

Semantic Integration of Geodata, with Feature Type Hierarchies

Bjørn Håkon Horpestad, Ostfold University College.

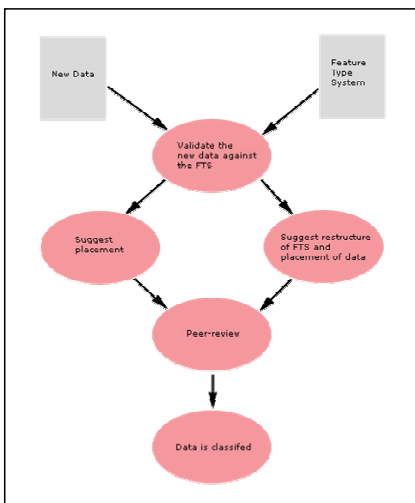
Abstract

Semantic integration is simply put integration of attributes from different geometric sources. It is sometimes referred to as the grammatical conflation of different sets of maps. Semantic integration can be a cumbersome and comprehensive process, with no simple or correct solution.

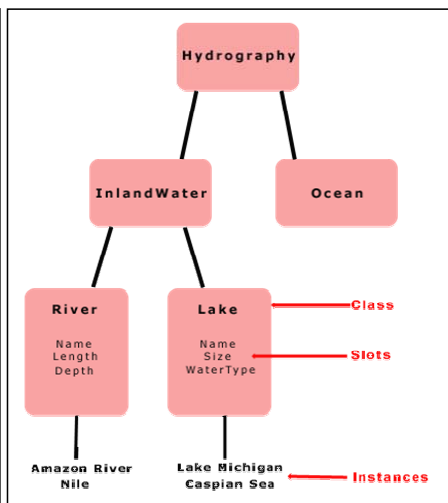
There are several different classification methods that can aid and help when performing semantic integration. To organize data into hierarchies is a very helpful way to get an understanding of concepts and relationships between concepts. Among the most common hierarchies are taxonomies, thesauri and ontologies. Here the ontology has been used as an aid to classify data, hence making it easier to integrate new data.

To make ontologies is not a simple process. Different communities require different ontologies. There are no correct or straight forward methods to make ontologies, but a number of different approaches. The approach chosen here is to use instances and file structures from existing data, in this case VMAP0, VMAP1 and DNC data, and develop ontologies based on these. In OneMap an increment approach is chosen, this means that new data is submitted in parts and bits. This combined with a peer-review process leads to continuous development, restructure or rebuilding of the ontology.

This work is part of Project OneMap, a long term effort contributing to the fusion of standard web technologies and geographic content, often referred to as the GeoWeb.



The figure above shows an overview of the semantic integration process.



The figure above shows a simple hierarchy.