SSAP getData – or Datalink?

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- The SSAP usecase

- Parameters, and their syntax

- Communicating generation parameters

Why getData?

Primary usecase: Cutouts. For spectra, that's particularly useful since people frequently are interested in just the vicinity of a spectral line.

Secondary usecase: Generation of spectra in diverse formats.

With cutouts, continuum subtraction, rebinning, and similar become difficult in the client. Thus, it may become necessary to put this on the server side, too.

getData: The principle

Idea: Rather than use what's returned as accref, use the publisher DID on `getData`.

`getData` without a PUBDID would return a metadata response.

Possible addition: Allow creator DID as well?

Unknown PUBDIDs yield a 404.

`getData` may evaluate further parameters, locally defined ones and parameters like `FORMAT` (on-the-fly format conversion), `BAND` (cutouts), `SPECRP` (rebinning), and `FLUXCALIB` (flux normalization).

`getData` must error out on unknown parameters or malformed parameter values.

PQL metacharacters

SSAP vaguely defines metacharacters for parameters: `7e-7/8e-7,1e-10/2e-10;RESTFRAME` might be a valid specification for `BAND`.

I propose to not recognize any of this and just define a special syntax for BAND: `[<low>]/[<high>]`.

Personal preference: I'd much rather have, say, `LAMBDA_LOW` and `LAMBDA_HIGH` and punt the parameter syntax entirely, but that's probably too far from SSAP.

Completely unhandled right now: transformation to rest frame.

Generation Parameters

To declare support of getData, services include a TABLE named

generationParameters in the SSAP queryData response:

```
<TABLE name="generationParameters">
  <PARAM name="FORMAT" datatype="char" arraysize="*"
    value="application/x-votable+xml">
    <VALUES>
      <OPTION>application/x-votable+xml</OPTION>
      <OPTION>text/plain</OPTION>
      <OPTION>application/fits</OPTION>
    </VALUES>
  </PARAM>
  <PARAM name="BAND" datatype="float" unit="m">
    <VALUES>
      <MIN>2e-7</MIN>
      <MAX>8e-7</MIN>
    </VALUES>
  </PARAM>
</TABLE>
```

A preliminary spec

As a part of SSAP evolution, we are proposing this and two additional features for object name querying. See
http://docs.g-vo.org/ssaevolution.html

If you have more ideas that should go into SSAP evolution, you're welcome to participate.