SODA-next, DAP(SIA)
and DataLink implementation

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CENTRE DE DONNÉES ASTRONOMIQUES DE STRASBOURG

Table of content

- DataLink
  - Implementation Note → publish it ?
- SIA/DAP
  - One step access to SODA URL in the ObsCore response
  - Merge soon a PR with errata fixed.
- SODA-Next
  - MOC parameter to remove
  - PIXELS parameter format
  - DPTYPE reduction or sommation ?
  - RESPONSE format from and to HiPS
  - Support alternative coordinate systems
  - SODA and data models

DataLink implementation note

https://github.com/ivoa/DataLinkRecImplNote → push to an IVOA note

IVOA DataLink Implementation note

Version 1.0

IVOA Note 2024-01-19

Working Group
> DAL

This version
> https://www.ivoa.net/documents/DataLinkImp/20240119

Latest version
> https://www.ivoa.net/documents/DataLinkImp

Previous versions
> This is the first public release

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DataLink implementation note

Contents

DataLink implementation note

- How to identify a DataLink endpoint URL outside ObsCore

- How to fill the DataLink table attributes
    - Is that useful ?
    - Is that redondant with the spec
    - Can we publish as an IVOA note ?

DAP discussion

- Merge the PR with errata

- How to access the SODA cutout in one shot. The parameters of the soda query are the ones of the DAP query

  - access_url=http://blabla.org/soda?POS=...&BAND= 3 5

  - Alternate solution : add a service descriptor and fill the input PARAM section with the DAL query PARAM values
    < RESOURCE type= « meta » >
      <PARAM access_url= ..../>
      <PARAM standardID= ....SODA />
      <RESOURCE name= « inputParams » >
        <PARAM name = « POS » .... value = « .... »
        <PARAM name = « BAND » .... value = « 3 5 »
      ………………...

SODA-next : discussion

- Remove MOC parameter proposal :
  - Pros : difficult to match with an extraction effort. Let the client do the match with polygons before
  - Cons : direct reuse from responses of services providing MOCS

SODA-next : discussion

PIXELS cutout :

- which syntax ?

  - Cfitsio syntax : PIXELS=[50:70:2,200:300:2,100:1500:10]
  - Cons : difficult to provide available ranges. MD proposes

    PIXEL1 = 50 70 [2]

    PIXEL2 = 200 300 [2]

    ....

- PIXELS + World coordinates parameters ?

  - Like multiple parameters

SODA-next : discussion

- DPTYPE
  - Reduces the dimension of the product type by sommation inside the cutout coverage
  - Alternate proposal by MD : add a « SOMMATION » parameter
    - CONS : DPTYPE is actually forcing ObsCore and that's good !

SODA-next : discussion

- RESPONSEFORMAT = application/hips
  - Useful for on the fly cube hips, 3D → 2D reduction, etc..
  - Forbids projection different from HPX
  - Response is head directory of generated HiPS

- Coordinate system change : proposal and implementation by INAF (Vialactea and also SRCnet prototyping)
  - Proposal for a POSSYS and BANDSYS parameters to change the spatial params coordinate system and the Spectral quantity
    - POSSYS = ICRS, GALACTIC, …
    - BANDSYS = Wavelength, Velocity
    - Alternate solution : add (optional) system in POS which is already a string?
  - Will allow the velocity axis cutout asked by Alberto from ESO

SODA-next discussion

- DataModels and metadata PARAMETER
    - FITS headers
    - ObsCore
    - CAOM
- Transform and selection parameters force ObsCORE of the cutout (is that extensible?)
- For the data themselves should we force a specific datamodel serialization by a parameter ?