



# Context-aware access to ontologies

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# Background



<http://purl.org/ifgi/projects/GDI-Grid>



<http://www.envision-project.eu>

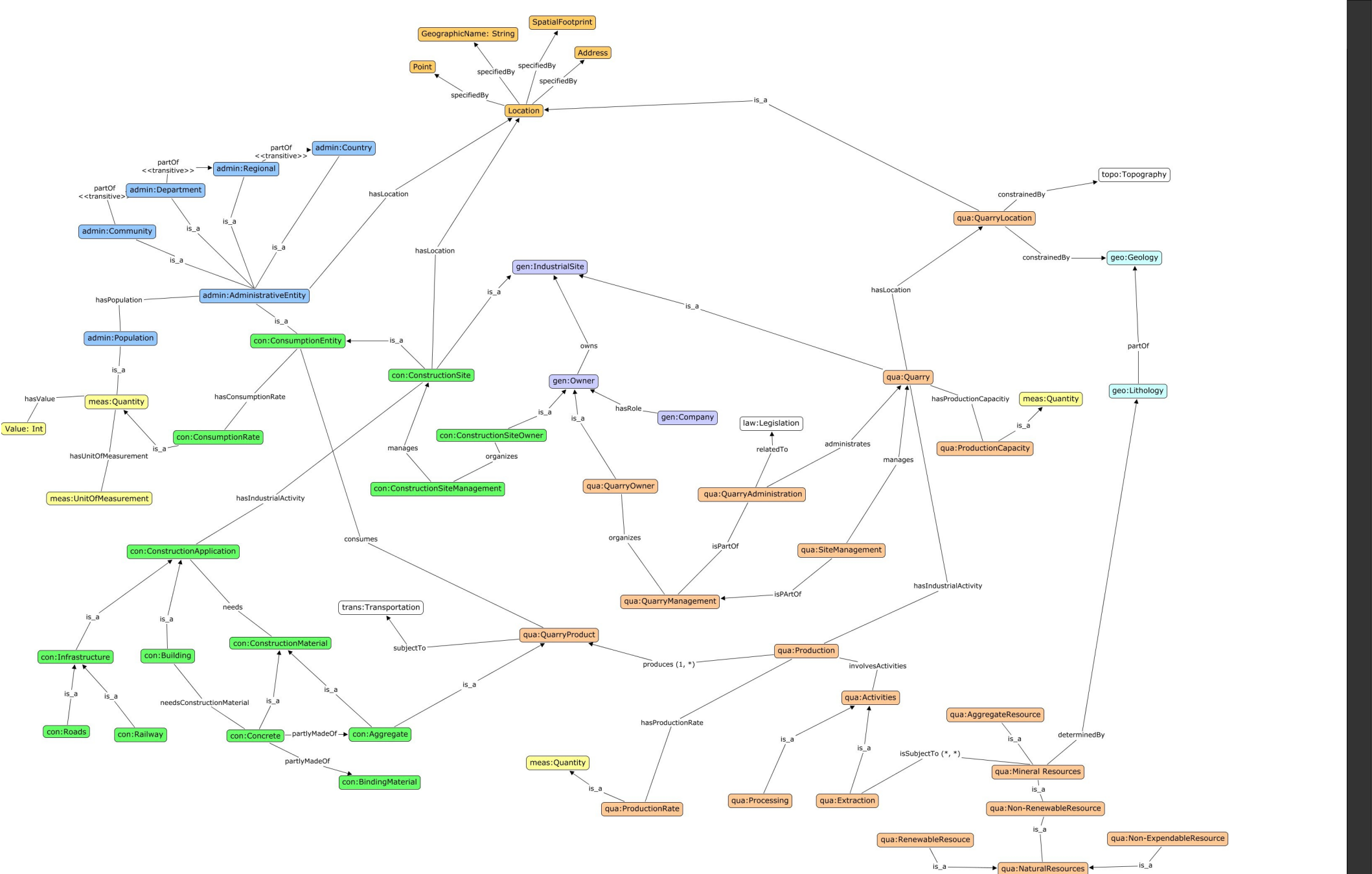
## Context:

- Geospatial Decision Making
- Environmental Modelling

## Why Ontologies?

Semantic Annotation of Web services to facilitate

- Discovery & Integration
- Semantic Validation of Workflows





# Serving the ontologies as files (1<sup>st</sup> Try)

- <http://swing.brgm.fr/repository/ontologies>
  - File-based approach (Ontology is a file)
  - Versioning via Subversion

## Geology.wsml

- File: [Geology.wsml](#) ([view current version](#))
  - Globale Version: 100
  - Single Version: 88
  - Last modification: 2008-04-10 21:45:16 +0200 (jeu., 10 avr. 2008)
  - Last log: including Miha's corrections
  - [View Version history](#)
  - [Commit a new version](#)

## Serving the ontologies as files

- <http://swing.brgm.fr/repository/ontologies>
  - File-based approach (Ontology is a file)
  - Versioning via Subversion
- **Drawbacks (also due to the lack of tools)**
  - Modularization difficult (borderline cases)
  - Versioning on file-level

## Concept Repository (first implementation)

- Focus from Ontology to Concept Definition
- Concept Repository
  - Only serving RDF  
(no added functionality like reasoning)
  - Domains (Context) encoded in namespace  
<http://purl.org/net/concepts/Swing/> (context)  
<http://purl.org/net/concepts/Administration/Swing/Community>
  - RESTful, follows W3C best practice recipes for publishing RDF vocabularies

## Concept Repository (current implementation)

- Identifying concepts using DC metadata
  - 1..n dc:title (e.g. River)
  - 0..n dc:subject (e.g. Hydrology)
  - 1 dcterms:version (e.g. 23)
- Encoding in the URL
  - <http://.../River?subject=Hydrology>
  - [http://.../River\\_Hydrology](http://.../River_Hydrology)
  - <http://.../Hydrology/River>
- Query Actions to retrieve relevant concepts
  - <http://.../River/neighbors> (by traversal)

## Concept Repository (Outlook)

- Moving into the cloud (Google App Engine)
  - Backend RDF Storage → distributed data storage
  - Versioning on the object level
- Integrating user feedback for ontology maturing

Thanks.

Source Code, Documentation, et al.  
<http://purl.org/net/sapience/docs>