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## CityGML and GML

78th OGC Technical Committee

Boulder, Colorado (USA)

Thomas H. Kolbe, Claus Nagel

September 19, 2011

## Application independent Geospatial Information Model

for semantic 3D city and landscape models

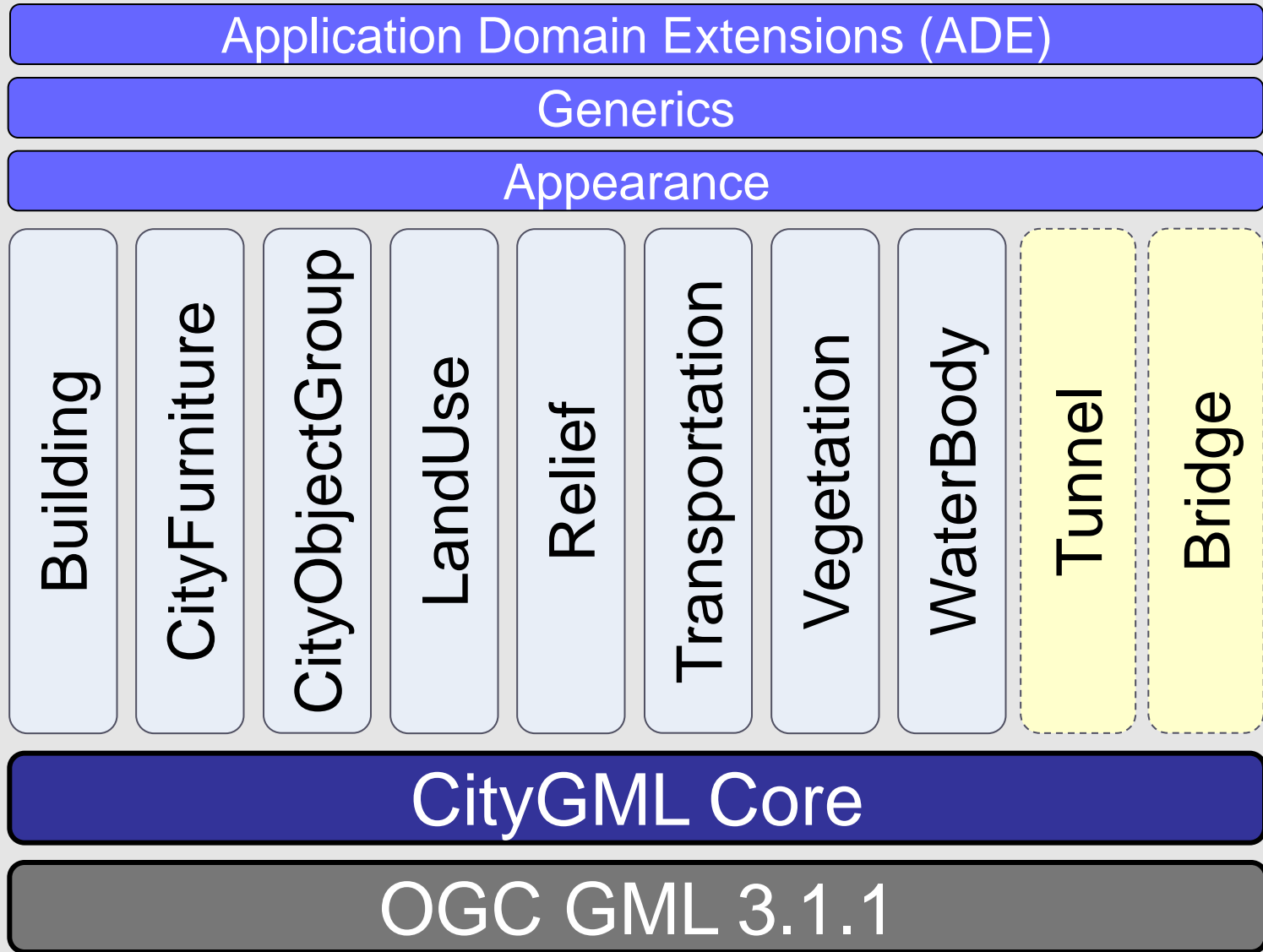
- ▶ comprises **different thematic areas**  
(buildings, vegetation, water, terrain, traffic etc.)
- ▶ **data model (UML)** according to **ISO 191xx** standard family
- ▶ exchange format results from rule-based mapping of the UML diagrams to a GML3 application schema
- ▶ **Adopted OGC standard since 08/2008**



CityGML represents

- ▶ 3D geometry, 3D topology, semantics and appearance
- ▶ in 5 discrete scales (Levels of Detail, LOD)

# Modular Structure of CityGML



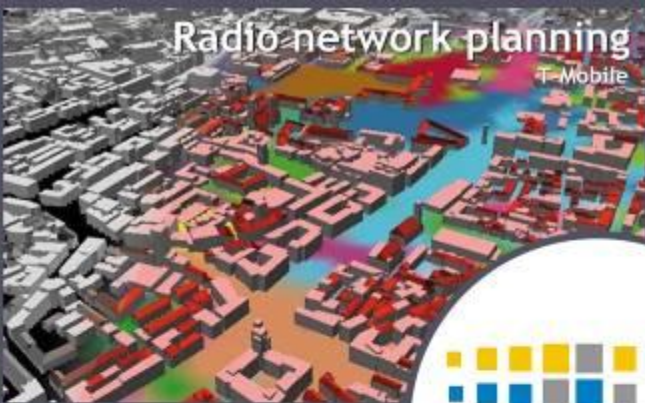
Disaster management

Kreis Recklinghausen



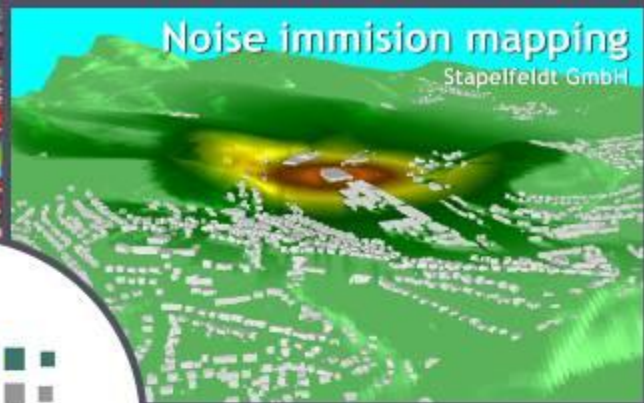
Radio network planning

T-Mobile



Noise immision mapping

Stapelfeldt GmbH



for 3d city models



Police simulator

Rheinmetall Defence Electronics

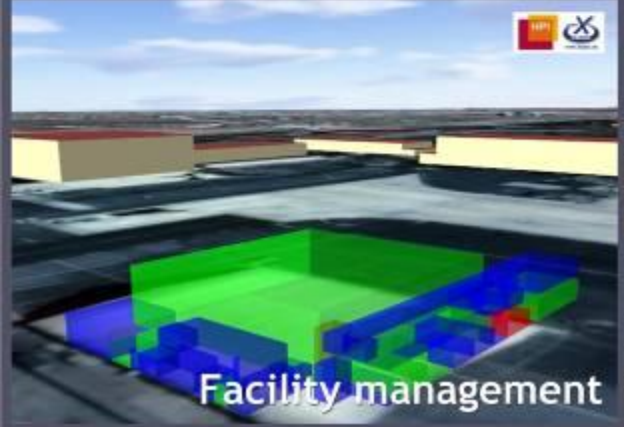


Business development & tourism

Google



Navigation



Facility management



Urban planning

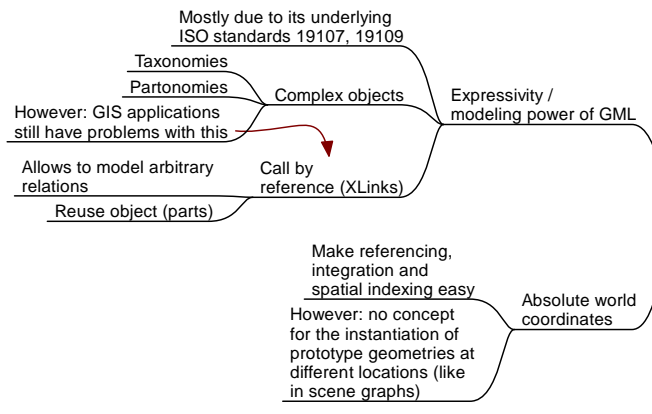


Architecture

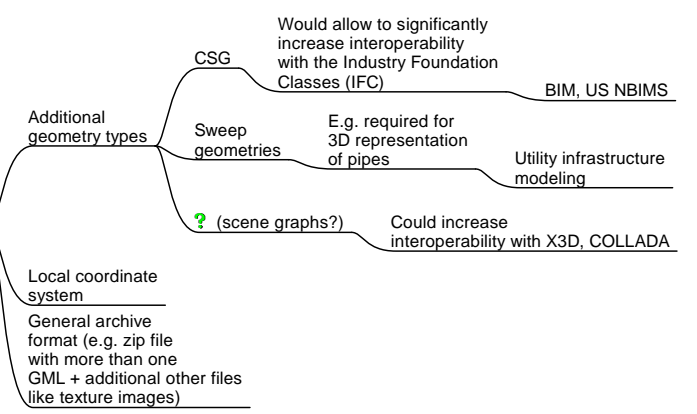
Architekturwerkstatt SenStadt Berlin

**CityGML and GML**  
19.09.2011 - v56

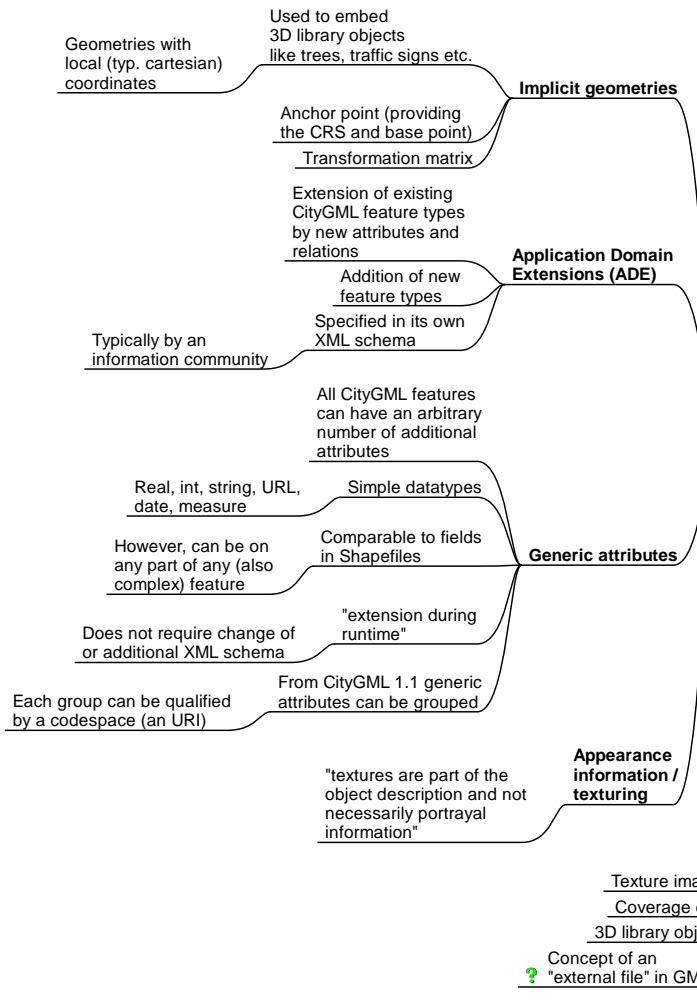
**What are we happy with?**



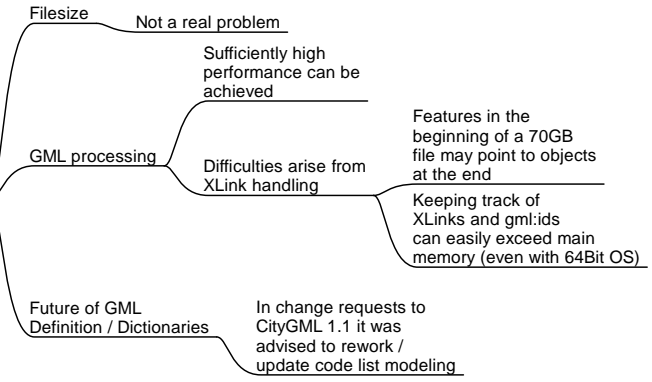
**What is missing?**



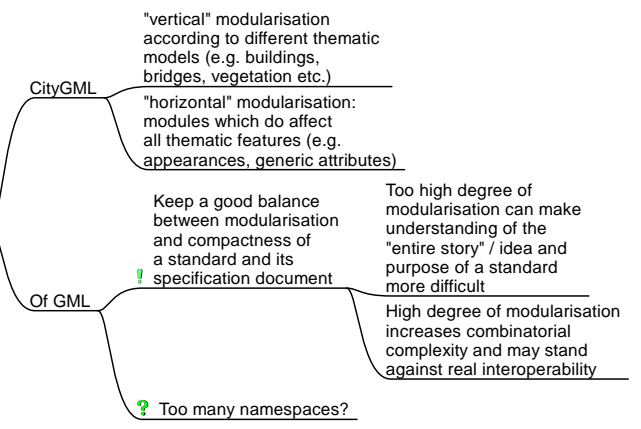
**Extensions of CityGML to GML**



**Other issues concerning GML**



**Modularisation**



**Stability!**

Most CityGML implementors would like to have a high degree of stability / slow changes