

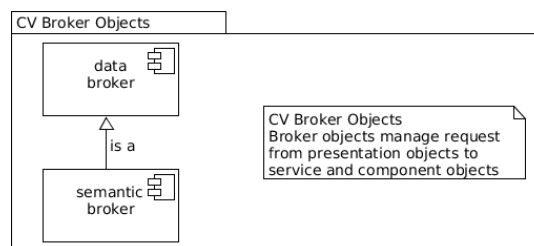
# CV Broker Objects

Broker objects act as intermediaries for access to data held within the data store and facilitate performing semantic interpretation and routing of queries. For this brokers keep registries of **CV Service Objects** to which actions are routed. Whenever possible, advanced brokers which make use of metadata should be preferred to hard coded brokers.

- **data broker** objects act as intermediaries for access to data held within the data store.
- **semantic broker** objects perform semantic interpretation.

Brokers are responsible for verifying the agents making access requests and for validating those requests. These brokers can be interacted with directly via **virtual laboratory** such as **experiment laboratory** (for general interaction with data and processing services) and **semantic laboratory** (by which the community can update semantic models associated with the research infrastructure).

## CV Broker Objects



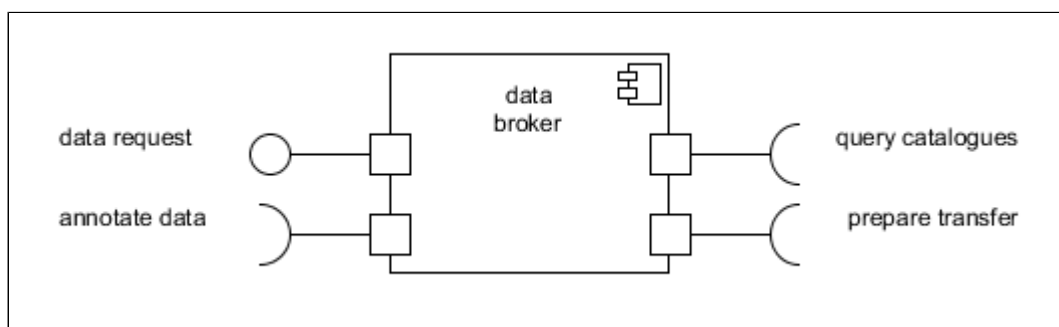
Notation

## Data broker

*Broker for facilitating data access/upload requests.*

A data broker object intercedes between the data publishing objects and the data curation objects, collecting the computational functions required to negotiate data transfer and query requests

directed at data curation services on behalf of some user. It is the responsibility of the data broker to validate all requests and to verify the identity and access privileges of agents making requests. It is not permitted for an outside agency or service to access the data stores within a research infrastructure by any means other than via a data broker.



A data broker should provide four operational interfaces:

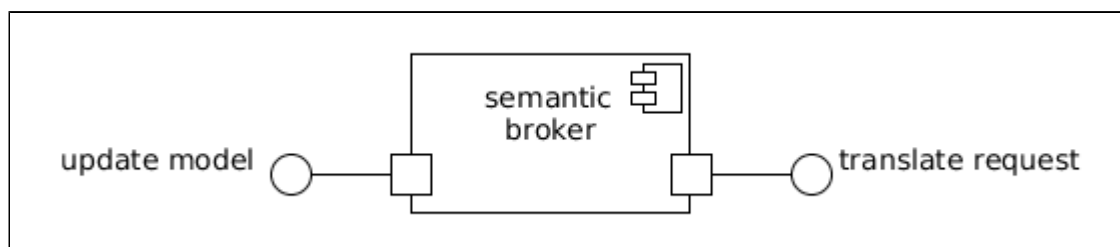
- **data request (server)** provides functions for requesting the import or export of datasets, the querying of data or the annotation of data within a research infrastructure.
- **annotate data (client)** is used to request annotation of data held within the data curation objects of a research infrastructure.
- **prepare data transfer (client)** is used to negotiate data transfers with the data curation objects of a research infrastructure.
- **query catalogues (client)** is used to forward queries onto the data curation objects of a research infrastructure and receive the results.



Data brokers are not responsible for brokering the collection of raw data from the data acquisition objects, as this is handled more efficiently by an acquisition service.

## Semantic broker

*Broker for establishing semantic links between concepts and bridging queries between semantic domains.*



A semantic broker intercedes where queries within one semantic domain need to be translated into another to be able to interact with curated data. It also provides the functionalities required to update the semantic models used by an infrastructure to describe data held within.

A semantic broker should provide two operational interfaces:

- **translate request (server)** provides functions for translating requests between two semantic domains.
- **update model (server)** provides functions for updating semantic models associated with a research infrastructure.