

Documenting REST services WADL vs WSDL 2.0

Jonathan Normand
Observatoire de Paris

❑ **REST service is characterized by:**

- Set of resources (service's URLs)
- Communication mechanism
- Operations it can performed (create job, get results...)
- Structure of I/O messages

❑ **IVOA**

- UWS (WD) normalizes URIs, operations and output messages

⇒ **How to describe the interface of REST service ?**

- Currently: textual documentation (README, HTML web page...)
- Need to provide machine process-able description: WADL and WSDL 2.0

REST bindings of UWS

□ Example: URLs of Lick service

- POST <http://.../srvLick> -> create a job
- GET <http://.../srvLick> -> get the job list
- GET <http://.../srvLick/{jobid}> -> get the job description
- DELETE <http://.../srvLick/{jobid}> -> cancel a job
- GET <http://.../srvLick/{jobid}/phase> -> query job status
 - Input parameters are exposed as a resource (part of the query string)

Documenting REST service (1)

2 specifications :

- ❑ **WADL (Web Application Description Language)**
 - From SUN (last specification on 2006)
 - Strictly targeting REST service (supports only HTTP protocol)
- ❑ **WSDL (Web Services Description Language)**
 - 1.1 : only supports GET and POST verbs
 - 2.0 : supports all HTTP verbs
 - W3C recommendation (2007)

Documenting REST service (2)

- ❑ **Document the Lick service presented before**
 - Based on the last available specifications of WADL and WSDL
- ❑ **Description of parameters for the job**
- ❑ **Output messages are described in the UWS**
- ❑ **WADL and WSDL specifications describing the Lick service**
 - <http://voparis-srv.obspm.fr/ivoa/lick-wadl.xml>
 - <http://voparis-srv.obspm.fr/ivoa/lick-wsdl.xml>

Pros/Cons

❑ WADL

- + Simple by design
- No Authentication
- + Easy to read, understand and implement
- Not a standard
- + Simple URI template mechanism

❑ WSDL 2.0

- Complex by design
- + Authentication
- Need to understand more concepts
- Only XML parameters
- + W3C recommendation
- need to define XML input message to use the URI template mechanism

Conclusions

□ Developer point of view

- WADL is simpler than WSDL 2.0 but has a limited scope
- WADL covers all our current needs (except authentication)
- WADL is as simple as REST
- WSDL is more flexible than WADL
- WSDL is a W3C recommendation