



Corporatisation of Spatial Data

BY ANTHONY JAHSHAN

Anthony Jahshan BSc (Applied Computing) MBA is the managing director of Open Spatial Australia P/L.

Corporate executives are discovering the need for spatial information to find answers to business problems. But before they can do so, they need to solve a number of basic IT management challenges that continue to plague the industry.

The first and foremost of these is the question of a centralised data management system.

All too often, spatial data is still managed in a silo and/or in proprietary data formats. But modern commercial-grade database management systems that support the storage and access of spatial data in an open geospatial compliant manner are clearly the best choice for the job.

Database Vendors that deliver these solutions invest hundreds of millions of dollars annually improving their data management capabilities. This is generally expected when managing corporate data, and usually ignored when evaluating Spatial Data Management Solutions.

The significance and risks of not adopting a corporate approach to managing spatial data is coming home to roost today. There is evidence of this in every traditional GIS implementation we have come across. For some reason this has been totally missed by information management people. In the 1980s it might have been justified by the immaturity of spatial applications and databases, or the lack of open standards, but today there is no excuse.

This introduces the first tenant of this article: 'manage your spatial data the same way that you manage other corporate data. Apply the same rules. Select systems that provide these capabilities'.

One facet of this that particularly interests me is the relationship between GIS and CAD data. This is especially relevant in the field of infrastructure asset management.

CAD data is usually created and managed by engineers. It is accurate, precise and contains sufficient data to build inventories and assets with quality and predictability. The engineering profession has existed for many thousands of years, respectable, in high demand and one of authority.

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Now let's look at GIS data. It describes the same assets, but it has to deal with real world issues where the data over time has been imprecise and of questionable quality. Let me be quite clear this is of no fault of geospatial practitioners, so don't go out and sack your GIS team! All data that describes the real world inherently has degrees of accuracy and fitness of purpose.

While CAD and GIS practitioners tussle each pulling their organisation in different directions. These directions have varying degrees of correctness, and usually with admirable intentions. However with little or no managed path forward, likened to a ship with no port in mind usually enjoys no favourable wind.

Potentially, this situation has come about because the creators of traditional GIS and CAD technologies have kept these technologies isolated from one another. In the main it has been left up to systems integrators and application vendors to build solutions that bridge the technological and data management gap between CAD and GIS.

But it isn't enough to manage the data. It needs to be managed well. The second IT management issue is thus to find ways to include the spatial business units in the organisation (such as engineering and the GIS shop) when reviewing the architecture of corporate information systems.

Apart from anything else, this is the only way IT people can understand the data. Spatial data has special needs -- currency, fitness for purpose and its usefulness to your business.

Finally, the number three IT management issue, is to include spatial data in the architecture of the corporate data model.

This flows out of the first two rules above. If all the corporate data is to be managed in a single database, a single data model makes sense. A single data model also makes sense if all the information needs of the entire enterprise are gathered in one place. But because system architects are generally not used to thinking about spatial data, basic database modelling principles, such as data redundancy, data duplication and normalisation, are ignored.

Including spatial data into this process is the first step towards realising the true power that spatial analysis can bring to the results of a well thought out data model of any business.

If architected properly, disparate data is transformed into valuable information. Information that improves the management of inventories, assets and customer services.