REST in the VO

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Purpose

- **SOAP Web Service paradigm was an important element in the early years of IVOA but become more and more complex with an increasing number of standards (WS-* …)**

- **REST seems to be an alternative to this complexity**

  - **A formalization of the URL use**

  - **Easy to implement it**

  - **A service is RESTful if it follows a small set of rules**

- **REST is not a standard and it would be useful to define a minimal guideline about the "RESTfullness" in the VO context**

- **This work was initiated during Cambridge 2007 interop**

Important point : service description

- **In SOAP area : WSDL (Web Services Description Language) describes SOAP services**

  - **Self-description by the service endpoint URL + "?wsdl"**

  - **Not easy to use a SOAP WS without this description**

- **In REST area : no standard way like WSDL**

  - **Services have simpler interfaces and the description is not as important as for SOAP WS**

    - **But in the case of automatic creation or use of the service by tools it would be useful to provide a description of the service.**

  - **WADL (Web Application Description Language) could be a solution**

WADL structure

- ```xml
  <application xmlns=>
   <resources base=''>
    <resource path='{resourceName}'>
     <doc>This resource is one of a set of resources</doc>
     <param name='resourceName' style='template'>
      <doc>The name of the resource being described</doc>
     </param>
     <method name='GET'>
      <response>
       <representation status='200' mediaType='text/html'>
        <doc>Returns a description of the resource</doc>
       </representation>
       <fault status='404' mediaType='text/html'>
        <doc>If the document is not found, return an explanation</doc>
       </fault>
      </response>
     </method>
    </resource>
   </resources>
  </application>
  ```

WADL

- **But**
  - WADL is not a standard
  - Existing tool for the generation of code from a WADL description are not very efficient at this time

- **However we recommend to provide a WADL description of a service**
  - WADL is simple and it will be easy to convert to an another description langage if necessary
  - The the practical advantages to a service implementation of having a machine-readable interface specification and the interoperability advantages of having a public commitment to an interface, are substantial enough

Other suggestions

- **REST is not a formal standard, but instead a set of good practices, services cannot be required to "conform" to REST**

- **But**

  - **We RECOMMEND**

    - that future services should conform to these good practices wherever possible

    - that service authors should seek feedback on their interface design from the GWS WG, with a view to ensuring that the service conforms to the spirit of these practices as much as possible.

- **It is possible to provide a tool to do a basic checking**

Roadmap

- **Add some topics ?**

- **...**