Data Access Layer
Working Group
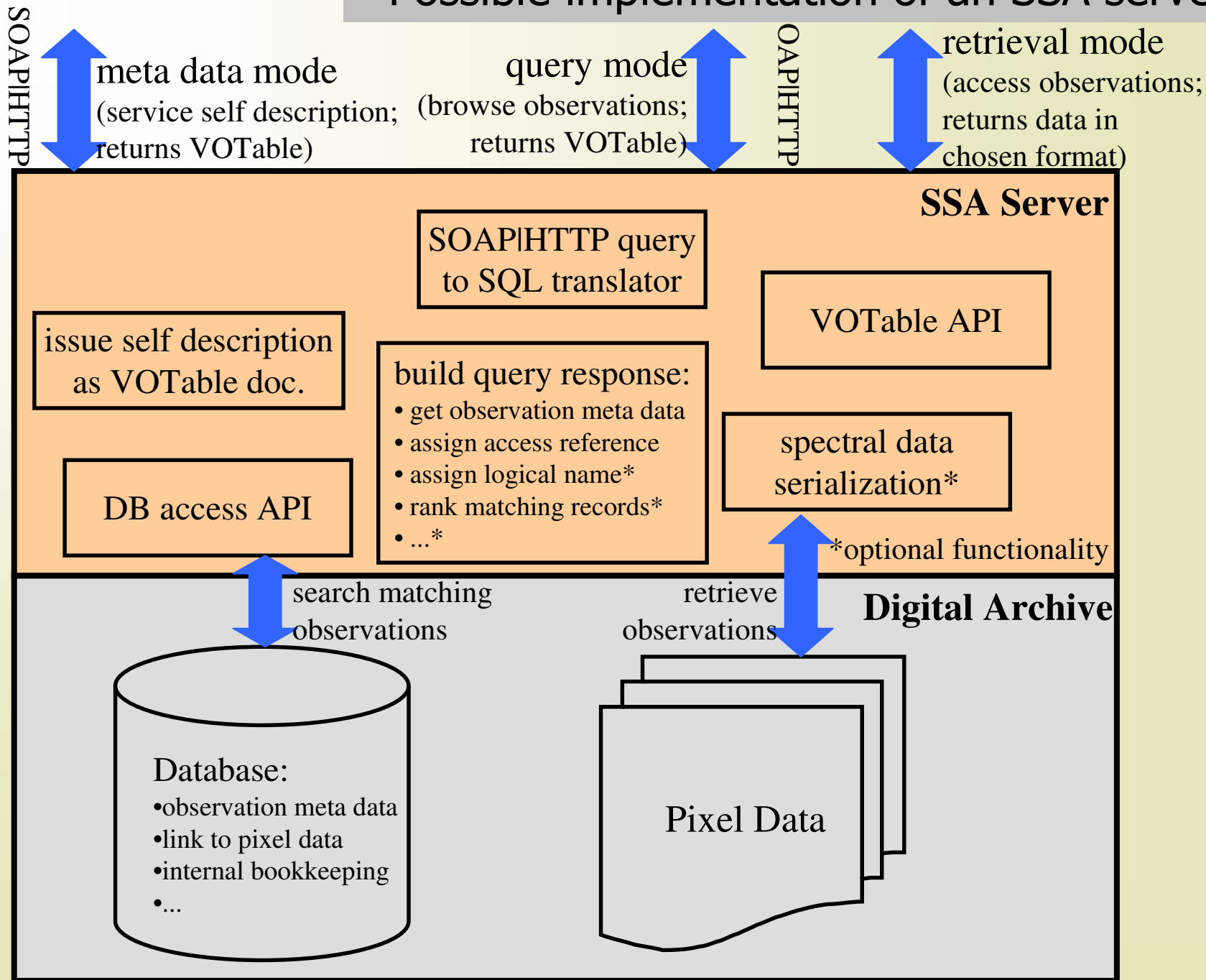
SSA Query Interface

M. Dolensky, ESO

Possible implementation of an SSA server

SOAP|HTTP

meta data mode
(service self description;
returns VOTable)

query mode
(browse observations;
returns VOTable)

SOAP|HTTP

retrieval mode
(access observations;
returns data in
chosen format)

SSA Server

SOAP|HTTP query
to SQL translator

VOTable API

issue self description
as VOTable doc.

build query response:
• get observation meta data
• assign access reference
• assign logical name*
• rank matching records*
• ...*

spectral data
serialization*

DB access API

*optional functionality

Digital Archive

search matching
observations

retrieve
observations

Database:
•observation meta data
•link to pixel data
•internal bookkeeping
•...

Pixel Data

Feedback in Boston (May):
- Resolution: min. spectral resolution

- Format: application/x-votable+xml

- Score: relative ranking within result set

Suggestion:
- utype: request data model object
                (which gets translated into list of utypes)

- ucd: request list of ucd result columns

Mapping Data Models to VOTable Groups

```
<GROUP utype="sed:Curation">
  <PARAM utype="sed:Curation.Publisher" ucd="meta.note" value="SAO" />
  <PARAM utype="sed:Curation.PubID" ucd="meta.id" value="ivoa://cfa.harvard.edu" />
  <PARAM utype="sed:Curation.Logo" ucd="meta.note" value="http://cfa.harvard.edu/cfalogo.jpg" />
  <PARAM utype="sed:Curation.Version" ucd="meta.note" value="1.0" />
  <PARAM utype="sed:Curation.Contributor" ucd="meta.note" value="McDowell Dolensky" />
  <GROUP utype="sed:Contact">
    <PARAM utype="sed:Curation.Contact.Name" ucd="meta.note" value="McDowell Dolensky" />
    <PARAM utype="sed:Curation.Contact.Email" ucd="meta.note" value="ab@cd.ef" />
  </GROUP>
</GROUP>
```

```
<GROUP utype="sed:Curation">

  <FIELDref ref= ="field1" />

  <FIELDref ref= ="field2" />

  <FIELDref ref= ="field3" />

  <PARAM utype="sed:Curation.Version" ucd="meta.note" value="1.0" />

</GROUP>


<FIELD name="Flux Value" datatype="float" ID="field1"

  utype="sed:Flux.Value" ucd="phot.fluxDens;em.wl"

  unit="erg cm^-2 s^-1 Angstrom^-1" />

<FIELD name="Negative Error" datatype="float" ID="field2"

  utype="sed:Flux.Accuracy.StatErrorLow" ucd="stat.error;phot.fluxDens;em.wl"

  unit="erg cm^-2 s^-1 Angstrom^-1" />

<FIELD name="Positive Error" datatype="float" ID="field3"

  utype="sed:Flux.Accuracy.StatErrorHigh" ucd="stat.error;phot.fluxDens;em.wl"

  unit="erg cm^-2 s^-1 Angstrom^-1" />
```
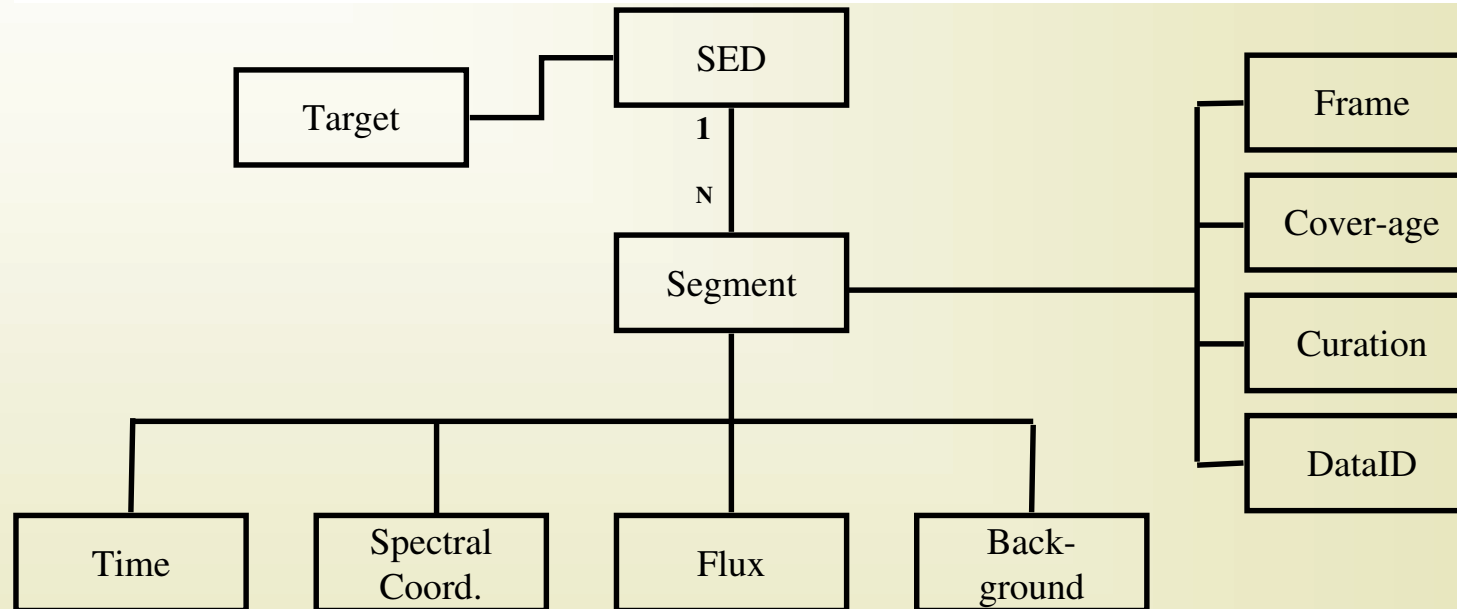
SSA Serialization:
An Experiment with
VOTable V1.1 …

http://www.ivoa.net/internal/IVOA/IvoaDAL/ssample1.xml

Should segment specific info be part of query response?

Simplified data model describing the structure of spectrophotometric datasets with spectral and temporal coordinates and associated metadata. It was developed by the data model working group of IVOA by McDowell et al.