

SNOWFLAKE SOFTWARE

GML Expertise

As a privately held company based in Southampton, UK, Snowflake Software provides consultancy, training and generic solutions that allow users to benefit from open standards. Prior to starting Snowflake in 2001, the founders, Eddie Curtis and Ian Painter, were key architects at the Ordnance Survey (OS) and instrumental in the development of OS MasterMap, the UK's large-scale dataset, supplied in GML format. During their years with OS the founders began to realise a growing need for easy-to-use tools to exploit the benefits of GML.

Today the industry is beginning to realise the true benefits of GML, which is fast becoming the geospatial transfer format of choice for organisations aiming to exchange data in an open manner whilst adhering to internationally recognised standards. GML is far more than just another way to deliver geographic data, it enables sharing of data between organisations.

Company Background

Snowflake Software is all about putting GML to work. Its more than seventy years combined experience and technical expertise allows the company to take the complexity out of XML and its geographical derivative, GML. The business incorporates three main streams. The Services Group focuses on delivering highly qualified consultancy capabilities, including architecture modelling, to enable businesses to benefit from GML quickly and easily. The Training Team offers a variety of courses on GML and schema development to help put GML to work; and the Engineering Department develops a suite of products to enable the easy deployment of the standard. The company is self-financed and has been profitable, on an annual basis, since its inception. Over the last two years the company has doubled in size to accommodate the dynamics of an internationally growing market, and is actively looking to expand the company further as it enters its next-generation phase. From the beginning the team was convinced that Open Standards would play a key role in the future of the geospatial industry. Snowflake has always been a key member of the OGC (Open Spatial Consortium), and this has resulted in a set of tools that can be applied across many applications.

International Adoption

OS MasterMap has now been available in the UK for six years and has been widely adopted by local and central government, and the private sector. The Snowflake GO Loader has been selected as the loading tool of choice for many of the applications, and enjoys a user base that includes Bristol City Council, the Department for Environment, Food and Rural Affairs (DEFRA) and British Telecom. As the utilities market now migrates to the new dataset, Snowflake also lists Thames Water and Severn Trent Water among its customers. However, although there is still a lot of activity in the UK, it is the adoption of GML datasets on a global basis that is providing company growth. It would have been easy to develop a product to load only OS MasterMap into a database. GO Loader, however, supports generic GML; its parsing technology means it is able to load any GML dataset without requiring software update. Whereas OS MasterMap was probably one of the first widely deployed examples of GML, GML is now a formal ISO standard (ISO 19136:2007) and is widely internationally adopted. In the Netherlands, Geonovum, the National Spatial Data Infrastructure (NSDI) executive committee, has introduced NEN3610, the information basis model for GML standards there. Based on this model, a range of GML datasets are appearing, including IMRO (for planning), IMKICH (cultural history) and IMWA (water model), and many more are scheduled for the future. In Germany we are beginning to see the AAA-NAS (AFIS, ALKIS, ATKIS) models being adopted across the Bundeslaender. The generic nature of our products means we are already active in these markets, and have expanded our user base to now include, for example, Gemeente Eindhoven and Wageningen Universiteit/Alterra. No doubt the future growth of the company will be partly fuelled through these activities.

Participating

The use of GML on a regional basis for the next generation of digital maps is being actively pursued by many national mapping agencies. It is the unique data-sharing capabilities of GML, however, that is driving its attraction for cross-border initiatives. The attainment of a geographically unified Europe relies on data interoperability and shared services, and the main concept behind this is the introduction of "community schema", a defined common schema or model of exchange within which each participating party must supply its data. GML is the standard for such exchange within the geospatial community. The Snowflake Software schema-aware translation product, GO Publisher, is being used internationally to address these requirements. The product enables an organisation to either define a GML schema or publish data to community schema. It employs an easy-to-use GUI, so there is no need for XSLT coding; users can literally "drag and drop" their way to compliance. One of the major activities within Europe at the moment is the INSPIRE initiative, with pilot projects such as ORCHESTRA, RISE and MOTIIVE already in motion. Snowflake is participating in these initiatives with the GO Publisher product suite. GML standards continue to evolve further afield. In Taiwan, the University National Chen Kung is running an Academic Programme on the Geographic Data Standard. To date, the programme has designed ten standards for geographic data, all of which use GML for data encoding.

Prospects

We continue to develop our international relations through our involvement in the SIG 3D and the developments of the CityGML standard. Recently we played a role in the OGC OWS-4 test-bed where the WFS (Web Feature Server) delivery option of GO Publisher was deployed to publish CityGML and 3D TINs over the internet to CAD and BIM clients in both North America and Germany. CityGML

continues to grow, and is now a reliable application for real-life deployment in telecommunications, city planning, disaster recovery, noise mapping, simulators and vehicle navigation. We see our future position at the heart of initiatives such as INSPIRE, building infrastructure on mainstream IT technologies such as SOAP Web Services and Service Orientation Architecture. Due to the generic nature of our product suite and our industrial-strength support for open standards we are ideally positioned to be a key supplier of software products and services to enable local, regional and national spatial-data infrastructure.

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