Datascope as a Web Service using UWS

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Motivation

- Datascope
  - Search all registered services (catalogues or images) for entries near a given sky location.
  - Dedicated web client for displaying results.

- VAO Data Discovery Tool (see next talk)
  - "Mashup" of potentially several different services.
  - Want to include Datascope

- Solution is to provide Datascope searches as a UWS service.

Relevant Datascope Details

- Searches run asynchronously as separate processes for each service provider.

- Search results are updated as they are received.

- Discovery Tool wants to see the results as they come in.

- Facilities for initializing, running jobs and caching results already implemented.

Implementation

- "Lite" implementation
  - Time constraints
- Perl CGI script
- Some changes also needed to main Datascope engine
  - Produce votable "results" files
- Some UWS features not implemented
  - DELETE/DESTRUCTION
  - QUOTE/EXECUTIONDURATION
- Input Parameters
  - RA : j2000 ra
  - DEC : j2000 dec
  - RADIUS : search radius in degrees
  - SKIPCACHE : if YES, don't use previously cached results

Response to Job Creation Request

```
<uws:job xsi:schemaLocation="http://www.ivoa.net/xml/UWS/v1.0/UWS.xsd">
        <uws:jobId>140</uws:jobId>
        <uws:phase>PENDING</uws:phase>
        <uws:parameters>
                <uws:parameter id="DEC">2.052381</uws:parameter>
                <uws:parameter id="RADIUS">0.0101</uws:parameter>
                <uws:parameter id="SKIPCACHE">YES</uws:parameter>
                <uws:parameter id="RA">187.277916</uws:parameter>
        </uws:parameters>
</uws:job>
```

Job Status 1

```
<uws:job xsi:schemaLocation="http://www.ivoa.net/xml/UWS/v1.0/UWS.xsd">
        <uws:jobId>140</uws:jobId>
        <uws:phase>EXECUTING</uws:phase>
        <uws:parameters>…</uws:parameters>
        <uws:results>
                <uws:result id="results.xml" xlink:href=
        "http://heasarc.gsfc.nasa.gov/votest/cache/187.277916_2.052381_0.0101/results_v11.xml"/>
                <uws:result id="hits.xml" xlink:href=
        "http://heasarc.gsfc.nasa.gov/votest/cache/187.277916_2.052381_0.0101/hits_v11.xml"/>
                <uws:result id="status.xml" xlink:href=
        "http://heasarc.gsfc.nasa.gov/votest/cache/187.277916_2.052381_0.0101/status_v11.xml"/>
                <uws:result id="numberOfHits">124</uws:result>
        </uws:results>
        <uws:startTime>2011-13-13T15:13:24.770-0400</uws:startTime>
</uws:job>
```

Job Status 2

```
<uws:job xsi:schemaLocation="http://www.ivoa.net/xml/UWS/v1.0/UWS.xsd">
        <uws:jobId>140</uws:jobId>
        <uws:phase>EXECUTING</uws:phase>
        <uws:parameters>…</uws:parameters>
        <uws:results>
                <uws:result id="results.xml" xlink:href=
        "http://heasarc.gsfc.nasa.gov/votest/cache/187.277916_2.052381_0.0101/results_v39.xml"/>
                <uws:result id="hits.xml" xlink:href=
        "http://heasarc.gsfc.nasa.gov/votest/cache/187.277916_2.052381_0.0101/hits_v38.xml"/>
                <uws:result id="status.xml" xlink:href=
        "http://heasarc.gsfc.nasa.gov/votest/cache/187.277916_2.052381_0.0101/status_v39.xml"/>
                <uws:result id="numberOfHits">420</uws:result>
        </uws:results>
<uws:startTime>2011-13-13T15:13:24.770-0400</uws:startTime>
</uws:job>
```

Job Status 3

```
<uws:job xsi:schemaLocation="http://www.ivoa.net/xml/UWS/v1.0/UWS.xsd">
        <uws:jobId>140</uws:jobId>
        <uws:phase>COMPLETED</uws:phase>
        <uws:parameters>…</uws:parameters>
        <uws:results>
                <uws:result id="results.xml" xlink:href=
        "http://heasarc.gsfc.nasa.gov/votest/cache/187.277916_2.052381_0.0101/results_v122.xml"/>
                <uws:result id="hits.xml" xlink:href=
        "http://heasarc.gsfc.nasa.gov/votest/cache/187.277916_2.052381_0.0101/hits_v122.xml"/>
                <uws:result id="status.xml" xlink:href=
        "http://heasarc.gsfc.nasa.gov/votest/cache/187.277916_2.052381_0.0101/status_v122.xml"/>
                <uws:result id="numberOfHits">467</uws:result>
        </uws:results>
        <uws:startTime>2011-13-13T15:13:24.770-0400</uws:startTime>
        <uws:endTime>2011-20-13T15:20:03.473-0400</uws:endTime>
</uws:job>
```

Questions/Comments

- Results changing during the execution of the job
    - Against spirit of standard?
- I believe this does not conform to the standard:

```
<uws:result id="numberOfHits">467</uws:result>
```