MarketScope for Energy and Utility Geographic Information Systems

For energy and utility buyers of GIS software that want to better understand what providers are offering in this market, we update our map of GIS vendors' products that are most appropriate for this sector.

WHAT YOU NEED TO KNOW

Energy and utility companies' interest in geographic information systems (GISs) has moved from facility mapping to infrastructure management and related location-intelligence decision-support frameworks. Consumer-based, spatial-enabled Web applications (such as Google Earth and Google Maps, and Microsoft Virtual Earth) have expanded traditional energy and utility GIS capabilities into executive business intelligence (BI) dashboards, mobile workforce tools and customer service interactions.

Originally, GISs were stand-alone systems designed to solve specific mapping needs. Today, many utilities see GIS as a key part of their enterprise information management (EIM) strategies, as well as an enabler of more-advanced asset analysis and service delivery management functionality – such as outage management systems/distribution management systems (OMSs/DMSs). As a result, when selecting a GIS solution, energy and utility companies should look for a comprehensive platform that meets every spatial requirement of multiple business processes in asset, customer service and revenue management areas. To accomplish this, utility clients selecting GIS solutions will need to ensure that the following functionalities are included:

- A spatial database to store and manage geographic objects, and to serve energy and utility spatial data via secure client-user interfaces
- A Web-based interface to view and manage distributed geospatial information
- Access from a desktop, mobile device, or server applications for EIM, geospatial analysis and processing

MARKETSCOPE

Given the need to manage geospatially diverse utility assets more effectively, GIS and geospatial technologies have emerged as key utility asset information management tools. Therefore, Gartner has created this MarketScope to survey available products and services to give our clients a better understanding of what technology providers are offering.

Historically, most utilities established stand-alone GIS applications for mapping, environmental assessment and some facilities management. However, the focus of GIS has moved to enterprise GIS data servers and Web-based interfaces tied to advanced applications (such as design, engineering, environmental assessment and BI). Beyond mapping, GIS has become a source for asset-based and land-based information to drive other core utility applications through interfaces and links to work management, enterprise asset management (EAM),

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network analysis, spatial planning, designing/estimating, CRM and operation management. The GIS-enabled interfaces include desktop applications, mobile devices and Web browsers. Many utilities have implemented GIS for property records (and are making it available for other critical infrastructure utilities). GIS is becoming the foundation of EIM, combined with solid business processes that can be integrated with the EAM workflow. With the broad penetration of mobile devices (such as smartphones) and faster reliable wireless networks (3G), utility mobile and wireless applications will change the way utilities conduct field work so that, when they're integrated with GIS, they'll further improve asset data quality and business performance.

Enterprise GIS addresses issues that have constrained legacy mapping applications from becoming enterprise systems. Modern GIS applications provide the capabilities required to extend GIS spatial information analysis to every facet of the utility enterprise, including:

- Mapping, network connectivity, layouts, and single-line diagrams and schematics
- Customer-to-network relationship management
- Graphic transmission and distribution (T&D) design and estimating
- Engineering analysis
- Spatial forecasting and land-use planning
- Maintenance and facility inspection management
- Vegetation management
- Joint-use management
- Streetlight management
- Real estate management
- T&D asset financial tracking
- Crew scheduling and dispatching
- Right-of-way management
- Customer location generation
- Environmental management
- Location-based services (LBSs) and BI

Market/Market Segment Description

For the purposes of this MarketScope, a "geographic information system" is defined as a collection of software tools that provide the ability to capture, store, process, analyze and render geographically referenced objects and their attributes to support the electric, gas, water and wastewater utility industry. This information can be defined in various ways. For example, cadastral information refers to property easements, rights of way and service area boundaries. Man-made features are streets, structures, poles, pipes and lines. Topographic information refers to elevations or hydrology. Demographic information refers to household sizes, income levels and tax bases.

GIS enables utility end users to link asset attributes (for example, land use, incident type or work order numbers) to location data, such as linking facilities to parcels of land, streets, pipes or wires in a network. Then, GIS layers this information to make better support decisions. GIS technology illustrates relationships, connections and patterns that aren't obvious in any single dataset, thereby enabling utility leaders to make better decisions based on relevant factors.

There are four classes of vendors in the GIS market and in the adjacent utility application markets:

- **Class 1:** Vendors that offer geospatial information management tools as part of a larger relational database management system (RDBMS) product (Oracle and Microsoft)
- **Class 2:** Vendors that offer an independent platform specifically to render, manage, serve and analyze spatial information (ESRI)
- **Class 3:** Vendors that offer utility applications built on the vendor's own vertically integrated proprietary GIS platform (Autodesk, Bentley, GE Energy Smallworld and Intergraph)
- **Class 4:** Vendors that offer only geospatial applications built on a partner's GIS platform (Telvent Miner & Miner, Gatekeeper Systems, 3-GIS and many others)

Only vendors in Class 2 and Class 3 are evaluated in this MarketScope because Class 1 vendors don't meet our inclusion criteria below, and Class 4 vendors are building applications on the platforms that we're trying to evaluate. (Class 4 vendors will be evaluated in other future research – for example, Autodesk Utility Design Tools).

Inclusion and Exclusion Criteria

To be included in this category, software products must fulfill most utility GIS functional requirements. These requirements include maintaining facility maps, designs, a network topology/connectivity model, and related customer connections for interactions with customers. Interfaces could include thick client, thin client, Web and mobile, as well as supported integration with other enterprise applications, such as OMS/DMS, ERP/EAM, CRM, network analysis and design.

We evaluated only the top-six GIS products that are marketed globally, each with an estimated license fee revenue threshold of at least $1 million generated during the previous 12 months. GIS vendors must have systems in service with at least four utility clients for more than one year. The combined utility customers must serve more than one million utility end-user customers (meters/services).

Rating for Overall Market/Market Segment

Overall Market Rating: Positive

Utility focus has moved from separate business unit GIS applications to enterprise GIS applications. The survey also shows the regional differences of these vendors, so we don't need to duplicate that in this MarketScope. Furthermore, because these are enterprise applications, utilities are realizing the value of spatial asset information and LBSs in multiple applications to drive business performance. Nearly everything utilities do has a geospatial aspect. Beyond mapping, GIS has become a foundation of utility EIM to drive other core applications through interfaces and links to work management and EAM, including mobile devices, outage management systems, network planning (load flows), energy management systems/supervisory control and data acquisition, design/estimating, and CRM. Many municipal agencies have implemented GIS for property records (and are making GIS available for other critical infrastructure utilities), which may become the starting point for planning (long-range spatial forecasts and facility site selection) and customer connectivity (linking property locations to electrical facilities). Utilities are finding that, as they depend more on IT solutions to drive business performance, data quality becomes critical to that success. Mobile and wireless applications, when integrated with GIS or EAM, further improve asset data quality and business performance.

Utility GIS software vendors continue to distinguish themselves as providers of geospatial asset design and network analysis tools (Autodesk, Bentley, GE Energy and Intergraph), as opposed to providers of the core geospatial information management platforms (ESRI). Although Autodesk, Bentley, GE Energy and Intergraph offer utility applications on top of their own GIS platforms, ESRI relies on business partners, such as Telvent Miner & Miner, to build utility GIS applications on top of the ESRI GIS platform. Although Oracle Spatial and Microsoft SQL Server don't fit our energy and utility GIS criteria, they are worthy of mention. Oracle Spatial 11g RDBMS includes a number of geospatial information management functions leveraged by other GIS platforms. Oracle-based geospatial solution providers are developing more applications directly onto the Oracle Spatial 11g RDBMS platform. All major GIS vendors support Oracle Spatial 11g in some way. Likewise, Microsoft SQL Server 2008 now includes

more spatial functions that are being leveraged by most of these GIS vendors. We expect to see more interest in SQL Server as more utility application vendors leverage more of these new features.

Web 2.0 geospatial "mashup" technologies and LBSs have become very popular thanks to consumer-based Web applications, such as Google Earth and Google Maps, Microsoft Virtual Earth, Autodesk MapGuide, ESRI ArcGIS Explorer and Oracle Fusion Middleware MapViewer. Although these products aren't considered GIS, they have a place in utilities to provide geographically based asset and customer information views, and analysis tools, across the utility enterprise, including mobile. Some of these applications also support some level of analysis and reporting capabilities. Geospatial mashup tools and LBS have helped improve the use and quality of utility asset and customer information, thereby increasing the value of GIS without the need for additional GIS user licenses. Companies such as Gatekeeper Systems, 3-GIS, Enspiria Solutions and others have successfully productized Web tools to support a wide range of utility applications to provide a "quick hit" enabler to meet business performance objectives (see Table 1).

Vendor Product/Service Analysis

Autodesk

Autodesk can claim nearly every utility as an AutoCAD client, because the nature of utilities' infrastructure emphasis, and legacy substation and plant drawings, often are based on AutoCAD. Autodesk has significantly improved its utility-specific GIS applications, including AutoCAD Map 3D, Autodesk MapGuide Enterprise, AutoCAD Raster Design, Autodesk Utility Design, Autodesk GIS Design Server, and Autodesk Topobase for electric, gas, water and wastewater infrastructure systems. Autodesk can support utility EIM strategies with the understanding that asset information management often starts in design or analysis tools.

Autodesk actively provides leadership for the growing trend toward opening up spatial data that's stored in many formats, such as raster and vector, GIS or computer-aided design (CAD), and flat files or data warehouses (such as Oracle Spatial). Autodesk provides productized integration with ESRI ArcSDE, Oracle Locator and Oracle Spatial, and Microsoft SQL Server relational and server

Figure 1. MarketScope for Energy and Utility Geographic Information Systems

	RATING				
	Strong Negative	**Caution**	**Promising**	**Positive**	**Strong Positive**
Autodesk				x	
Bentley			x		
ESRI					x
GE Energy				x	
Intergraph				x	
Pitney Bowes Business Insight			x		

As of January 2009

Source: Gartner (January 2009)

Evaluation Criteria

Table 1. Evaluation Criteria

Evaluation Criteria	Comment	Weighting
Market Understanding	Ability of the vendor to understand utility buyers' wants and needs, and to translate these into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance these with their added vision.	Low
Vertical/Industry Strategy	The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments of energy and utility companies worldwide.	Low
Innovation	Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.	Standard
Product/Service	Core goods and services offered by the vendor that compete in/serve the utility industry. This includes current product/service capabilities, quality, feature sets and skills, whether offered natively or through OEM agreements/partnerships, as defined in the market definition and detailed in the subcriteria.	High
Overall Viability (Business Unit, Financial, Strategy, Organization)	Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, offering the product and advancing the state of the art in the organization's portfolio of products.	Standard
Marketing Execution	The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the utility market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word-of-mouth and sales activities.	Low
Customer Experience	Relationships, products and services/programs that enable utility clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.	High

Source: Gartner (January 2009)

databases. Moreover, Autodesk continues support for the Open Source Geospatial Foundation (OSGeo), as well as the Open Geospatial Consortium (OGC). Autodesk supports the International Organization for Standardization (ISO), the Federal Geographic Data Committee (FGDC), the Infrastructure for Spatial Information in the European Community (INSPIRE), the Pipeline Open Data Standard (PODS), and the International Electrotechnical Commission's Technical Committee 57 (IEC's TC 57) CIM standards through its GIS products. Autodesk has donated key software code, such as MapGuide Open Source, Feature Data Objects (FDO) Data Access Technology, and the CS-Map coordinate system.

Moreover, Autodesk MapGuide Enterprise is one of the best GIS platform-independent Web tools for geospatial mashups, analysis and reporting capabilities that we've seen, particularly to display data from diverse sources. Autodesk's partner, Gatekeeper Systems, has configured and productized MapGuide specifically for utility distribution applications in an innovative application called NaviGate, which pulls data from many sources for spatial Web viewing and analysis. Utilities that don't have enterprise GIS should consider NaviGate as a "quick hit" solution for specific distribution network management location applications.

Utilities seeking a logical framework to integrate design tool functionality with a full enterprise GIS, and to support utility asset EIM strategies, should consider Autodesk. Utilities that want Web geospatial mashup functionality across the enterprise also should consider Autodesk.

Rating: Positive

Bentley

Bentley, traditionally known for its engineering capabilities, offers software for utility infrastructure management, as well as utility design tools. Bentley's utility application portfolio provides seamless integration among design, engineering, analysis, construction and operations. Bentley's MicroStation has been a core platform for its utility GIS, as well as its plant and substation engineering design and layout tools. Bentley's acquisition of Cook-Hurlbert's Expert Designer, now called Bentley Expert Designer Electric V8i, further improved Bentley's vertical utility market focus with design and cost estimation tools that are configured for water, wastewater, electric and gas delivery infrastructures. Bentley Geospatial Server will work out of the box with Oracle Spatial, and can be configured to support ESRI ArcGIS spatial stores (ArcSDE). Bentley Expert Designer also works with GE Energy's Smallworld. Bentley's new vertical-utility-focused GIS applications, called Bentley Electric, Bentley Gas, Bentley Water and Bentley Wastewater, are based on common industry-connected network models in Bentley Map. These products can be deployed in a two-tier or three-tier mode, as required.

In November 2008, Bentley announced its comprehensive V8i upgrade plans across its product suite to provide utilities with integrated infrastructure project delivery tools. Some of the new V8i geospatial features include Geo-Coordination With MicroStation, a map-based interface to ProjectWise Integration Server, multiple topology layers for advanced data management and analysis, enhanced spatial reporting and querying, editing of 3-D raster files, linear referencing of documents in Bentley Geospatial Server and ProjectWise, Web Map Service (WMS) support in Raster Manager and Geo Web Publisher V8i, mashup support for Microsoft Virtual Earth/Google Maps, and a heads-up display for interactive civil engineering design workflows. Outside of utility GIS platforms, Bentley continues to be strong in

project management and project-related content management with its V8i upgrade, and, in particular, with its ProjectWise product line for engineering collaboration and content management.

Bentley expects continued GIS growth, particularly in Asia and India, where the company is well-positioned to succeed as infrastructure markets resume growth. From a GIS platform market share perspective, Bentley hasn't been as strong in the electric and gas utility GIS sectors as other large GIS vendors have. However, Bentley's vertical-utility-focused product strategy should position the company for further growth as it delivers on the V8i marketing announcements, and as more utilities embrace Bentley's utility-focused solution platforms. Combined electric, gas, water and wastewater utilities will find that Bentley offers a common GIS platform that supports the broadest range of vertical utility applications.

Rating: Promising

ESRI

ESRI has dominated the water and wastewater utility GIS markets, and has experienced remarkable growth in the electric and gas utility GIS markets. GIS is ESRI's only business. For more than 39 years, ESRI has supported organizations through a partner network in the design, development and implementation of geographically based information management systems. ArcGIS, which is ESRI's GIS platform, is an integrated collection of GIS software products for building a complete GIS. ArcGIS enables users to deploy GIS functionality in desktops, servers or custom applications; over the Web; or in the field. ESRI's intention to support open geo-Web applications with the likes of Google and Microsoft, to support open standards (for example, KML), and ESRI's work as a provider of geospatial content across the Web, have further improved ESRI's utility product offerings.

The currently available 9.3 release of ArcGIS Server is an integral piece of ESRI's enterprise strategy of moving from the desktop to the enterprise server. ArcGIS Server 9.3 includes improved RDBMS support for IBM DB2, IBM Informix, all editions of Microsoft SQL Server, and Oracle, and it's embedded with an RDBMS that supports open-source databases and PostgreSQL 8.2.3 on the Windows and Linux operating systems. ArcGIS Server 9.3 also offers role-based security to Web services and applications, based on roles or permissions that can be managed from a database or Directory Server. ESRI products are compatible with many IT standards, such as interfaces, as well as Component Object Model (COM), C++, Java, .NET, SOAP, XML, and World Wide Web Consortium (W3C) standards for Web services, such as Web Services Description Language (WSDL) and Universal Description, Discovery and Integration (UDDI). ESRI products support the OGC standards and the MultiSpeak co-operative utility standard application interface.

ESRI's Strong Positive rating as a GIS platform is based on its customer market base providing a large pool of trained ESRI application users and developers in the job market, which seems to be a tipping point for close, competitive bids. ESRI also seeks to gain market share in the smaller utility market, and, recently, announced its Small Utility Enterprise License Agreement (SU-ELA) program, which offers more-favorable pricing as well as unlimited deployments of select software and services. As previously discussed, ESRI depends on partners for many utility-specific applications. For example, electric utilities typically package ESRI GIS with Telvent Miner & Miner's ArcFM

network model to provide the complementary products required to manage electric utility T&D network connectivity, design and operations tools. Enspiria Solutions, which is ESRI's system integration partner, recently announced a new Web 2.0 BI application called ESIntial, which leverages ArcGIS Server as well as Microsoft's Office PerformancePoint Server and SharePoint to provide real-time utility performance and risk assessment. Another ESRI partner, 3-GIS, offers a number of modern field applications built on ESRI platforms. Utilities looking for a strong GIS platform vendor that supports a broad range of third-party partner applications for the utility industry should consider ESRI.

Rating: Strong Positive

GE Energy

GE Energy's Smallworld GIS platform continues to perform very well in electric and gas utility applications, and has been the most-robust platform in dealing with complex network models and related data management issues. GE Energy's strong utility and engineering background gives it the business experience to support the most-complex utility T&D network issues that support asset management, planning, design, reliability and overall system operational performance functions. However, although GE continues to improve the Smallworld products, it also has released new distribution design applications directly on the Oracle Spatial 9i or 10g platform (and 11g in 2010), thus eliminating the need for Smallworld in these new design tools. This move builds on the strengths of GE by focusing on utility engineering design and asset management applications, as opposed to simply providing a GIS platform. However, as more utilities find value in these new applications, and as the spatial components of the RDBMS continue to mature in functionality and processing power, Gartner predicts that the GIS platform will become less of a factor over the longer term.

Utility field computing has also been a key area of focus for GE, extending the reach and value of utility asset management with the inclusion of a suite of field-based and workforce management solutions that leverage the GIS portfolio. For example, in June 2008, GE purchased MapFrame to improve mobile mapping and field inspection product offerings. These integrated solutions should help position GE to support the complex information management requirements of future intelligent "smart" grid deployments.

Users now access the GE database through a simple client/server architecture, or on the Internet through a Java Platform, Enterprise Edition (Java EE) application server. GE is also offering a wider variety of database and middleware compatibilities – including Oracle, SAP, Java Database Connectivity (JDBC), Open Database Connectivity (ODBC) and JBoss, as well as IBM WebSphere, Java Message Service (JMS), Oracle Advanced Queuing and SonicMQ – through its toolkits. GE has application programming interfaces that can be accessed through its geospatial server product, thereby exposing GE's applications as Web services to enable compatibility and integration with enterprise systems. Utilities that leverage the IEC's TC 57 Common Information Model (CIM), utility application integration standards or OpenGIS standards will find these offered in GE Energy's integration solutions.

Clients looking for fully integrated and technically advanced utility applications that are built on a solid GIS platform, with the proven processing performance of large networks, should consider GE Energy.

Rating: Positive

Intergraph

Intergraph's focus on its wide range of business solutions is demonstrated by its two operating divisions:

- Process, Power & Marine – nuclear and fossil power generation, process plant, and ship and offshore design tools
- Security, Government & Infrastructure – geospatial solutions for public safety and security, defense and intelligence, utilities and communications, photogrammetry, and spatial data infrastructure

Intergraph provides geospatially enabled infrastructure management and operational support systems for energy and utility solutions to design and maintain the asset network; to prevent, detect and respond to service outages; and to effectively manage mobile workforces in the field. Intergraph's open solutions offer nonproprietary data access, native Oracle Locator data storage and Oracle Spatial support, and support of industry standards (OGC, FGDC and ISO), and they're based on Microsoft and Oracle technology. Intergraph's GeoMedia GIS platform addresses a broad GIS market. For utility clients, Intergraph has built a spatial network asset management product called G/Technology, which is Oracle-based. Most of Intergraph's utility clients have converted to G/Technology; the remaining clients are still on the legacy FRAMME GIS platform. For each utility discipline, Intergraph offers a business-specific solution built on G/Technology, including G/Electric, G/Gas, G/Pipeline, G/Water and G/Comms. Intergraph's GeoMedia WebMap provides a Web-services-based platform for mashups to overlay utility asset information from an Intergraph or other GIS, and to integrate with other Web-based sources for WebPub-generated applications.

Intergraph provides generation plant design and utility infrastructure management applications that include outage management, network management, facility records management, and mobile field service and inspection tools. Intergraph applications also include EIM synchronization capabilities between plant design applications and third-party plant operations systems (bridging the IT/operational technology gap); in addition, Intergraph applications support some workflow capabilities to improve utility business process management. Utilities looking for more open architecture and middleware standards will find that Intergraph supports these via G/Technology and GeoMedia, thereby enabling near-real-time access to geospatial databases, along with GIS query, analysis and visualization tools. Intergraph's server products are based on Microsoft Windows Server and Internet Information Services Web server. Utilities looking for more service-oriented architecture will find that Intergraph supports OGC and SOAP/WSDL standards. Intergraph's products are also compatible with Oracle and Microsoft databases and middleware – that is, Oracle, Oracle Spatial, SQL Server and Access. Clients can support custom development with .NET languages, Java, C++ and SQL Server. Utilities that desire to leverage Intergraph's advanced applications, but already have ESRI ArcView or Bentley MicroStation, can continue to manage data in these GIS platforms with Intergraph's direct interface capability. Utilities seeking a broad range of utility applications, including plant design and utility infrastructure management built on a modern GIS platform, should consider Intergraph.

Rating: Positive

Pitney Bowes Business Insight

In 2007, Pitney Bowes bought MapInfo and merged it with previously acquired (in 2004) Group 1 Software. Combined, they now operate as Pitney Bowes Business Insight, which offers an array of utility products for location intelligence, LBS (geocoding and address data quality), and bill production and presentation capabilities. Many utilities leverage these products to keep their CIS billing system's end user customer address and location information current. In addition, a number of utilities leverage MapInfo to provide affordable spatial analysis on desktop applications.

Most of MapInfo's utility enterprise GIS applications have been in the telecommunications industry. Pitney Bowes Business Insight continues to support its utility customer base with the MapInfo Professional developer toolkits in Java, .NET, COM, data, and hosted services to complement MapInfo's centrally managed and Web-services-based Envinsa LBS platform, which is used for enabling advanced location intelligence capabilities. MapInfo Professional v9.5 is the latest release of Pitney Bowes Business Insight's popular PC-based mapping/analysis tool. The new version supports direct access to many databases, including Microsoft SQL Server, Oracle Spatial, IBM Informix and DB2, and ESRI ArcSDE. MapInfo Universal Translator can translate MapInfo .TAB and .MIF/.MID files into various Vector Product Format (VPF) formats, including AutoCAD DWG/DXF, ESRI ArcInfo Export (E00), ESRI Shapefile and Bentley MicroStation Design. MapInfo also supports time- and event-based analysis.

Many utilities continue to leverage MapInfo as a low-cost GIS tool to support a variety of spatial analysis requirements. Pitney Bowes Business Insight also has a full range of location intelligence tools and technologies that support a Web services platform that integrates mapping, spatial analysis, data query, geocoding, routing, and the ability to append related datasets. In addition, Pitney Bowes Business Insight provides independent Java and .NET-based developer tools that are dedicated to spatial display and mapping, geocoding, and routing. Pitney Bowes' MapInfo primarily supports telecommunication utilities (not covered in this MarketScope). Pitney Bowes Business Insight has its largest market presence in the Asia/Pacific region.

Pitney Bowes' MapInfo is recommended as an affordable niche application for small and midsize utilities that don't require the advanced enterprise GIS server and network management functionalities. Key strengths include LBS (such as geocoding, street land-base data, aerial imagery, demographic data, weather data and terror/political risk data), which can be used for analysis in conjunction with the utility's own infrastructure data. Larger utilities should consider MapInfo as a transitional tool to manage geospatial information prior to implementing enterprise GIS. Utilities looking beyond standard file transfers will find that MapInfo integration with other utility geographic or enterprise applications would happen through custom developments via standard Web services.

Rating: Promising

Vendors Added or Dropped

We review and adjust our inclusion criteria for Magic Quadrants and MarketScopes as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant or MarketScope may change over time. A vendor appearing in a Magic Quadrant or MarketScope one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. This may be a reflection of a change in the market and, therefore, changed evaluation criteria, or a change of focus by a vendor.

Gartner MarketScope Defined

Gartner's MarketScope provides specific guidance for users who are deploying, or have deployed, products or services. A Gartner MarketScope rating does not imply that the vendor meets all, few or none of the evaluation criteria. The Gartner MarketScope evaluation is based on a weighted evaluation of a vendor's products in comparison with the evaluation criteria. Consider Gartner's criteria as they apply to your specific requirements. Contact Gartner to discuss how this evaluation may affect your specific needs.

In the below table, the various ratings are defined:

MarketScope Rating Framework

Strong Positive
Is viewed as a provider of strategic products, services or solutions:
- *Customers:* Continue with planned investments.
- *Potential customers:* Consider this vendor a strong choice for strategic investments.

Positive
Demonstrates strength in specific areas, but execution in one or more areas may still be developing or inconsistent with other areas of performance:
- *Customers:* Continue planned investments.
- *Potential customers:* Consider this vendor a viable choice for strategic or tactical investments, while planning for known limitations.

Promising
Shows potential in specific areas; however, execution is inconsistent:
- *Customers:* Consider the short- and long-term impact of possible changes in status.
- *Potential customers:* Plan for and be aware of issues and opportunities related to the evolution and maturity of this vendor.

Caution
Faces challenges in one or more areas:
- *Customers:* Understand challenges in relevant areas, and develop contingency plans based on risk tolerance and possible business impact.
- *Potential customers:* Account for the vendor's challenges as part of due diligence.

Strong Negative
Has difficulty responding to problems in multiple areas:
- *Customers:* Execute risk mitigation plans and contingency options.
- *Potential customers:* Consider this vendor only for tactical investment with short-term, rapid payback.