



Gaia-X4KI

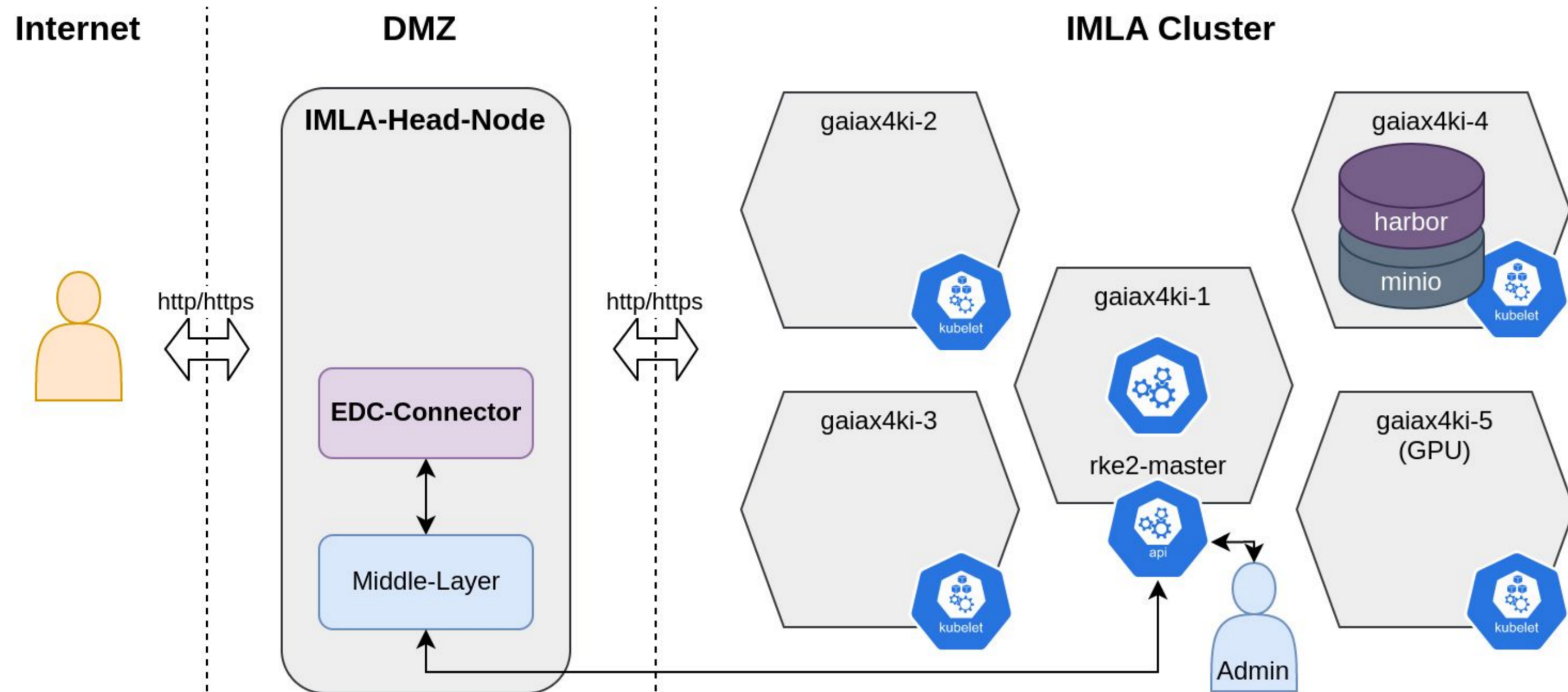


GitHub

Goals

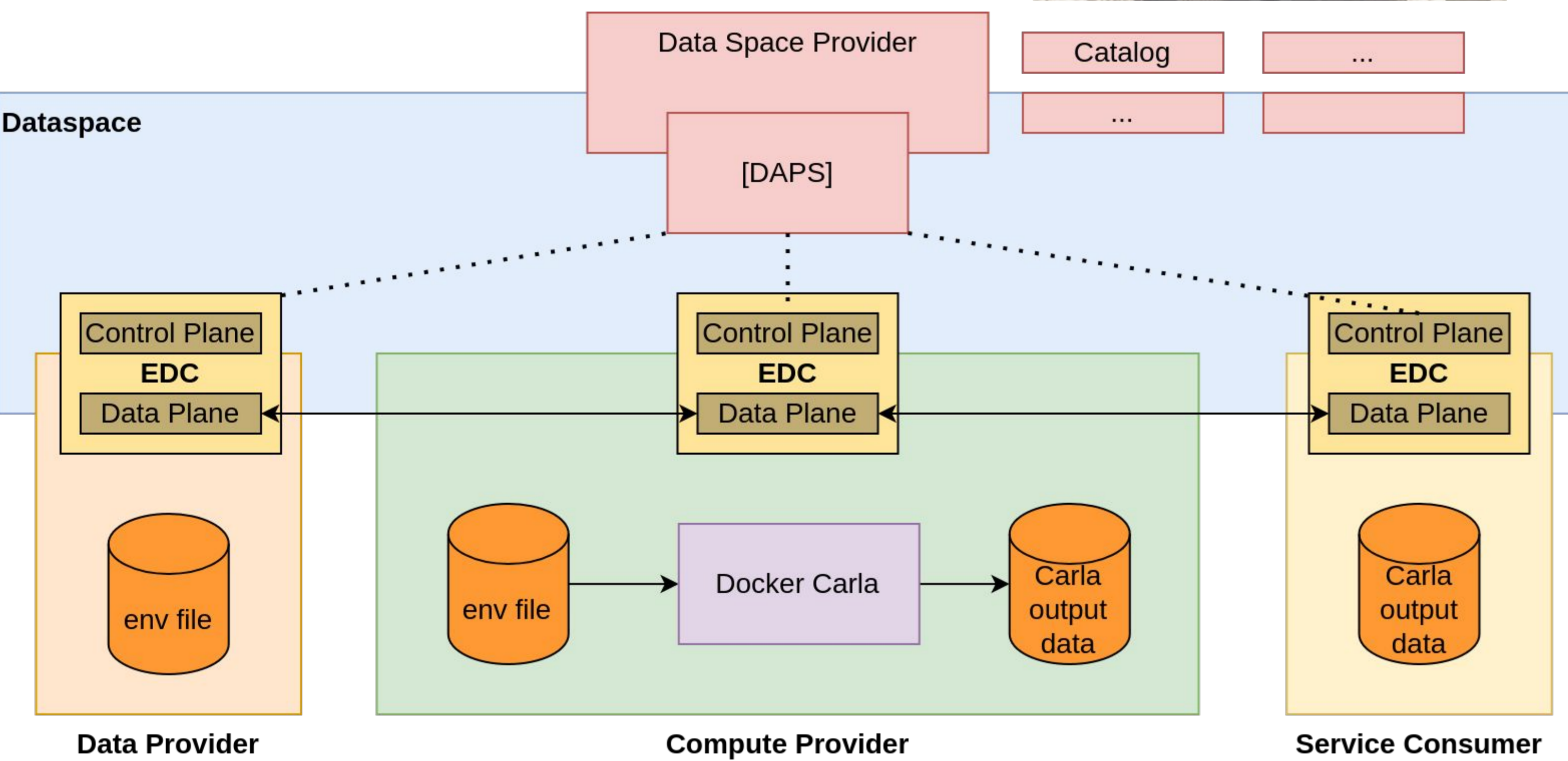
- Conception, development and evaluation of container solutions for Gaia-X
 - Portability of containers
 - Deploy software stack for use cases
 - Distribution to multiple containers
- Conceptual design, development and evaluation of orchestration approaches for Gaia-X
 - HPC/Cloud backends
 - APIs for use cases
 - Interactive and longer-term workflows
- Implementation and realization of Gaia-X demonstrators
 - Three heterogeneous nodes/systems at HSO, Fraunhofer and DLR
 - HPC-like system with GPUs (FhG)
 - Cloud-like system (HSO)
 - Data-centric system (DLR)
- Development of a middle layer
 - Creation of APIs so that use cases can easily use the hardware
 - Provision of basic data-space-specific functions
 - Connection to a web-based UI

IMLA-Infrastructure



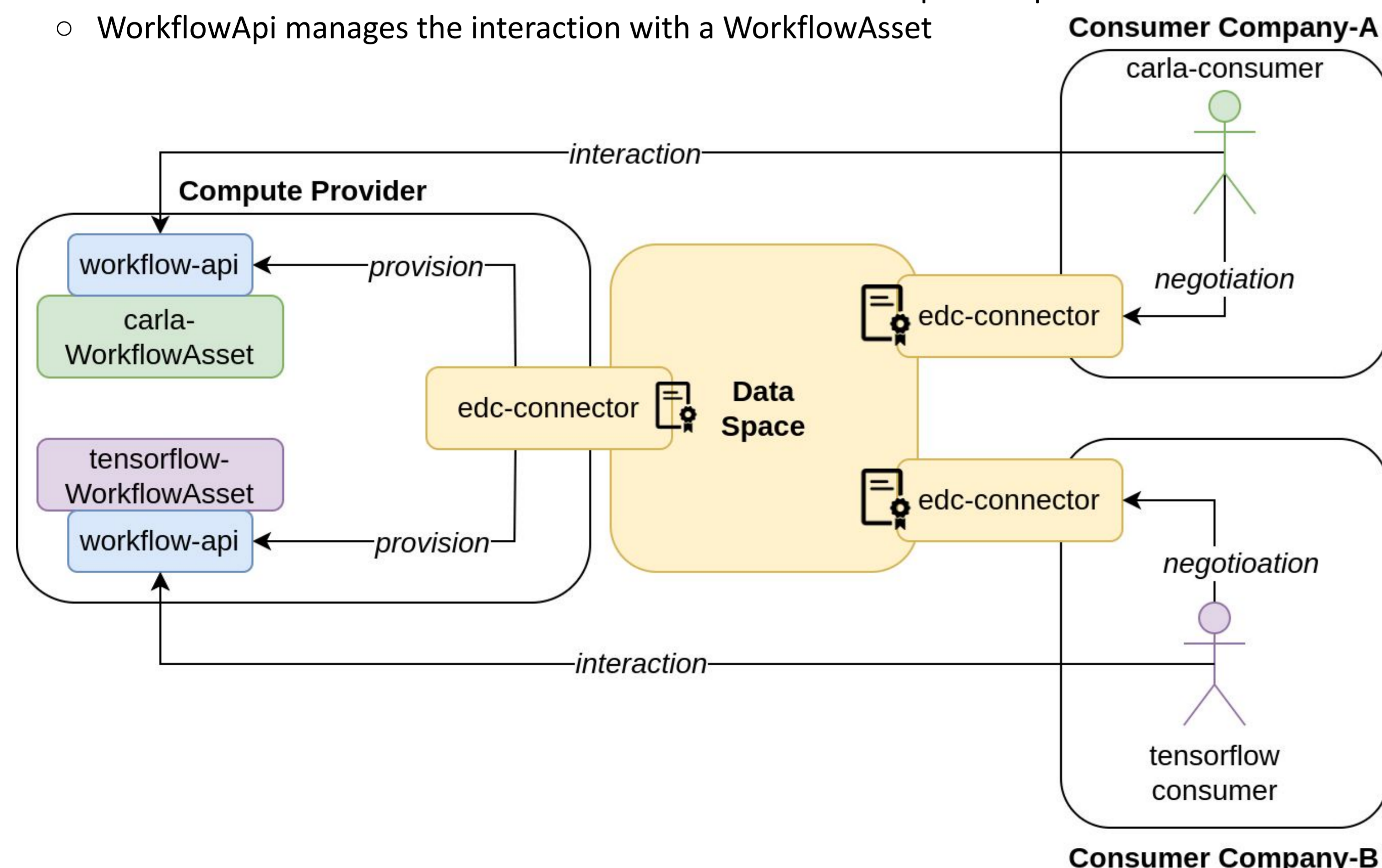
Minimal Example Carla

- jump start with an application from the use-cases
- first requirements and setup for the infrastructure
- first definition and usage of the data space components



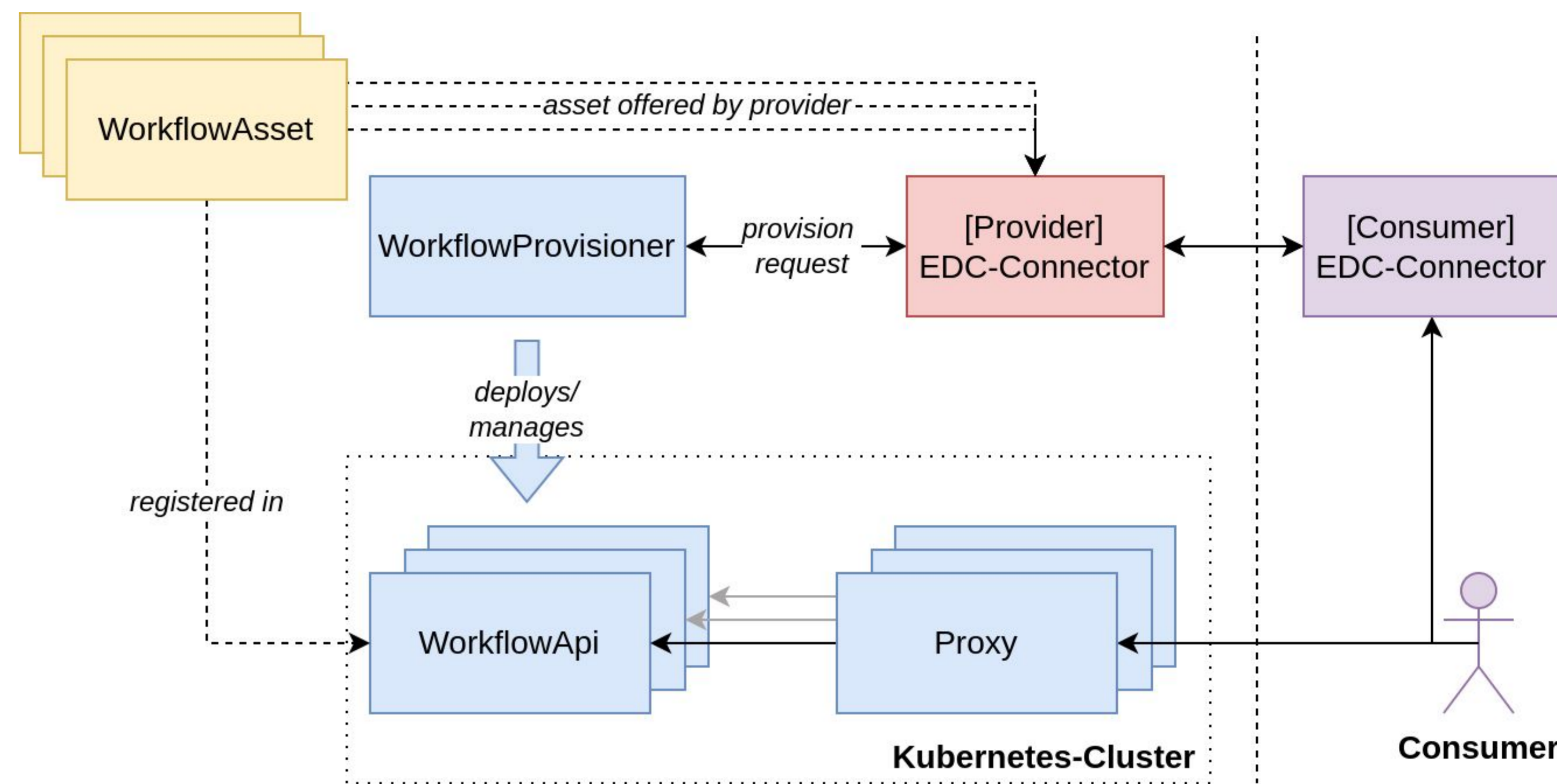
Data Space

- driven by Eclipse Data Space Components
- EDC-Connector:
 - Building block for establishing data spaces to make different assets available while maintaining identity, trust, sovereignty and interoperability.
 - Gatekeeper for the participants' infrastructure
 - management of assets, policies, contract definitions, etc
- Compute-Provider offers dedicated API and Assets
 - WorkflowAssets describes Workflow with Container and required input resources
 - WorkflowApi manages the interaction with a WorkflowAsset



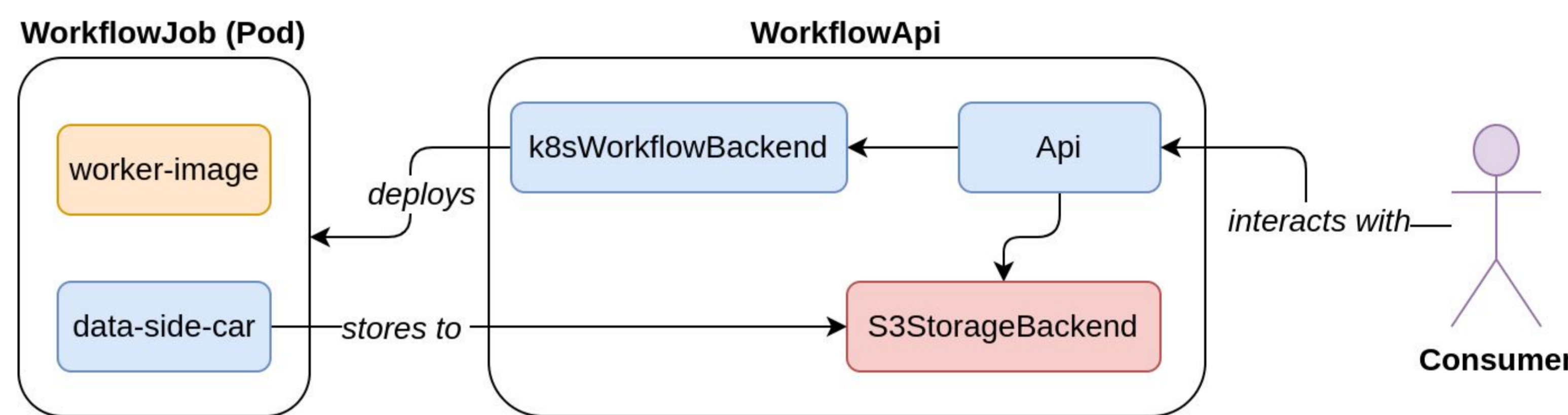
WorkflowProvisioner

- processes provisioning requests from EDC-Connector
- deploys the WorkflowApi Component into the Cluster
- registers the requested WorkflowAsset for the WorkflowApi
- stores the access information to a Consumers WorkflowApi, can only be requested after a successful negotiation and deployment.



WorkflowApi

- provides an API to manage WorkflowAssets
- provides endpoints to list and describe available WorkflowAssets
- provides endpoints to upload workflow data and to download created workflow results
- provides endpoints to manage workflows (start, stop, logs)



Compute-Provider Interaction

