

Commentary

Predictions: Government Geospatial Systems Management

Gartner's Public-Sector GIS Survey supports predictions regarding the strengthening of geospatial systems governance and increased financial justification.

Prediction: Governance structures for government geospatial data and systems management will be strengthened.

The integration, aggregation and visualization power of geographic information systems (GISs) and related technologies increasingly heighten the value of the enterprise, as opposed to departmental, silo-based systems.

We conducted a survey in late 2002 of federal, state and local government officials. Approximately 73 percent of the respondents identified their GIS as an enterprisewide GIS — that is, a GIS that serves all the subdivisions of their jurisdictions. However, a significant portion of these participants responded on behalf of a single department. The survey also identified issues that remain unresolved; for example, problems with data standards and accuracy, privacy, and integration and justification of GIS initiatives. Issues were ranked in importance of their need to be resolved. The mean indicators of the importance of resolving these issues were high for the majority of respondents, but were significantly higher for government organizations that did not have an enterprise GIS. We also found a strong correlation between the lack of strong, authoritative governance structures and the absence of an enterprise GIS (see "U.S. Public-Sector GIS Survey: Key Issues and Trends").

By 2004, 30 percent of government jurisdictions that do not have a formal, authoritative geospatial data and systems governance structure will create such a structure to resolve common issues among their subdivisions (0.7 probability).

Impact on 2003: A lack of action will result in the continuation of the status quo, but will bring increased scrutiny on individual initiatives and underscore the issues identified in our survey.

- The difficulty in integrating back-office enterprise systems with geospatial systems
- The inability or unwillingness to share data
- Lost potential efficiency gains from collecting data one time and supporting multiple subdivisions

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- Duplicative infrastructure (for example, servers, network equipment and databases) and the staff resources to support them
- Missing or inadequate metadata to facilitate easy data sharing and access

Reacting in 2003: Within a jurisdiction, user groups and collaborative relationships are good, but collaborative, yet authoritative governance structures are better. Establish a geospatial data and systems governance structure with the following attributes:

- It is established by an executive order or law, which means that it has strong authoritative backing.
- Its members should include subdivision line-of-business leaders, and the IT staff to support these members.
- It should include cross-jurisdiction representation; for example, a city's governance structure should include members from surrounding counties.
- The geospatial governance structure should be linked to the overall IT governance structure; geospatial data and systems management should be a standing committee of the overall IT governance structure.
- A geospatial technical subcommittee should be established to recommend technology and technical standards. It is best if this committee is part of the overall enterprise architecture committee.
- The structure must have the authority to begin and halt projects, as necessary.

Prediction: Governments will increasingly need to financially justify geospatial initiatives.

Some advanced organizations already have demonstrated enough success or have management that understands the value proposition of GISs. However, respondents to our Public-Sector GIS Survey ranked the ability to financially justify new and ongoing initiatives as a significant unresolved issue. Yet, more than one-third of the respondents did not use any form of financial analysis. Survey results also indicated that budgets would remain relatively flat during 2003.

By 2004, the number of government organizations that will require financial justification for geospatial initiatives will increase by 50 percent (0.7 probability).

Impact on 2003: Government tax revenue changes usually lag economic changes by six to 12 months. Even if the economy stages a comeback in early 2003, the tax revenue lag will make it unlikely that IT budgets will improve during 2003 or 2004. Unless funds are reallocated to geospatial initiatives, these projects will likely be curtailed unless they can show a short-term return on investment.

Reacting in 2003: Financial analysis techniques such as return on investment, net present value and payback period are good tools to demonstrate cost savings and other operational efficiency gains. Surveys help to determine constituency needs and can be applied to geospatial data management. It is also important to demonstrate alignment with organizational or political objectives. (See "The Value of GIS in Government" and "The Gartner Framework for E-Government Strategy Assessment" for categories of metrics and tools to help justify GIS operations and initiatives.)

These financial analysis techniques should be included in the governance process for initiative approval. The approval process should include an enterprise architecture review and an adherence to project management and quality assurance standards.

Bottom Line: Strong governance structures help to resolve enterprise geospatial systems management issues. Strong financial justification removes emotion from system prioritization and focuses choices on the business case. Continued budget pressure through 2003, and at least the first half of 2004, will force governments without strong geospatial systems governance structures to create them. Greater scrutiny will also drive organizations that have gotten by without financially justifying GIS initiatives to do so.