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## **Catch the Internet Wave!**

by Lance McKee Vice President, Corporate Communications OpenGIS Consortium, Inc. (OGC)

Consider two events:

1. America Online (AOL) bought MapQuest for \$1.1 billion (see "America Online to Acquire MapQuest.com," page 12).

2. The Open GIS Consortium (OGC) Technical Committee and Management Committee will (I predict) approve the OpenGIS Web Map Server Interface Specification at their February meetings in Vancouver, British Columbia, Canada. Soon afterward, GIS and imaging software vendors (familiar companies as well as many small "start ups") and database software vendors will deliver products that conform to this specification.

The MapQuest sale must have turned on a lot of lights. Internet companies and investors must be thinking about spatial data. As AOL noticed, MapQuest maps are widely used. (According to Media Metrix, MapQuest receives 3.7 million unique visitors monthly to its Web site and is ranked among the top 50 World Wide Web properties.) An hour of research will reveal to them the astounding value of other kinds of digital spatial information. But AOL and others with deep pockets and big geobusiness ideas run into a problem: It's hard to use MapQuest maps (or any other Web-acquired maps) with other maps.

The new OpenGIS Specification solves the problem. It's now easy for any owner of a legacy geodata server to "wrap" the server with this open interface. Then, with no effort on the part of the user, maps can overlay other maps or Earth images from similarly open servers. "Transparency" of overlaid maps becomes easy to provide. The software vendors who participated in OGC's first Web Mapping Testbed (WMT Phase 1) can help anyone set this up.

Other OpenGIS Specifications in the pipeline (some being prototyped in WMT Phase 2 and in other OGC Interoperability Initiatives) soon will enable vendors' software to increase users' ability to perform real GIS and image processing via the Web, operating on data layers that are views into different vendors' Web map servers.

As tens of thousands of thematic maps become available on the Web through such servers (and discoverable through OpenGIS-conformant catalogs), users will see widespread "vertical integration" of different themes, including National Spatial Data Infrastructure Framework data (geodetic control, orthoimagery, elevation, transportation, governmental units and cadastral information) as well as arcane themes such as diatom densities and TV viewer economic profile maps. Millions of new users in business, government, education and research will begin to see what remarkable understanding can be derived from overlaid thematic maps.

Enabling Technology, Enabling Money

For years, idealists in organizations like the National States Geographic Information Council and the Federal Geographic Data Committee have battled the pessimism, parochialism and fiefdoms of local, state and national geoinformation establishments. I believe that soon we will see a rapid "horizontal integration" of agencies, disciplines

and businesses. Data sharing happens much more easily when the sharers are given the right technical capabilities and financial incentives. Software vendors, working together in OGC, provide the technical capabilities. The financial incentives soon will come. I predict that in the year 2000, municipalities and data consortia will begin to access significant public and private funding to build local spatial data infrastructures that are coherent with the national spatial data infrastructure.

How You Can Establish the Next MapQuest

In the spirit of encouraging new businesses that solve old problems in our industry, I suggest that geospatial entrepreneurs subscribe to Business 2.0, an excellent Internet business magazine, and overlay what you learn there on what you know about the geoinformation markets and what you may learn (and who you may meet) in OGC. Consider, for example:

• GIS Application Service Provision

• Spatial catalog services (tailorable, automated methods to quickly find appropriate map layers and appropriate online processing resources)

- Data brokering and applet brokering services
- Semantic translators (determine the most elementary and practical applications)

• Tools to help members of geospatial Information Communities (ICs) identify themselves as such and help them coordinate with their ICs and related ICs (i.e., data dictionary tools)

• Services to help commercial and government data producers plan, price, advertise, distribute, manage and protect their data

• Tools to help authenticate, grade, certify and protect the credibility, accuracy and ownership of spatial data

• Information, services, tools and aggregations of contacts that will support the creation and management of regional or domain-focused geodata consortia

• Access to transaction models and "boilerplate" agreements that structure data sharing

• Tailored Internet services such as Web site hosting, virtual private networks, E-mail services and virtual meetings/videoconferencing as well as tools for electronic commerce, certification, encryption, watermarking, Web page creation, data hosting and consensus gathering

You can buy many of these capabilities from companies that advertise in Business 2.0. Configure them for geospatial markets using your abilities, contacts and market knowledge. Add some capital and a partner who understands interoperable geoprocessing, and catch the wave!