

# Semantics at the 2<sup>nd</sup> EUDAT Conference

## Overview

Semantic Annotation is one of the new interest fields, discussed in detail at the working group workshop (Barcelona, Sept 2013) and for which EUDAT is building a new building block. During the 2<sup>nd</sup> EUDAT Conference, 28-30 October 2013 – Rome, Italy<sup>1</sup>, the New Services track the results from the Semantic Annotation track at the working group workshop; the LTER/LifeWatch use case, which has been the initiator on semantic annotation work in EUDAT; a new initiative on ontologies (EUON); and the work done on this subject in EUDAT were presented.

## Semantic Annotation working group

Semantic Annotation is about connecting data with their meaning according to established ontologies or thesauri that are in general domain specific. One of the main barriers is to enable easy usage of these ontologies in the day-to-day working of a scientist. To do this, scientists need easy to use tools to bridge this gap or transparently make use of ontologies integrated with domain specific services. Solutions must be generic, lightweight, must follow semantic standards and benefit from users semantic enrichments. The main conclusion of the working group meeting was that semantic annotation is of great interest to a broad user community and the working group is planning to continue its work.

## LTER/LifeWatch Semantic Annotation use case

The Europe Long-Term Eco system Research<sup>2</sup> (LTER-Europe) is part of the global International Long-Term Ecological Research<sup>3</sup> (ILTER). Part of the LTER objectives is to support cutting edge science with a unique in-situ infrastructure. The LTER/LifeWatch use case in EUDAT is to tackle the problem of the variety of data from the biodiversity domain and data from drivers of biodiversity, on existing and gathered data in the field across 70 sites in Europe in compliance with existing metadata standards (e.g. EML and INSPIRE). The Semantic Annotation use case is trying to tackle the annotation of metadata with semantic concepts and terms and to discover data using semantic information. The goal of the Semantic Annotation service is to provide an easy-to-use tool which can be integrated within community frameworks, see Figure below.

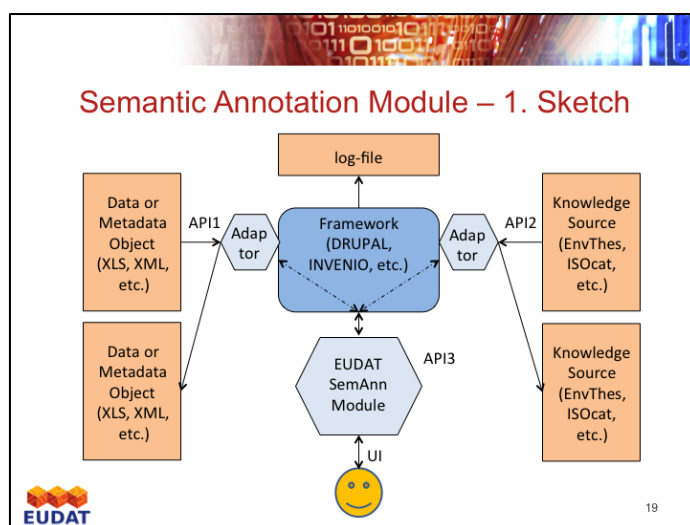


Figure 1 - Schematic overview EUDAT Semantic Annotation Module

<sup>1</sup> <http://www.eudat.eu/parallel-track-iv-new-services-overview>

<sup>2</sup> <http://www.lter-europe.net/>

<sup>3</sup> <http://www.ilternet.edu/>

## European Ontology Network

During the session a new initiative on ontologies the European Ontology Network (EUON) was presented by Herbert Schentz (Umweltbundesamt GMBH). Large amounts of money went into the creation of domain specific ontologies, thesauri, vocabularies and frameworks, but these are hardly used. Why are these ontologies not used and what is missing? Practical tools and training for scientific data practitioners, easy access to semantic experts to support deployment of semantic web solutions, approaches to support the fast occurring changes and a platform for knowledge exchange between semantic experts and data practitioners. The goal of EUON is to connect the European Ontology Practitioner Community and to create a platform to provide quick and easy help to those who need to solve urgent problems in the semantic area. Membership is open and includes people from many scientific disciplines and from academic institutes, non-profit organisations and industry. EUON wishes to closely collaborate with EUDAT, to plan meetings at EUDAT conferences, user forums and working group meetings and specifically with EUDAT's Semantics working group.

## Semantic Annotation Discussions & Conclusions

During and at the end of the Semantic Annotation session there were excellent discussions on the Semantic subject in general, on technical details and how the semantic annotation service is related to other EUDAT services. Remarks were made that the current solution is focusing on textual annotations and how this relates to non-textual data (e.g. pictures, audio, video); about the scalability of such a service and that a semantic annotation service is not the Holy Grail solving all semantic issues because scientists are the most knowledgeable in describing research and annotating is labour intensive. During the discussion about how the semantic annotation service is related to the other EUDAT services, options were discussed on the usage of the Semantic Annotation service within the B2SAFE, EPIC PID and B2SHARE services. The B2SHARE service will provide domain specific metadata templates to describe uploaded data objects.

**The integration of the semantic annotation module within the B2SHARE service linked to domain specific vocabularies when selecting a domain specific template could be very beneficial to improve the quality of the metadata describing uploaded data objects. The main conclusions from this session are that any Semantic Annotation service should be generic, easy-to-use, scalable, flexible to handle different type of data objects and preferably, via auto learning technics, a high level of automation.**

## Further Information

For more information see the Semantics web Section <http://www.eudat.eu/semantics> or contact:

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