space Connector fulfills role of the Dataplane
- Identityhub to support Decentralized Claims Protocol



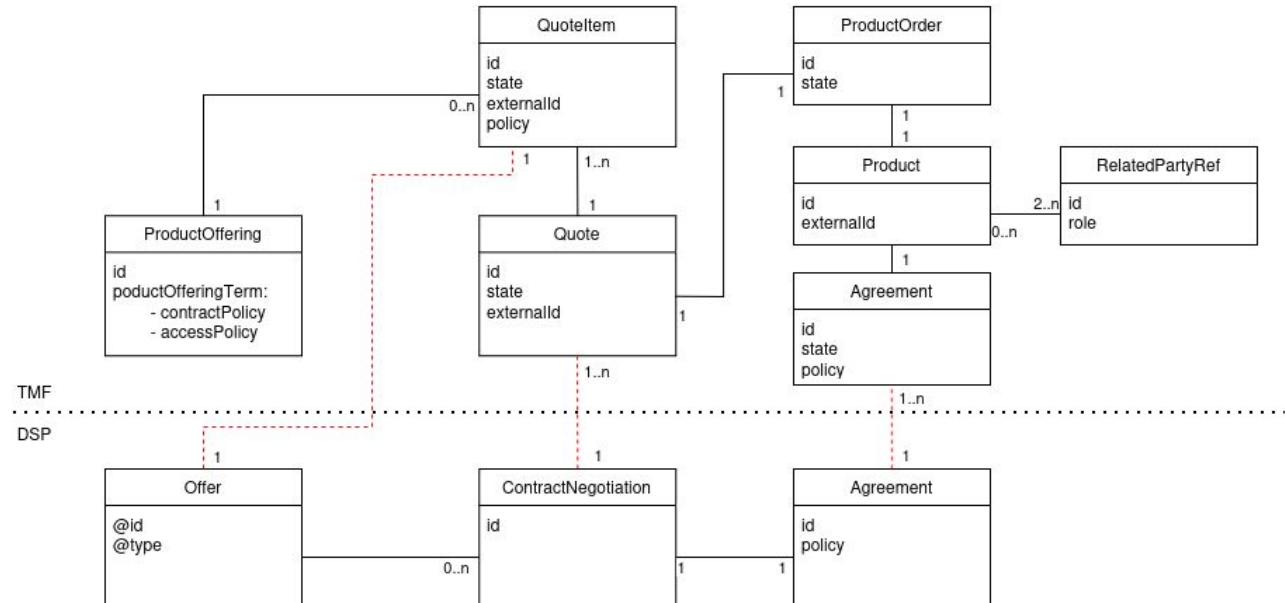
Mapping the Catalog

- TMForum Catalog is directly mapped to DSP Catalog
 - DSP “participantId” maps to the more powerful “RelatedPartyRef” with role “Provider”
 - DSP Dataset is mapped to TMForum ProductSpecification
 - detailed spec in the “productSpecCharacteristics”
 - DSP Offer is mapped to TMForum ProductOffering
 - ProductOffering contains the policies



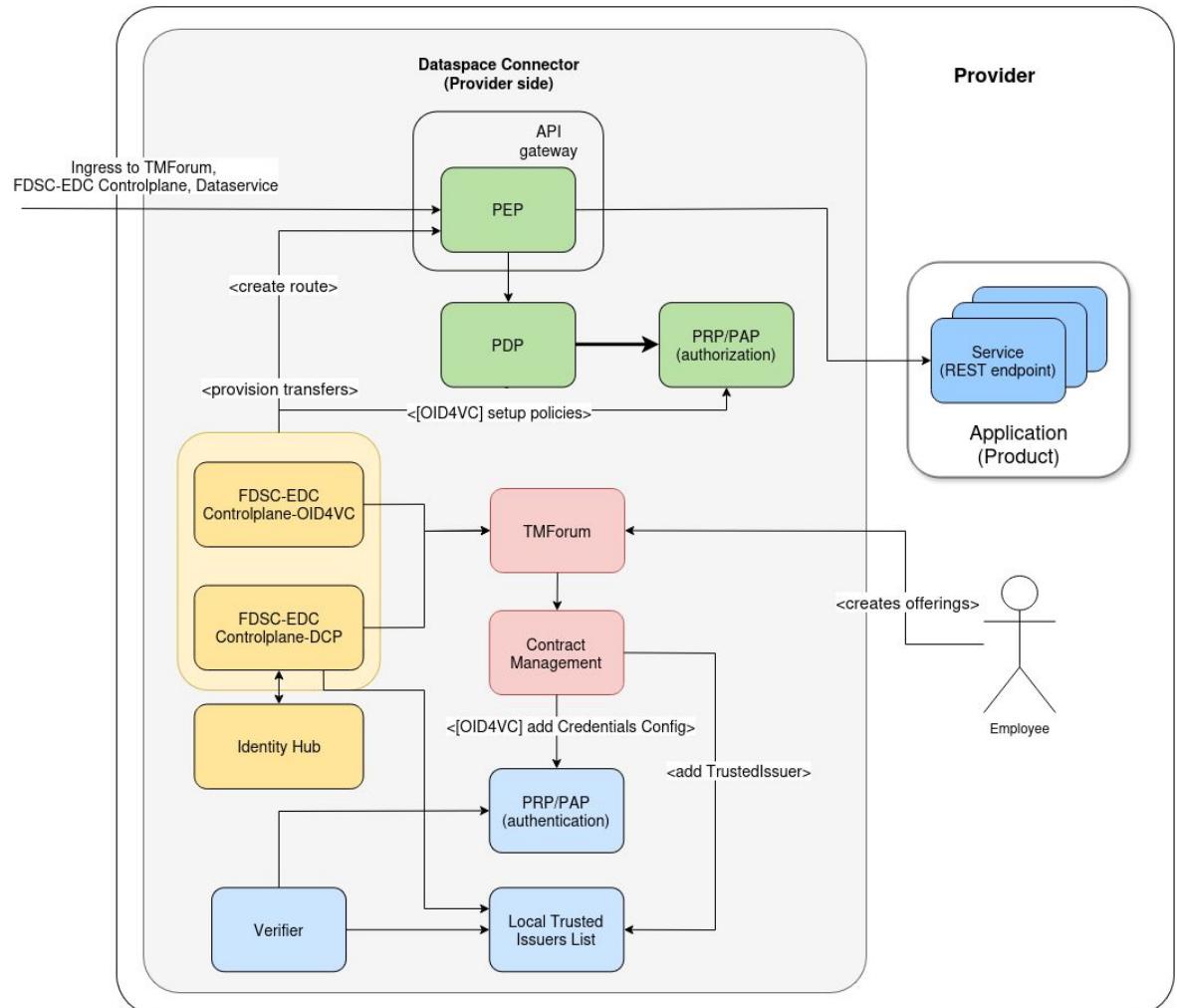
Mapping the Contract Negotiation

- Contract Negotiation is represented by Quote
 - consist of multiple Quotes exchanged between participants
- Offers are mapped to QuotItems
 - all QuotItems reference the original offer
 - contains the current offer/counter-offer
- ProductOrder as verification of the successful negotiation
- Product and Agreement created as finalization
 - Agreement present on consumer and provider, holding policies
 - Product referenced in Agreement, provides reference to the ProductSpecification



Provisioning

- Controlplane creates route to the Dataservice at API Gateway
- DCP:
 - publishes JWKS, generates JWT for endpointProperties
 - all policies are evaluated on transfer start
- OID4VC:
 - add policies to PAP, add Credentials Configuration
 - policies are evaluated on each request, individual callers can authenticate



Links

- FIWARE Data Space Connector:
 - <https://github.com/FIWARE/data-space-connector>
 - Demo: <https://github.com/FIWARE/data-space-connector/blob/edc/doc/DEMO.md>
- Presentation:
 - <https://github.com/wistefan/presentations/tree/main/data-space-symposium>