OGC Adopts City Geography Markup Language v2.0

The Open Geospatial Consortium (OGC, USA) has adopted Version 2.0 of the OGC City Geography Markup Language (CityGML) encoding standard. CityGML is a community-defined information model and XML-based encoding for the representation, storage and exchange of virtual 3D city and landscape models.

In comparison to Version 1.0, CityGML Version 2.0 defines additional feature types and new feature properties including new thematic modules for tunnels and bridges, the ability to model footprint and roof edge representations for buildings in order to allow users to derive 3D models from existing 2D building data, and generic attribute sets allowing users a more powerful way to customise CityGML without the need for additional coding. Since all elements of Version 1.0 were preserved, CityGML 1.0 files can easily be converted into V2.0 by a simple substitution of the namespace values.

CityGML provides a standard model and mechanism for describing 3D objects with respect to their geometry, topology, semantics and appearance, and defines five different levels of detail. CityGML is highly scalable and datasets can include different urban entities supporting the general trend toward modelling not only individual buildings but also whole sites, districts, cities, regions and countries.

CityGML allows users to share virtual 3D city and landscape models for sophisticated analysis and display tasks in application domains such as environmental simulations, energy demand estimations, city lifecycle management, urban facility management, real estate appraisal, disaster management, pedestrian navigation, robotics, urban data mining, and location based marketing. Because CityGML is based on the OGC Geography Markup Language Encoding Standard (GML), it can be used with the whole family of OGC web services for data accessing, processing, and cataloguing.

CityGML has been implemented in many software solutions and is in use in many projects around the world. In National Spatial Data Infrastructure programmes in The Netherlands, Germany, France, Malaysia, Abu Dhabi and other countries, CityGML provides an important platform for the transition from 2D to 3D data. It also plays an important role in bridging Urban Information Models with Building Information Models (BIM) to improve interoperability among information systems used in the design, construction, ownership and operation of buildings and capital projects.

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