

CHARTAP:Characterisation2 implementation in a TAP service

Possible extensions to provenance

F.Bonnarel (CDS)

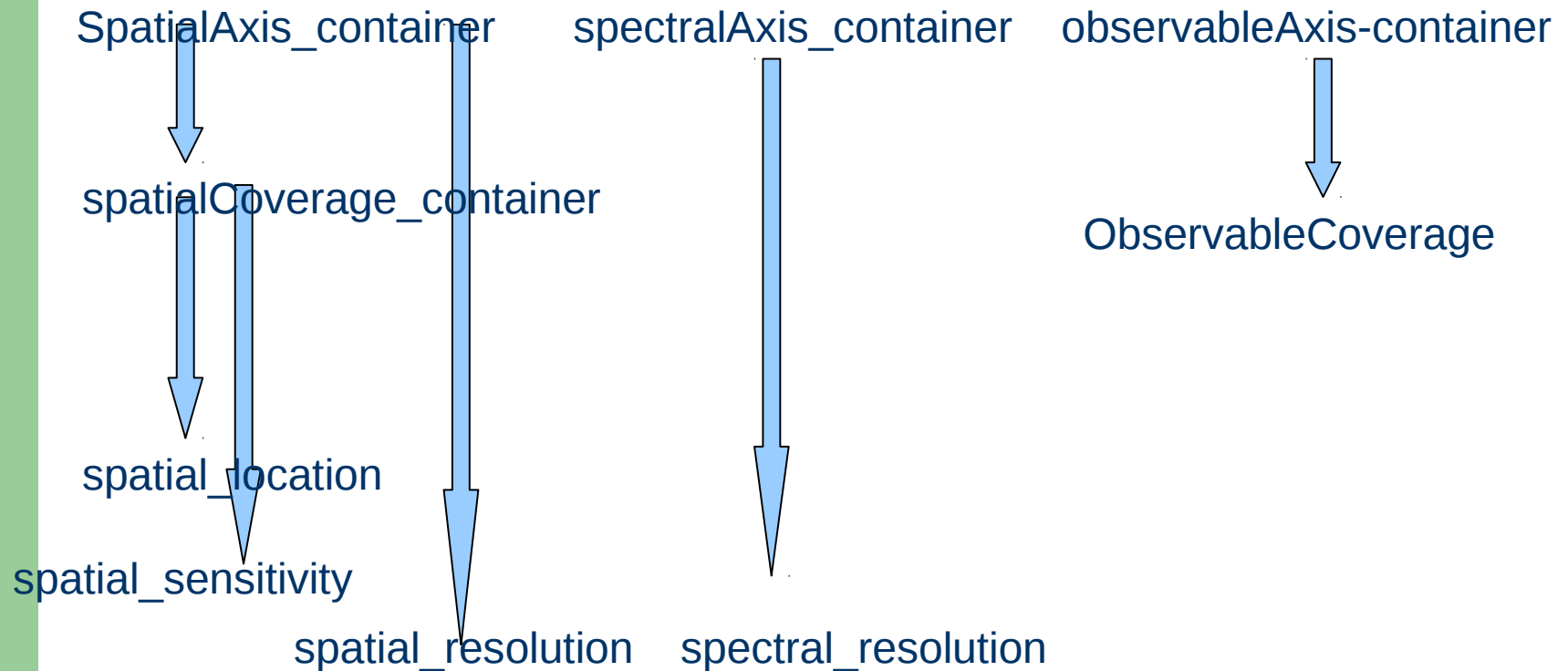
Mireille Louys, Nicolas Anduze



Char2 : CharTAP design

- TAP service using TAP CDS library
- TAP Schema using the following organisation
 - Per « CharAxis » container tables
 - Properties container tables for each axis
 - « Levels » as set of columns or extra tables
 - Only pertinent attributes implemented
 - Linkage done by Foreign Keys

TAP Schema tables hierarchy



TAP schema FOR IVOA model

- How to navigate to build the SELECT and JOINTS in ADQL
- **Build an Interface** to help doing that
- Pick up the columns we want in the output VOTABLE.

Main interface

CHARTAP

Bienvenue sur la page de CHARTAP.

Voici la liste des options possibles:

- **/sync**

`doQuery`

- **/async**

`doQuery`

- **/availability**

`CHARTAP/tap/availability`

- **/capabilities**

`CHARTAP/tap/capabilities`

- **/tables**

`CHARTAP/tap/tables`

Top view of the schema

Tables list

TAP_SCHEMA
characterisation

/sync

request :

format :
 votable
 csv

lang :

phase :

runid :

Query :
 SELECT

```
SELECT
```

```
FROM
```

WHERE Disabled constraints

```
WHERE
```

Add text on cursor position

Final query

```
SELECT
FROM
WHERE
```

Schema tables (large classes)

Tables list

TAP_SCHEMA	
characterisation	<input type="checkbox"/> spatial_sensitivity
	<input type="checkbox"/> spatial_location
	<input type="checkbox"/> spatial_resolution
	<input type="checkbox"/> spectral_resolution
	<input type="checkbox"/> observable_coverage
	<input type="checkbox"/> spatial_coverage_container
	<input type="checkbox"/> observableAxis_container
	<input type="checkbox"/> spatialAxis_container
	<input type="checkbox"/> spectralAxis_container
	<input type="checkbox"/> Observation

/sync

request :

format :
 votable
 csv

lang :

phase :

runid :

Query :
 SELECT

FROM

WHERE Disabled constraints

Add text on cursor position

130.79.129.53:8080/CHARTAP/doQuerySync.jsp#

Final query

Table content: columns

Tables list

TAP_SCHEMA	
characterisation	<input type="checkbox"/> spatial_sensitivity
	<input type="checkbox"/> spatial_location
	<input type="checkbox"/> spatial_resolution
	<input type="checkbox"/> spectral_resolution
	<input type="checkbox"/> observable_coverage
	<input type="checkbox"/> spatial_coverage_container
	<input type="checkbox"/> observableAxis_container
	<input type="checkbox"/> spatialAxis_container
	<input type="checkbox"/> spectralAxis_container
	<input checked="" type="checkbox"/> Observation

/sync

request :

format :
 votable
 csv

lang :

phase :

runid :

Query :
 SELECT

SELECT

FROM

FROM

WHERE = > < AND OR Disabled constraints

WHERE

Add text on cursor position

char

<input type="checkbox"/> obs_publisher_id
<input type="checkbox"/> spatialAxis_container
<input type="checkbox"/> spectralAxis_container
<input type="checkbox"/> observableAxis_container

Final query

SELECT

FROM

WHERE

Attributes description

Tables list

TAP_SCHEMA
characterisation

- spatial_sensitivity
- spatial_location
- spatial_resolution
- spectral_resolution
- observable_coverage
- spatial_coverage_container
- observableAxis_container
- spatialAxis_container
- spectralAxis_container
- Observation

/sync
request :

format :
 votable
 csv

lang :

phase :

runid :

Query :
 SELECT

SELECT

FROM

WHERE

WHERE = > < AND OR Disabled constraints

Add text on cursor position

130.79.129.53:8080/CHARTAP/doQuerySync.jsp#

char

- obs_publisher did
- spatialAxis_container
- spectralAxis_container
- observableAxis_container

meta

- Curation.PublisherDID
- VARCHAR**

erDID

dataType

Final query

SELECT

FROM

WHERE

Foreign Key towards a new table

Tables list

TAP_SCHEMA	
characterisation	<input type="checkbox"/> spatial_sensitivity
	<input type="checkbox"/> spatial_location
	<input type="checkbox"/> spatial_resolution
	<input type="checkbox"/> spectral_resolution
	<input type="checkbox"/> observable_coverage
	<input type="checkbox"/> spatial_coverage_container
	<input checked="" type="checkbox"/> observableAxis_container
	<input type="checkbox"/> spatialAxis_container
	<input type="checkbox"/> spectralAxis_container
	<input type="checkbox"/> Observation

request :

format :
 votable
 csv

lang :

phase :

runid :

Query :
 SELECT

SELECT

FROM

FROM

WHERE = > < AND OR Disabled constraints

WHERE

WHERE

Add text on cursor position

char	
<input type="checkbox"/> obs_publisher did	
<input type="checkbox"/> spatialAxis_container	
<input type="checkbox"/> spectralAxis_container	
<input checked="" type="checkbox"/> observableAxis_container	meta
<input type="checkbox"/> column	char.observableAxis
	BIGINT

Final query

SELECT
FROM
WHERE

Generated ADQL command

Tables list

TAP_SCHEMA	<input type="checkbox"/> spatial_sensitivity	char.spatialAxis.coverage.resolution	
characterisation	<input type="checkbox"/> spatial_location	<input type="checkbox"/> spatial_resolutionID	
	<input checked="" type="checkbox"/> spatial_resolution	<input type="checkbox"/> coordsystem	
	<input type="checkbox"/> spectral_resolution	<input checked="" type="checkbox"/> refval	deg
/sync	<input type="checkbox"/> observable_coverage	<input type="checkbox"/> PSF_Type	char.spatialAxis.resolution.refval.Cresol
request : <input type="text" value="doQuery"/>	<input type="checkbox"/> spatial_coverage_container	<input type="checkbox"/> PSF_Format	DOUBLE
format :	<input type="checkbox"/> observableAxis_container	<input type="checkbox"/> PSF_Access	<input type="text" value="dataType"/>
<input checked="" type="radio"/> votable	<input type="checkbox"/> spatialAxis_container		
<input type="radio"/> csv	<input type="checkbox"/> Observation		

lang :

phase :

runid :

Query :
 SELECT

```
SELECT spatial_resolution.PSF_Access,
spatial_resolution.PSF_Format, spatial_resolution.PSF_Type
```

FROM

```
FROM characterisation.spatial_resolution
```

WHERE

```
WHERE spatial_resolution.refval > 2
```

Add text on cursor position

130.79.129.53:8080/CHARTAP/doQuerySync.jsp#

Final query

```
SELECT spatial_resolution.PSF_Access,
spatial_resolution.PSF_Format, spatial_resolution.PSF_Type
FROM characterisation.spatial_resolution
WHERE spatial_resolution.refval > 2
```

Output VOTABLE example: PSF access link

Aucune information de style ne semble associée à ce fichier XML. L'arbre du document est affiché ci-dessous.

- CHARTAP output:
 - Psf files ahref
 - Type and format

```
-<VOTABLE version="1.2" xmlns:schemaLocation="http://www.ivoa.net/xml/VOTable/v1.2">
-<RESOURCE type="results">
<INFO name="QUERY STATUS" value="OK"/>
<INFO name="PROVIDER" value="ASOV">TAP for ASOV.</INFO>
-<INFO name="QUERY">
SELECT spatial_resolution.PSF_Access, spatial_resolution.PSF_Format, spatial_resolution.PSF_Type FROM caracterisation.spatial_resolution WHERE
spatial_resolution.refval > 2
</INFO>
-<TABLE>
-<FIELD ID="PSF_Access" name="PSF_Access" utype="char.spatialAxis.resolution.refval.variationMap.Access.access_reference">
<DESCRIPTION>Reference value</DESCRIPTION>
</FIELD>
-<FIELD ID="PSF_Format" name="PSF_Format" utype="char.spatialAxis.resolution.refval.variationMap.Access.Format">
<DESCRIPTION>Reference value</DESCRIPTION>
</FIELD>
-<FIELD ID="PSF_Type" name="PSF_Type" utype="char.spatialAxis.resolution.refval.variationMap.Type">
<DESCRIPTION>Reference value</DESCRIPTION>
</FIELD>
-<DATA>
-<TABLEDATA>
-<TR>
<TD>ivo://cds.u-strasbg.fr/2MASS/PSF12345678.fits</TD>
<TD>application/fits</TD>
<TD>Array</TD>
</TR>
-<TR>
<TD>ivo://cds.u-strasbg.fr/2MASS/PSF23456781.fits</TD>
<TD>application/fits</TD>
<TD>Array</TD>
</TR>
-<TR>
<TD>ivo://cds.u-strasbg.fr/2MASS/PSF34567812.fits</TD>
<TD>application/fits</TD>
<TD>Array</TD>
</TR>
</TABLEDATA>
</DATA>
</TABLE>
</RESOURCE>
</VOTABLE>
```

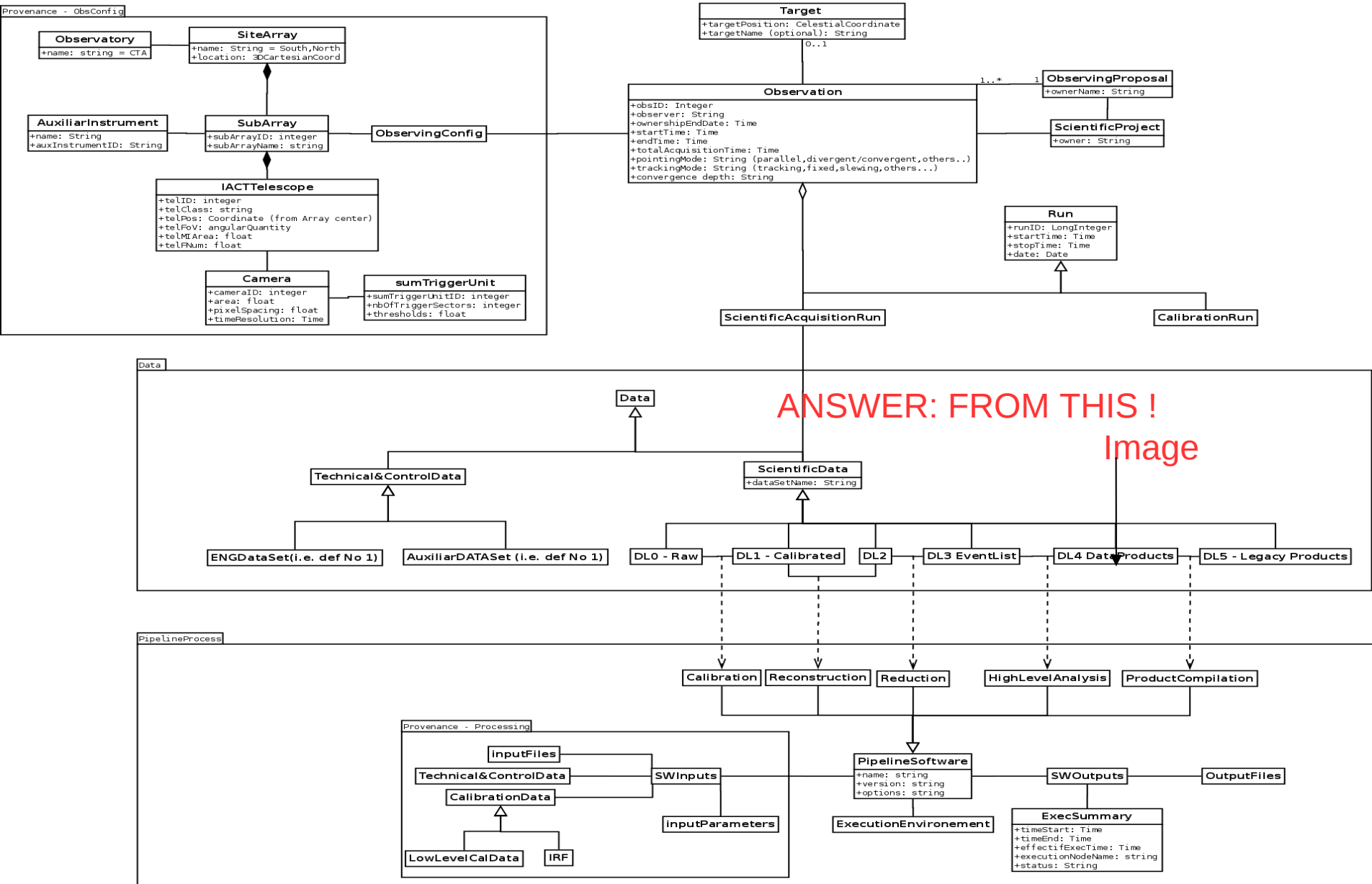
- Chartap outputs should be accessible from main DAL services via DataLink

TAP for Povenance: use case

HESS Source Image within Aladin:
Where does this image come from ?

simbad.xml

TYPED_ID	ANG_D...	DATE_CREATION	DATE_MODIF	OID4	OID3	C...	MAIN_ID	OTY...	RA	DEC	PMRA	PMD
		30-Sep-2006	18-Jan-2013	@3315016	@125734...	216...	HESS J1303-631	ga...	195.7517	-63.1986		



Partial implementation in TAP

- Partial views of this model seen as tables
- Associations with foreign keys
- Example: Processing step table. Retrievable like CHARTAP output tables
- Columns:
 - Image (DL4 product) PublisherDID
 - PipelineSoftware.name = HighLevelAnalysis
 - PipelineSoftware.version
 - PipelineSoftware.options
 - InputFiles (progenitors) : Event list DL3 (acref, type, etc...)