REST in the VO

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Purpose

- **SOAP Web Service paradigm was an important element of the IVOA Architecture**
    - **Developments around these services are more and more complex with an increasing number of standards (WS-* …)**
    - **Migration to REST**

- **REST is not a standard but**
    - **A formalization of the URL use**
    - **It is very easy to implement it**
    - **A service is RESTful if it follows a set of rules**
    - **As there is no standard we think that it would be useful to define a minimal guideline about the "RESTfullness" in the VO context**

- **This work was initiated during Cambridge interop and is done in the frame of VOTECH but everybody is welcome**

ROA

- **A resource Oriented Architecture can be resumed to**
  - **4 concepts**
    - resources
    - theirs names (URIs)
    - their representation
    - the links between them
  - **4 properties**
    - addressability
    - statelessness
    - Connectedness
    - uniform interface

How to describe a service ?

- **WSDL (Web Services Description Language) describes SOAP services**
    - **Self-description by the service endpoint URL + "?wsdl"**
        - **It is very difficult to use a SOAP WS without this description**

- **For REST there is no standard way like WSDL**
    - **But it is possible to use for example WADL (Web Application Description Language)**
    - **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.**
    - **If a WADL (or WADL like) description is available it is then possible to generate for example the client Java code to access to the service.**

REST development tools and frameworks

- **Ruby on Rails**
  - Framework written in Ruby and dedicated to Web developments

- **Restlet**
  - Framework for the Java platform providing native REST support

- **Django**
  - Open source framework for the Python expected to provide a native REST support in the coming months

- **NetKernel, CXF (Apache), ...**

- **Like for development languages we think that we have not to make a choice between them... it depends on the use cases**

Requirements

- **As a minimum it would be very efficient to have a "standardized" description of the REST services provided in the frame of the IVOA**

    - Use of an non-standard way (WADL for example)? Define our own standard? Interaction with other WG(s) ?

- **A tool to check if the service is really RESTful ?**

- **...**

Roadmap

- **Continue this work as a profile for REST use in the VO ?**

- **With which granularity ?**

- **...**