

GIS moves into the Open

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MapObjects

Embeddable GIS Components

For many years, your GIS software has effectively been an island.

Attempts to allow users with different systems to interact across networks has only resulted in cumbersome interchange formats, partially supported national standards and strange inter-vendor hybrid applications. This has resulted in a mishmash of products and data formats—users often have similar data, stored in a variety of formats, and processed in a number of packages in which only 20 per cent of their capabilities are used.

Setting the standard

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In a fit of democracy, members of the GIS industry and other software and many hardware vendors have banded together into the Open GIS Consortium (OGC). In fact, nearly everyone who might have an interest in open, networked GIS is involved. The goal of OGC is to provide a framework in which these groups can discuss and define a set of open standards which, it is hoped, will be used by vendors.

One of the main public documents that OGC has produced is the OpenGIS

abstract specification. This outlines a model of 2D and 3D spatial features and methods by which these should interact. If OGC gets its way, and vendors do not become disgruntled and form splinter movements, this should be the way forward in GIS development.

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Open systems offer many benefits. Developers would be able to use a set of standard methods for interacting with data and applications. Users would no longer need to convert spatial data, and different applications would be able to work together, reducing dataset maintenance time and costs.

The state of play

With so many GIS vendors part of OGC, it is inevitable that mainstream GIS programs will become more open. There are currently a number of initiatives and trends that will promote more openness in GIS software.

The movement away from proprietary languages enables the creation of an "open development environment". GIS development and customisation have been limited to developers using languages such as C, or macro languages with limited

capabilities. Recently, in line with trends towards Windows-based GIS software, the ability to use third-party development environments has increased. This has opened up programming to a wider audience and reduced application-development time.

The continually developing raster format GeoTIFF is an open spatial data standard arising de facto from the academic and business GIS communities. This adds a spatial header to the popular TIFF standard so users can register images to a coordinate system. Most GIS packages support or will soon support this format, removing the need to convert or re-register images between programs.

Java and Internet GIS are also factors forcing radical changes in thinking about the way GIS is provided to users through the ability to create applications

that can run anywhere and on anything. By its very nature, this forces developers to adopt greater openness.

When open means closed

There is a tendency to "proprietaryise" systems in the GIS field. Intersystem operability will only occur when GIS companies understand the need for software to interact—or Internet and operating system standards force them to.

Until then, expect to see numerous products claiming to be open, but only within individual vendors' development environments.

If you work in a mixed GIS environment, sit back and be prepared to reap the benefits of open GIS—if it ever arrives.

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