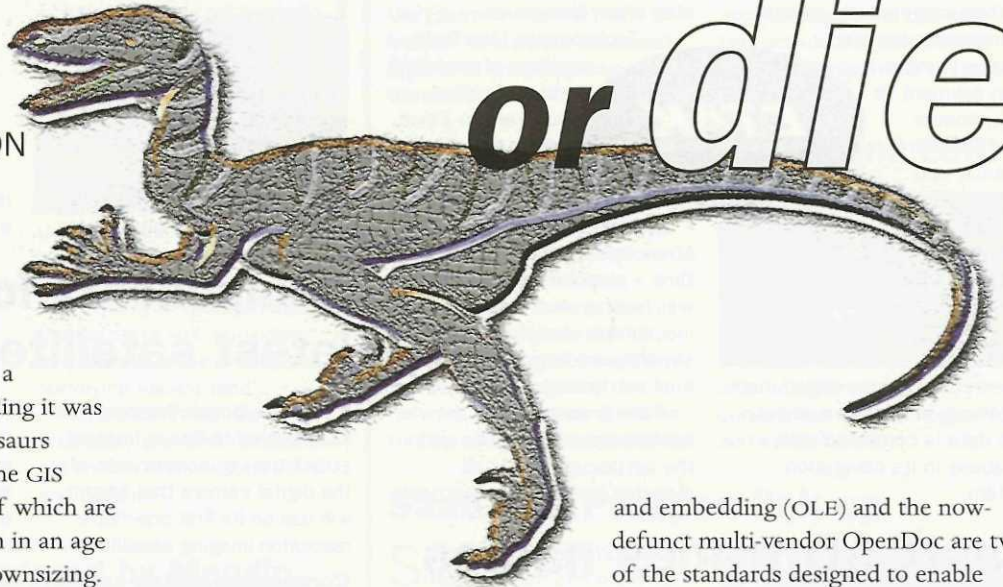




GIS must evolve or die



BY MATTHEW TOON

It's not often that you get to write about a future extinction with any happiness, but GIS is about to come to the end of an era. This change is on a par with the dinosaurs deciding it was just too cold to go on. Dinosaurs provide a good analogy to the GIS software of the 80s, many of which are still with us, an anachronism in an age of high-powered PCs and downsizing.

As with other areas of IT, the GIS industry started in the mainframe arena. Large, cumbersome, proprietary systems tied users to specific software, functions and in some cases even hardware, and were expensive to maintain and support. Only the bigger companies and governmental agencies were able to afford such systems. But while GIS was at the top end of the software market in terms of hardware and operating system requirements, a revolution occurred at the lower end.

The move of GIS packages to the desktop is a recent occurrence. Blighted by early attempts to port industrial scale GIS software directly to smaller desktop machines, users have called for more appropriate spatial software from vendors that we can integrate with current desktop applications and use across networks.

Migration patterns

The move away from UNIX to Windows 95/NT and the growth of the Internet has given vendors an invaluable opportunity to re-evaluate their programs in line with current market trends. Many vendors have done this and are moving using new software design methods towards smaller, more

focused products. Vendors are also empowering users with programming technologies and techniques for creating applications that can work together using a standard format.

'Componentware' and 'middleware' are the two software design types that will become prevalent within the GIS industry. Componentware is software designed to work with other programs as part of a much larger application. You don't have to purchase all the parts of an


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application, only the modules required to complete a particular function. Systems are more task-oriented, simpler to use (as there is less to learn) and usually cheaper to purchase.

Middleware, on the other hand, connects two separate applications or data types. Componentware is the software of tomorrow. Middleware is the software of today. The groups behind such systems are vigorously promoting the technology for replacing middleware. Microsoft's object linking

and embedding (OLE) and the now-defunct multi-vendor OpenDoc are two of the standards designed to enable developers to program software that can work on the desktop. Internet and CORBA (Common Object Request Broker Architecture) standards provide platforms for collaboration and interoperability over the network. Given the push for network computers, we're going to need smaller, simpler networkable applications.

So can we close the book on the GIS-dinosaur era? Of course not. There are far too many users with these systems installed especially in the local authority and utilities markets. We must note that those vendors which do not evolve will surely suffer in the market. The demand for large systems is shrinking while the requirement for interoperable desktop applications is growing. Componentware and middleware provide methods for developing these applications.

Now that GIS software is becoming more mainstream, those vendors that will succeed will be those that are more responsive to market pressure and more mature in its relation to consumers. The future should be bright for GIS and hopefully the best is yet to come. 

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