Semantic Annotation and Discovery within Geospatial Standards

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Abstract

There is a strong trend, in several ongoing projects, that focuses on leveraging existing semantic technologies to enhance geospatial services and obtain integrated geosemantic solutions. One of those, the SWING project, is an EU funded project investigating the applicability of semantic technologies to geospatial standards, focusing on the definition of geospatial domain ontologies, the automated semantic annotation of data and services, and the discovery and chaining of distributed geospatial services. The final goal of this project is the definition of a geosemantic decision support SDI based on interoperable specifications. Based on the current status and results of the SWING project, this paper will describe the advantages of the standardization of geosemantic data and services and the challenges and difficulties faced when trying to integrate semantic and geospatial standards such as those from the OASIS, OGC or ISO consortiums. It will also show how the benefits of such a platform can be extended to other geospatial domains; in particular, it will show how the proper definition and usage of geospatial ontologies and semantically enabled catalogues can greatly enhance the publication, discovery, processing and thus sharing of geodata across different domains and between different parties.