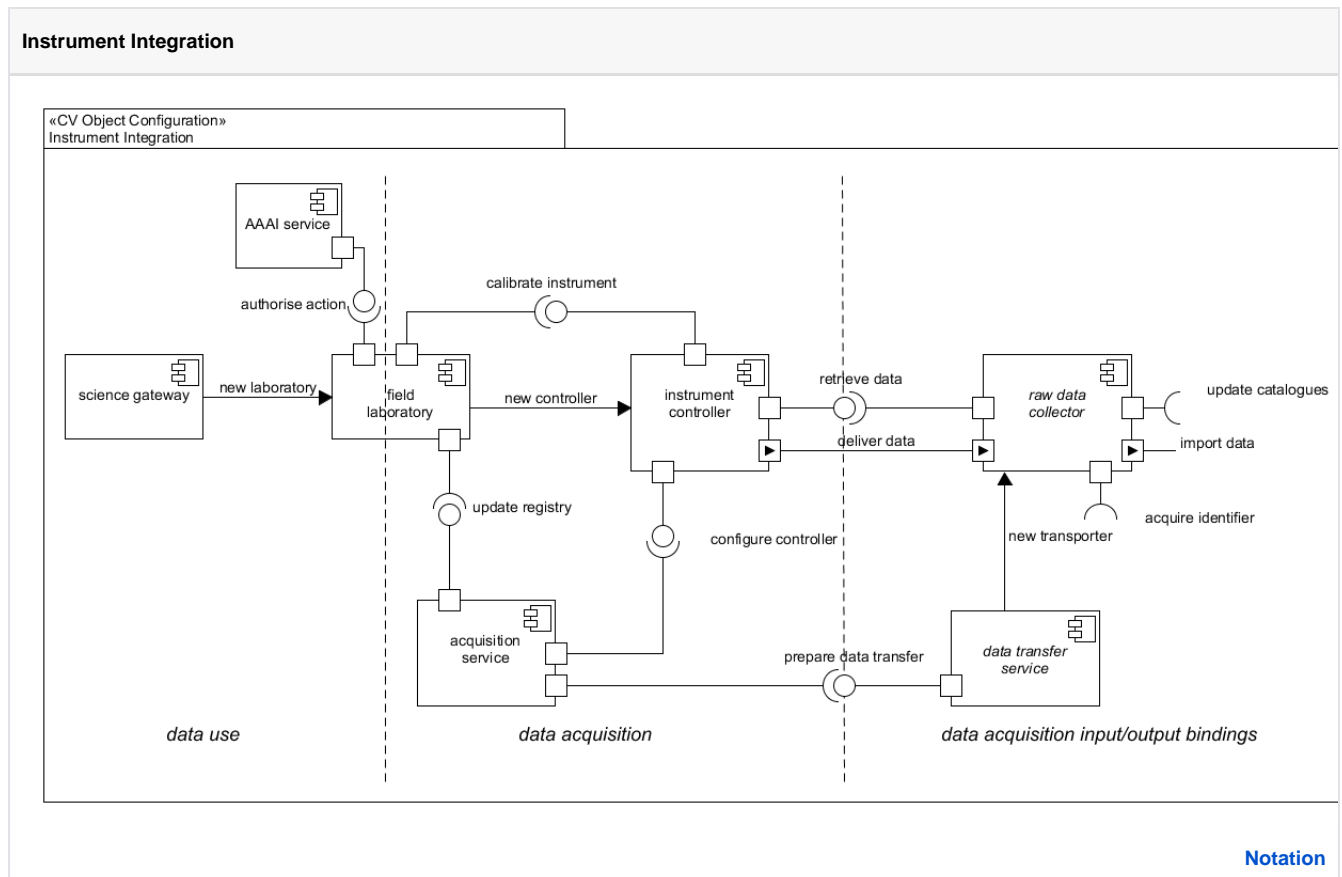


CV Instrument Integration

CV Data Acquisition relies on an integrated network of data sources (referred to generically as 'instruments') that provide raw measurements and observations continuously or on demand. This network is not necessarily static; new instruments can be deployed and existing instruments can be taken off-line or re-calibrated throughout the lifespan of a research infrastructure. In the Reference Model, modifications to the acquisition network should be performed via a 'virtual laboratory' that permits authorised agents to oversee acquisition and calibrate instruments based on current community practice or environmental conditions.



Instruments can be added to and removed from a data acquisition network by a **field laboratory** accessed via a **science gateway**. The field laboratory must be able to provide an **instrument controller** for any new instrument added in order to allow the data acquisition subsystem to interact with the instrument. Deployment, un-deployment or re-calibration of instruments requires authorisation - this can only be provided by a valid **AAA service** (via its *authorise action* interface). Any changes to the data acquisition network must be registered with an **acquisition service** (via its *update registry* interface).

The behaviour of an instrument controller can be configured by the acquisition service by invoking functions on the controller via its *configure controller* interface.

A field laboratory also provides the means to calibrate instruments based on scientific best practice where applicable - this is done via the instrument controller's *calibrate instrument* interface.