TDWG GeoInteroperability Testbed Pilot Project

SubStandards TIP Proposal - November 2006

Objective:

We envisage en environment where the many different TDWG initiatives can interoperate to provide a rich set of tools for biodiversity knowledge exploration, analysis and discovery - a Biological Geospatial Data Infrastructure. This proposal is a first step towards creating such an interoperability environment. We aim to test and demonstration of the use of biodiversity informatics and geospatial standards, mainly TDWG and OGC, by creating and implementing a very simple use case that integrates various **existing** tools and standards within the TDWG universe.

Responsible:

The newly formed SubStandards task group. The SubStandards task group is a new task group that is being created under the TDWG Geospatial Subgroup. The group is still not an official TDWG task group but will likely be in the near future. The convener of this task group will be Javier de la Torre.

Outcomes:

The main result of the meeting will be a demonstration of the interoperability and usability of the different standards involved in the experiment. To do so a create a workflow of chained services will be designed and demonstrated in a web application which integrates **existing** projects, technologies, and standards. We place a strong emphasis on the use of 'existing' facilities since we want to produce a rapid prototype and limit *de neaveau* development to strictly the minimum needed to achieve interoperability between the components listed below, and the provision of a simple web interface that will allow the user to 'test drive' our test bed.

Three major components- Taxonomic Object Services (TOS), the Spatial Data Library (SDL) and to a lesser extent, High Performance openModeller web services (HP-OMS) of such a work flow are beyond the scope of development within a workshop such as this, and so development tasks for these are submitted as separate proposals or obtained elsewhere (SEEK-Taxon, SPICE for TOS). However, the development of both SDL and HP-OMS are driven primarily by their respective use cases, which are to a certain extent, expected to be defined at this developer workshop. Hence it is important that the SDL and HP-OMS are available as prototypes for the workshop.

Tagging of these data sources and services with LSIDs will be an important component of the envisaged work flow, and will be critical to the operation of the SDL and to enable tracing of the data through the work flow.

The workflow will include:

- Use of taxonomic Name/Concept resolution service with LSIDs.
- Primary data harvesting using WFS(2), TAPIR, and/or DiGIR?
- Visualization of primary data with other Geospatial sources using WMS.
- Discovery of environmental layers using catalog services CSW (4).
- Use of the openModeller Web Service to accomplish a model experiment
- Presentation of the results in a web application using WMS and other OGC standards
- Assignment of LSIDs to analysis outputs

All the source code of the workshop will be available as Open Source on the biogeosdi.org trac system and the working prototype will be accessible to the general public.

Tentative list of participants:

- TimSutton (openModeller Web Service)
- Aimee Stewart (SDL Catalog, Environmental Data Management)
- Dave Vieglais (Taxonomic Concept Service, Mapping and Web UI, LSIDs)

- Javier de la Torre (Mapping interfaces with WMS/WFS, Catalog service, TAPIR)
- Dave Neufeld (Data retrieval using WFS)
- Peter Brewer (SPICE protocol, taxonomic services from Species 2000)
- Patricia Mergen (Reporting on web applications combining OGC and TDWG standards)

Dates and Location:

The proposed dates for the workshop will be the 12th to 16th March 2007. The first day will be for coordination and planning and 4 days for coding in groups.

The proposed place for the workshop is CRIA (to be confirmed) in Campinas, Brazil.

Funding Requirements

Travel and accommodation for 7 participants. The figure below takes into account that 1 participant will not require any travel and accommodation cover if the even takes place at the location proposed above.

Total amount requested: **US$ 13,000**