

Focus Session

Multi-Dimension Data

Séverin Gaudet



Science Use Cases

- ▶ A minimum set of requirements developed by the CSP (Committee on Science Priorities) for the first version of the necessary standards.
- ▶ The Exec endorsed the CSP's recommendation for the minimum requirements
- ▶ The Exec expressed their strong desire to see "RFC-ready" working drafts ready by the May 2014 InterOp





Strategy

- ▶ Definition of a set of minimum requirements for the first version:
 - ▶ The preparation of the standards can not be held up by discussion of "features" that are not necessary to meet the minimum standards
 - ▶ The WGs should be thinking in an agile sense where subsequent versions of a given standard with more "features" come rapidly after the first version
- ▶ CSP will continue consultations with the community to define use cases and set priorities for additional features





Minimal Requirements

▶ Data Discovery (Query)

- ▶ A service shall be able to receive queries regarding its data collection(s) from a client, with the client placing one or more of the following constraints:
 - ▶ RA, Dec
 - ▶ Frequency/wavelength
 - ▶ Polarization states
 - ▶ Spatial size
 - ▶ Angular resolution
 - ▶ Integration time
 - ▶ Time of observation
- ▶ A service shall return to the client a list of observations, and the corresponding metadata for each observation, meeting the user-imposed constraints.
 - ▶ If no constraints, the entire list of observations, and the corresponding metadata for each data set, shall be returned.
 - ▶ If no data matches the user's constraints, the service shall indicate the absence of any matches.





Minimal Requirements

▶ Data Access

- ▶ Once a user has the list of observations that satisfy the constraints, they select all or a subset of the observations and:
 - ▶ Download the complete science data for each of the selected observations (the service shall return the complete multi-dimensional science data and metadata for each selected observation) or;
 - ▶ Download simple cutouts of the science data for each of the selected observations (the service shall be able to extract and return a user-specified subset of the complete multi-dimensional science data and metadata for each selected observation).





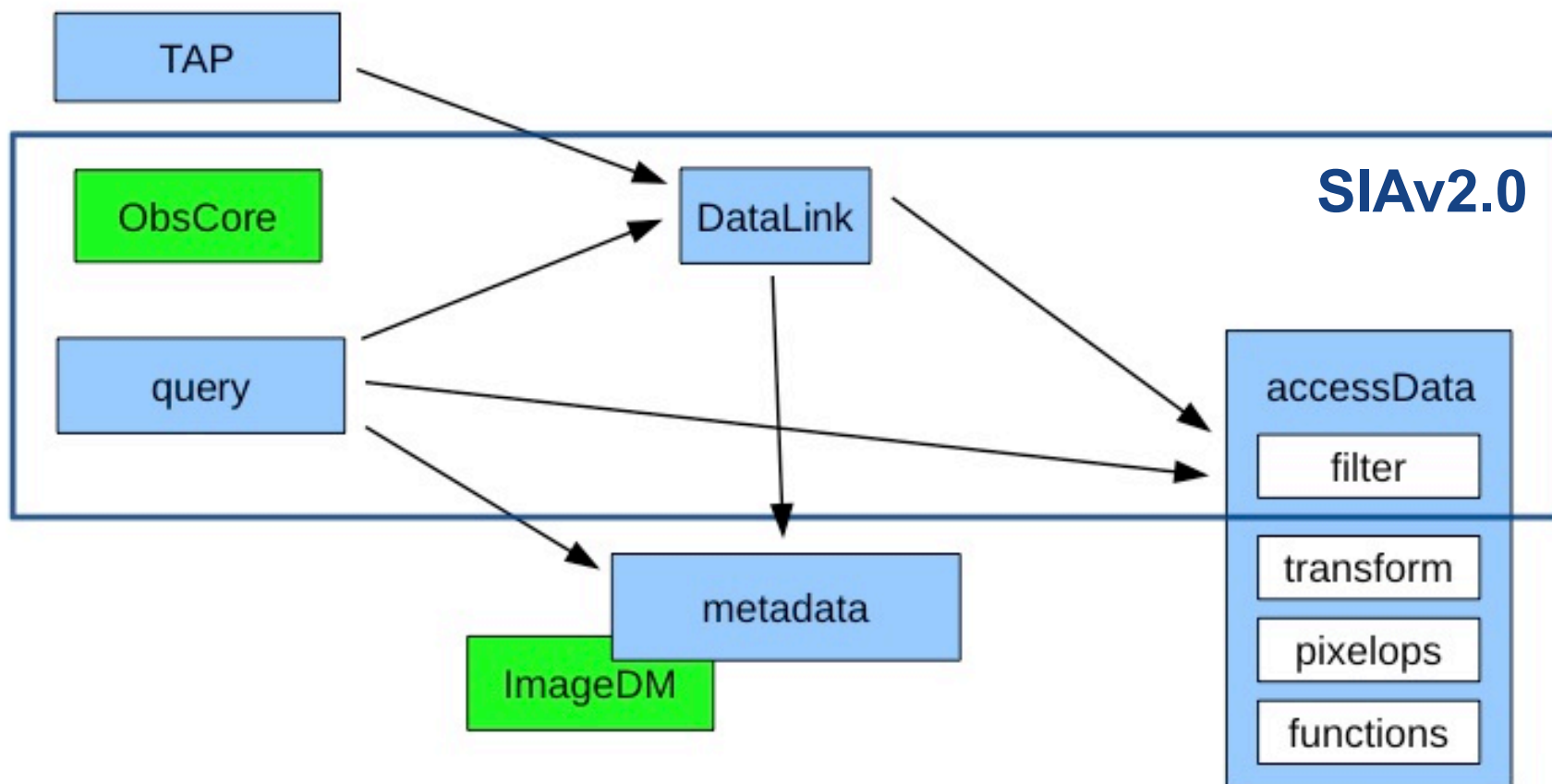
Minimal Requirements

- ▶ **Simple Cutout**
 - ▶ User-specified subset is restricted to be a contiguous interval within each dimension of the multi-dimensional science data. The user should **not** be allowed to specify subsets with "gaps" or resampling or anything like that.



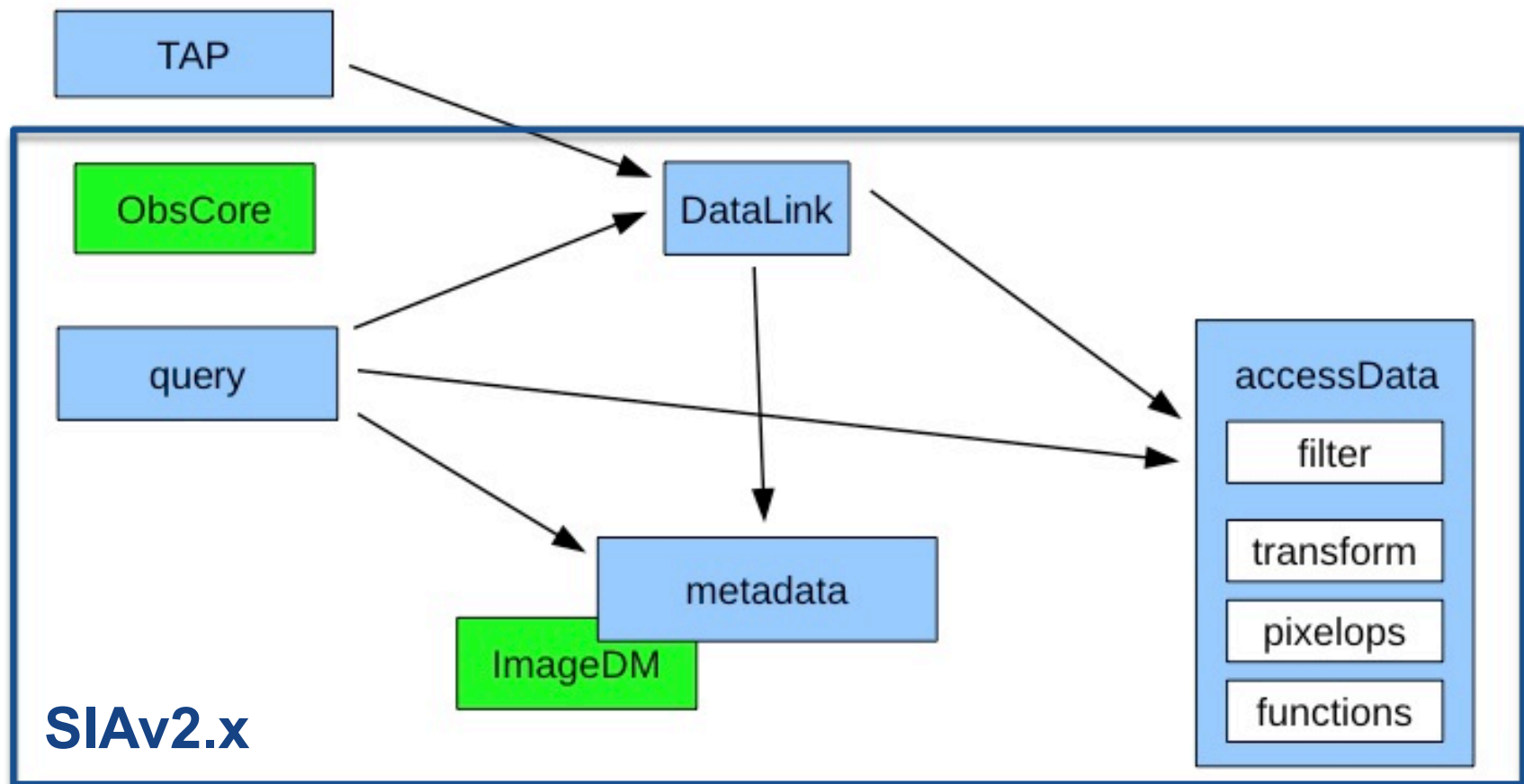
CSP: Data Cubes

data discovery → data access



CSP: Data Cubes

data discovery → data access





Practically speaking

- ▶ Standards RFC-ready by the May 2014 InterOp:
 - ▶ DataLink
 - ▶ SIAv2 (query capability only)
 - ▶ AccessData (for simple cutouts/filter only)

- ▶ By implication, the first version is not dependent on:
 - ▶ ImageDM
 - ▶ the “metadata” capability in SIAv2
 - ▶ other AccessData functions.





Practically speaking

- ▶ Standards RFC-ready by the May 2014 InterOp:
 - ▶ DataLink: **Ready**
 - ▶ SIAv2 (query capability only): **Nearly ready**
 - ▶ AccessData (for simple cutouts/filter only): **In progress**

- ▶ By implication, the first version is not dependent on:
 - ▶ ImageDM: **In progress**
 - ▶ the “metadata” capability in SIAv2: **Dependent on ImageDM**
 - ▶ other AccessData functions: **Dependent on CSP priorities**

