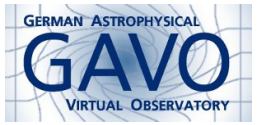

*Fig. 1*

*Fig. 2*

# 1. TAPRegExt

(vgl. Fig. 1)

Markus Demleitner
*msdemlei@ari.uni-heidelberg.de*

(vgl. Fig. 2)

- What's basically there
- Single key enumeration
- Language features

# 2. What are we talking about?

TAPRegExt extends VOResource's capability type to describe TAP services. This is important in (at least) two places:

1. Registry records for TAP services
2. The content of the .../capabilities endpoint and the getCapabilities response of a TAP server

It's already produced by several servers and consumed by TOPCAT.



# 3. What's basically there

```
<dataModel ivo-id="ivo://ivoa.net/std/ObsCore-1.0"
  >ObsCore 1.0</dataModel>

<outputFormat
    ivo-id="ivo://ivoa.net/TAPRegExt#output-votable-binary">
  <mime>application/x-votable+xml</mime>
  <alias>votable</alias>
</outputFormat>

<uploadMethod
  ivo-id="ivo://ivoa.org/TAPRegExt#upload-https"/>

<outputLimit>
  <default unit="rows">2000</default>
  <hard unit="rows">20000000</hard>
</outputLimit>
```

outputFormat now has an optional ivo-id attribute, and the ivo-ids of the upload methods have changed; more on this below.

In the way of limits, there's also uploadLimit (of which there's only a hard one), retentionPeriod and executionDuration; those sport default and hard as well, but units are fixed to seconds.

# 4. Single Key Enumeration

There is now a StandardsRegExt resource record for TAPRegExt containing a StandardKeyEnumeration for all things defined within TAPRegExt (rather than a standalone enumeration for upload methods as before).

Currently, we have keys for

- Upload methods (`upload-inline`, `upload-http`, etc.)
- Output formats (`output-votable-td`, etc., only where a MIME may not be enough)
- Feature types (`features-udf`, `features-adql-geo`)

Do we want `features-refsystems`? Should that enumeration go into the TAP resource record?

## 5. Language Features

In Napoli, we had a userDefinedFunction element as a child of language.

It turned out we wanted more flexibility. Mark Taylor came up with the concept of the language feature:

```
<languageFeatures
    type="ivo://ivoa.net/TAPRegExt#features-udf">
  <feature>
    <form>
      gavo_match(pattern TEXT, string TEXT) -> INTEGER
     </form>
    <description>gavo_match returns 1 if ...
    </description>
  </feature>
</languageFeatures>
<languageFeatures
   type="ivo://ivoa.net/TAPRegExt#features-adqlgeo">
  <feature>
    <form>BOX</form>
  </feature>
```

Thus, a language feature enumeration has a mandatory type defining what each item is. A feature has a form, which is a "formal", machine-oriented representation of the feature, and optionally a description targeted at humans.

## 6. Open Questions

- Do we want to define `features-refsystems`?
- Should the enumeration be in a TAP RR? Or as separate RRs?
- Should we have sample queries?
- Your question here.

And then: RFC?

The document source is maintained within volute; you'll find the resource record there, too.