Vancouver's Galdos Systems works with NATO on the map that changed the world

HIGH TECH | System provides information about real-world objects for the Net

BY MARKE ANDREWS
VANCOUVER SUN

Vancouver-based Galdos Systems Inc. is in the final months of a NATO contract to convert a jumble of geographic maps into a single format its founder helped develop.

Once the data is converted to GML, (Geography Markup Language) NATO's member states will be able to find any digital map information they need.

GML gives users a way of encoding information about real-world objects — bridges, mountains, roads or buildings, for instance — for the Internet. Now widely used throughout the world, GML was invented by Vancouver's Ron Lake.

He began working on GML in 1998, the same year he founded Galdos Systems Inc. Other formats existed in a file system, the formats designed for specific uses such as military operations or ocean navigation. GML makes geographical information available for diverse uses. If an organization becomes involved in a disaster-relief operation in a foreign country, it can learn all about roads, airports, topography, rivers and buildings through GML. The system is used to research climate change, urban planning, transportation and defence.

Lake wrote the first version of GML on his own, but since then many others have contributed to forming the language. By Lake's estimate, Galdos has invested about $1 million in GML, yet the company doesn't make a penny when someone uses the system, which is non-proprietary. Instead, Galdos receives income from helping organizations convert to that standard and from the design and sale of software products that will give up-to-the-minute information on an area. In the case of NATO, the data preparation contract was awarded to Britain-based TENET Technology, with Galdos and IIC supporting the conversion.

In Vancouver, such technology could look at how the Canada Line rapid transit construction may interfere with a road, or give a telephone company information on the location of gas lines and property boundaries.

Business has been good for Galdos, which has grown from one employee in 1998 to 30 employees working today at its downtown Vancouver office.

Web search engine Google uses KML, a form similar to GML, but not as detailed. If you want road information, KML will show you where the road is and where it goes, but GML will tell you the dimensions of the road and whether it's made from gravel or asphalt.

"What people are starting to do is style the GML into KML for a Google Earth map," says Lake. "The hope is that Microsoft and Yahoo and all the other search engines will use KML, and some of that KML will be generated from GML or have GML inside it."

Representatives from Google, Microsoft, Autodesk and ESRI will be among the 300 delegates at the five-day conference GeoWeb 2007, which begins Monday at the Simon Fraser University's Morris J. Wosk Centre for Dialogue. Information on the conference can be obtained at www.geoweb.org.

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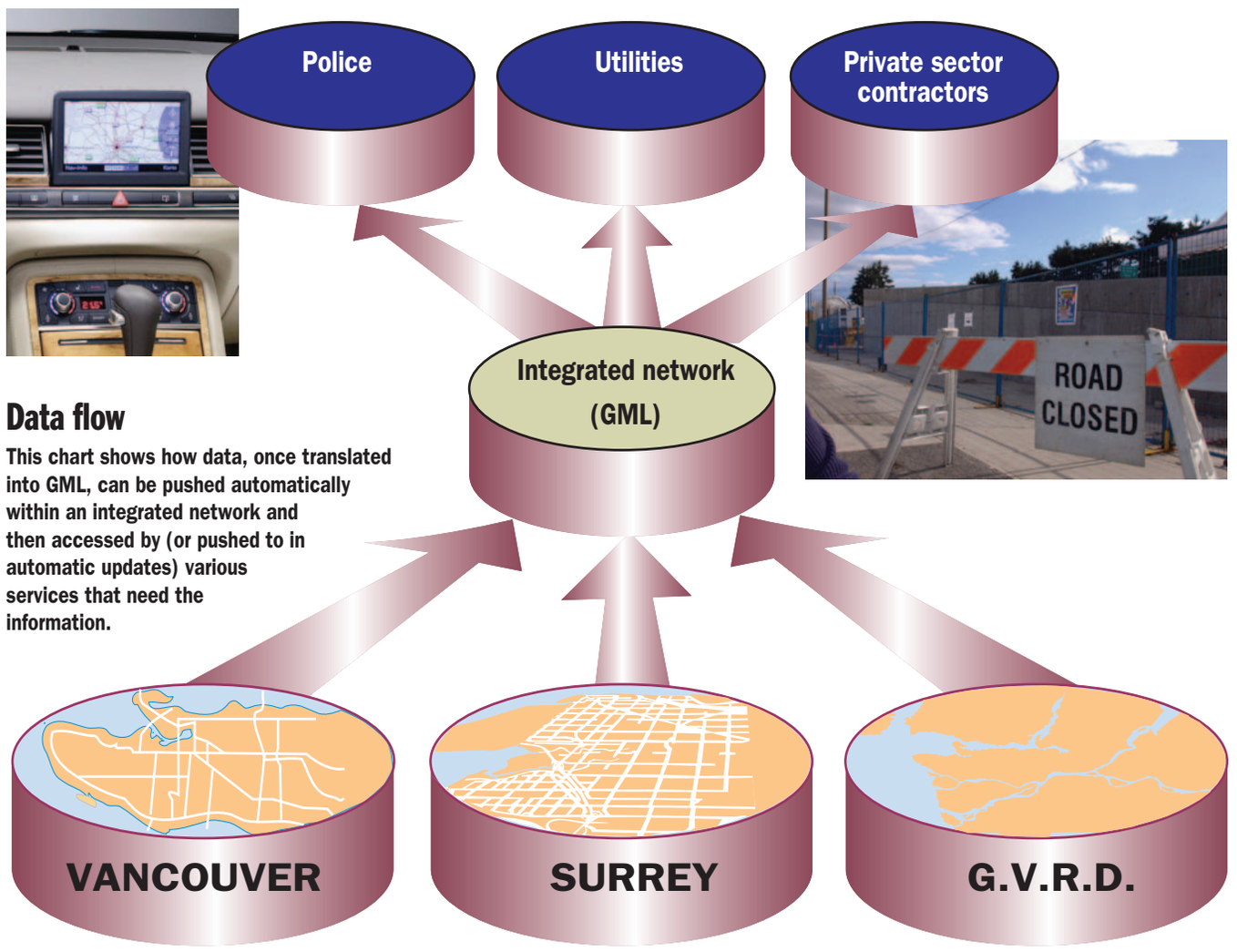
Found in translation

No accurate, current and integrated base of geo-spatial information — the crucial data needed for construction, security, transportation and all aspects of city planning — exists for the Vancouver region. Part of the problem is that various data bases use different languages to encode the information, and there is no system in place to move information between them. Vancouver-based Galdos Systems Inc. developed software that can translate the local data into GML (Geography Markup Language), a kind of universal language for geo-spatial information, thus allowing for either the integration of data into a central network or for the access by users to the required data bases. Thus a car navigation system could more readily be updated to enable drivers to avoid road problems such as the Canada Line construction along Cambie Street through connections with the city of Vancouver's data base. Or a utility digging for its lines could find information on where it might hit another utility's lines.



Data flow

This chart shows how data, once translated into GML, can be pushed automatically within an integrated network and then accessed by (or pushed to in automatic updates) various services that need the information.

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