Abstract

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A model for spatial and spatio-temporal geoscience data
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Abstract

Within the EU Project Promine the TU Bergakademie Freiberg (TUBAF) shall develop a network based infrastructure to handle (tempo)spatial and property driven queries on a central datastore.

Based on earlier approaches we pursue a 3 tier architecture: (i) gOcad as client, (ii) Geoserver as server application with (iii) any database as datastore (e.g. PostgreSQL with PostGIS). In order to be independent of the database we examine existing datamodels and customize and extend them to our needs. We do this with a focus on interoperability and conformity to the Open Geospatial Consortium (OGC). So we used parts from the Simple Feature Access for SQL (SFA) and parts of the North American Geologic Map Data Model (NADM) to setup the datamodel. Communication between client and serverapplication is done in WFS using GeoSciML.

Furthermore we extended GML to handle more special geometries (e.g. SGrids) and gOcad to act as a WFS Client. However any WFS Client could be used to access the data. Topology takes a special role in 3D-data management. Therefore a general topology is implemented in our model. Complex topology structures for tempospatial queries are planned for future work.

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