TAPVizieR implementation & feedbacks

Available since January 2013

Main issues raised in Sao Paulo:

- **Providing the TAP schema** 
  - decrease the XML output size (30Mb) with providing the tables descriptions without columns.
  - The URL choosen to get the full table description (columns) is given by a REST URL :

    http://tapvizier.u-strasbg.fr/TAPVizieR/tap/tables/II/246/out

```
<tableset xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
          xmlns:vod="http://www.ivoa.net/xml/VODataService/v1.1" xsi:type="vod:TableSet">
    <schema>
        <name>vizls</name>
        <table type="base_table">
            <name>vizls.II/246/out</name>
            <description>The Point Source catalogue of 470,992,970 sources.</description>
            <column std="true">
                <name>RAJ2000</name>
                .....
            </column>
            <column std="true">
                <name>DEJ2000</name>
                .....
            </column>
            .....
        </table>
    </schema>
</tableset>
```

Main issues raised in Sao Paulo:

- **Naming tables and columns** 
  - Homogenization of the name with VizieR
  - Clients must add quotes "" to the tables & columns names before submitting an ADQL query!

```
SELECT TOP 100 "II/246/out".RAJ2000,  "II/246/out".DEJ2000,  "II/246/out"."2MASS"
 FROM "II/246/out"
 WHERE 1=CONTAINS(POINT('ICRS',"II/246/out".RAJ2000,"II/246/out".DEJ2000),
CIRCLE('ICRS', 83.633083, 22.0145, 2/60.))
```

Ambiguity of the coordinate system

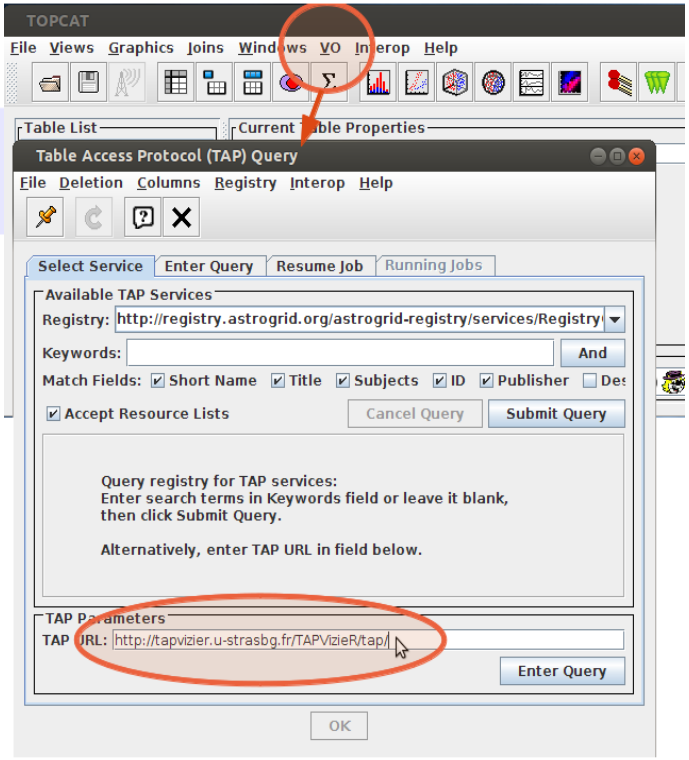
- Solved by adding in VizieR the position in ICRS

  (90% of tables done)
- TAPVizieR uses the coordinate system which are stored in the database (send a Warning if the query doesn't match)

Softwares compatibility

	TAPVizieR GUI	TAPHandle	TOPcat
Get tables from TAPschema (/tables)	✓	✓	✓
Get columns from TAPSchema (/table/....)	✓	✓	✗
Naming tables & columns	✓	✓	✗
Friendly interface to acess TAPVizieR	✓	✓	✗

Note : (Laurent Michel)
The upload in TAPHandle should be soon available



Application Feedbacks

Feedbacks from the Strasbourg Astronomical Observatory

(Seminar in the Strasbourg Astronomical Observatory : december 2012)

Subject: *– Database access using the VO –*

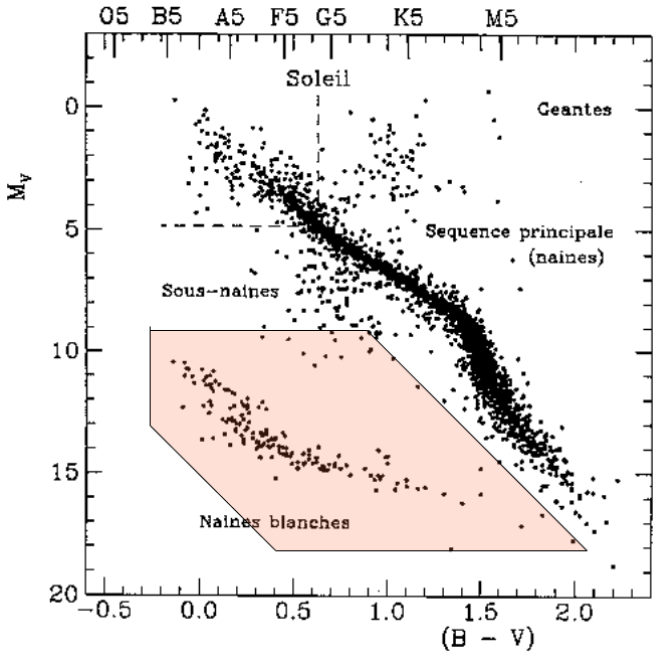
- *TAPSimbad, TAPVizieR*
- *TAPHandle, TOPcat*

public feedbacks

- good feeling
- extension of the geometrical functions
- demand a TAP tutorial

Others feedbacks

- FITS output, the Upload ?



Consequences

- **Consequences in VizieR**
  - Homogenization of coordinates system in ICRS
  - VizieR update to work with bigint
- **Tables Indexation** with HEALPix (H3C)
  - Added function : healpix(ra,de, nside)

    (H3C : h3c_ang2ipx(ra,de), h3c_ipix2ang(ipix))

```
SELECT TOP 10   healpix( raj2000,dej2000, 32768)
FROM "II/246/out"
```

  - MOC service : (not used by Aladin which query the CDSxmatch service)

    http://tapvizier.u-strasbg.fr/TAPVizieR/moc.html (web GUI)

    http://tapvizier.u-strasbg.fr/TAPVizieR/tap/moc?query=table&heaplix=...
    (output in tsv only)

Some VizieR addition

- TAP added URL :
  - A VizieR Search tables as an alternative of TAPSchema search which enables position search :

    (used by the TAPVizieR GUI)

  http://tapvizier.u-strasbg.fr/TAPVizieR/tap/search

    note : TAPHandle search by keyword in the TAPschema
  - a query plan service (M.Demleitner)

  http://tapvizier.u-strasbg.fr/TAPVizieR/tap/queryplan

  or GUI : http://tapvizier.u-strasbg.fr/TAPVizieR/
- JSON output is available to provide the TAPschema of a single table or for the result output.