Geophysical Research Abstracts,
Vol. 11, EGU2009-2897, 2009
EGU General Assembly 2009

A RESTful way to Manage Ontologies

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In 2005 BODC implemented the first version of a vocabulary server developed as a contribution to the NERC DataGrid project. Vocabularies were managed within an RDBMS environment and accessed through a SOAP Web Service API. This was designed as a database query interface with operations targeted at designated database fields and results returned as strings.

At the end of 2007 a new version of the server was released capable of serving thesauri and ontologies as well as vocabularies. The SOAP API functionality was enhanced and the output format changed to XML. In addition, a pseudo-RESTful query interface was developed directly addressing terms and lists by URLs. This is in full operational use by projects such as SeaDataNet and will run for the foreseeable future.

However, operational experience has exposed shortcomings in both the API and its document payload. Other ontology servers, notably at MMI and CSIRO, are coming on-line making now the time to unify ontology management. This paper presents a RESTful API and payload document schema. It is based on the lessons learned in four years of operational vocabulary serving, provides full ontology management functionality and has the potential to form the basis for an interoperable network of distributed ontologies.