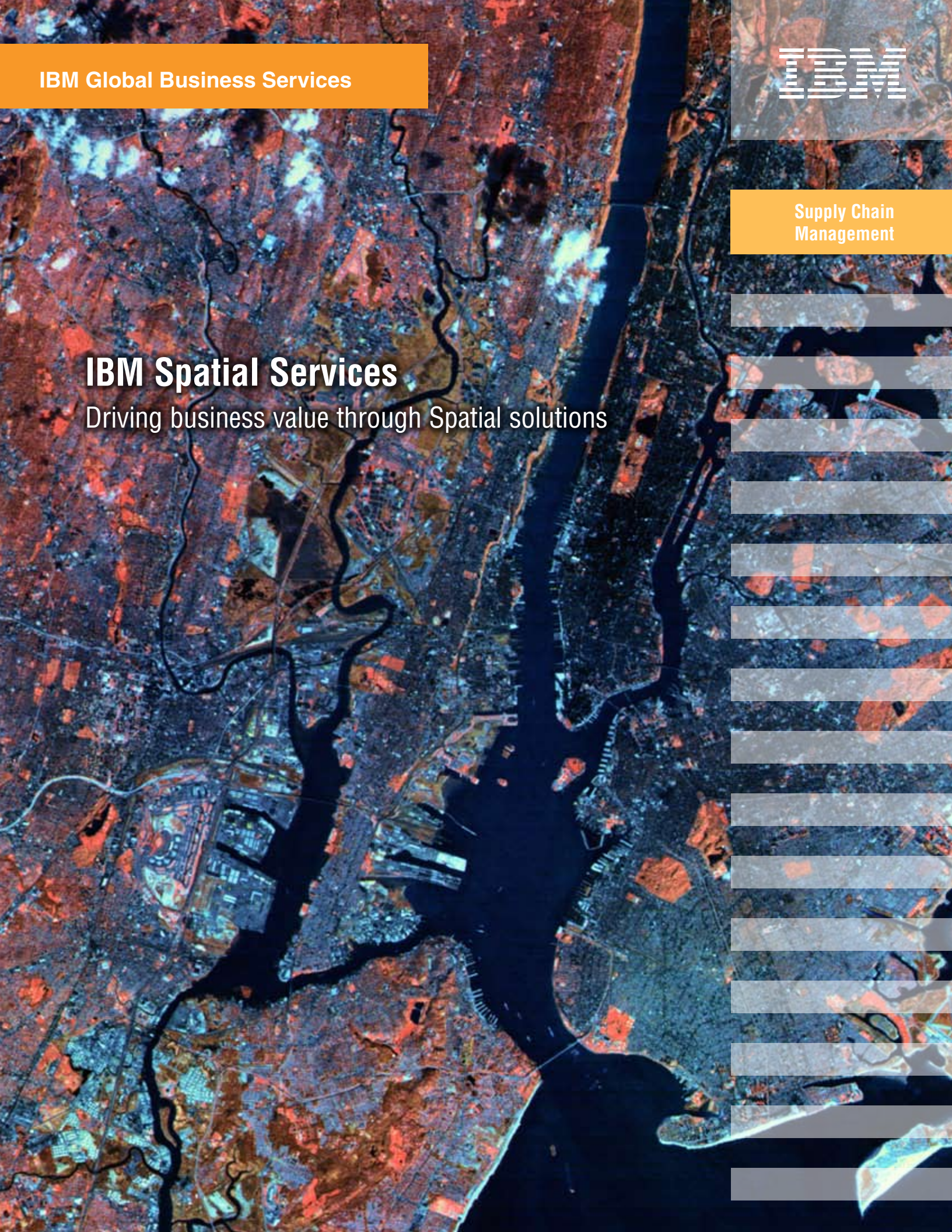
IBM Global Business Services



Supply Chain Management

IBM Spatial Services

Driving business value through Spatial solutions

Value of Spatial Information

Geographic location is a fundamental reference point in the physical world, one that grows more critical as enterprise business systems evolve to more accurately reflect real-world circumstances.

Companies and organizations have long used Geographic Information Systems (GIS) to manage business; gathering and analyzing data associated with geographic locations of resources, and with geographic areas of interest. Organizations of all types are now moving to integrate their GIS systems and their enterprise information technology systems to obtain even greater value.

Today's GIS systems solutions are becoming ever more flexible, dynamic, standards-based enterprise-wide systems. Organizations are acting to 'spatially enable' a wide range of enterprise applications, and to integrate them, so they can exchange broader and deeper information. Users can now gain access to comprehensive location information important to their organizations, to help them manage better.

GIS with enterprise applications

GIS users increasingly access networked GIS geospatial data and apply analytical capabilities from server-based solutions, utilizing service-oriented architectures (SOAs) and Web controls. This technology dynamically combines GIS and enterprise applications in several ways and provides many direct benefits:

- Richer analytics – enables better business decisions.
- Improved visualization – maps location of strategic assets.
- Improved understanding of physical relationships, and proximity between resources.
- Deeper resource location knowledge over time -- helps improve resource location awareness, adding visibility to their movements through geographic areas of interest. .
- Extended modeling – analyzes and visualizes geospatial patterns to help predict and prepare for future conditions.

Spatial Services solutions for Asset Mangement

The capabilities associated with managing location information may be applied to assets as well, to identify them for inspection, maintenance and repair. Location and proximity can be factored into planning and executing work, thus helping scheduling decisions. Call center agents can pinpoint trouble locations rapidly, and can initiate work requests based on crew availability and proximity. Decision-makers draw from GIS /Asset management integration to facilitate investment planning, and to conduct other mission critical analyses.

Implementing an integrated Asset Management and GIS solution is a complex, enterprise-wide endeavor, and IBM has the expertise to assist you. IBM Spatial Services consultants will work with you to enhance the value of an array of Spatial Solutions, including our own Maximo Spatial solution.

IBM Spatial Services consultants are trained and experienced with ESRI® ArcGIS® products, and they will help you determine the optimum configuration for your system, to assure you get the highest output and value. Our consultants provide industry-leading information technology knowledge, project management and systems integration expertise. They apply this knowledge via our proven tools and methodologies, delivering complex, end-to-end solutions.

IBM Spatial Services Consultants focus on three core areas: Maximo Spatial Services (our own solution,) ESRI Project Services and ESRI Industry-Focused Services (any other ESRI-based, GIS solution.)

Maximo Spatial Services

Assisting with successful Maximo Spatial implementations

- Site Assessments
- Project Preparation
- Integration
- Data validation
- Maximo and ESRI Configurations

ESRI Project Services

Assisting with enterprise GIS implementations

- GIS Project Management Services
- Enterprise GIS Assessments
- Enterprise GIS System Design and Implementation
- GIS Strategy and Visioning Consulting
- GIS Evaluations and Road Maps

ESRI Industry-Focused Services

Customized GIS Solutions, focused on targeted industries

- IBM GIS and industry subject matter experts help devise GIS solutions for today's marketplace

Implementing your Spatial Solution

IBM Spatial Services will assist you with any ESRI-based solution, from an Enterprise GIS system implementation or assessment, to a custom GIS integration with your asset management system of choice. We provide a full range of consulting services for ESRI projects that apply to the entire project lifecycle.

IBM's Spatial consultants work with you to connect your asset management systems and ESRI system into a single, service-oriented, spatially-enabled solution. We help your team break the GIS and Asset Management silos that often exist, bringing both your GIS users and your Asset Management users together as an interconnected team. We work with your teams to:

- Generate architecture assessments and recommendations.
- Plan, scope and assess Enterprise GIS engagements.
- Identify objectives, develop a business case, define user requirements and determine preliminary staffing and training requirements.
- Enable new business methods and perform business process reengineering where appropriate.
- Determine implementation parameters and assist installation.
- Deploy and test applications, including system and integration testing and performance and user acceptance testing.
- Validate, migrate and cleanse GIS Data, and consolidate into single repository (required for Maximo Spatial).
- Assist with Spatial modeling and analysis.
- Design and build new spatial applications.
- Define and scope enterprise Maximo Spatial GIS solutions [where applicable.]
- Train users of ESRI [and Maximo Spatial] tools and applications.

Specialized expertise

As a global technology provider, IBM has the skills to recommend and implement optimal hardware and software infrastructure, spatial database schema, and application architectures for ESRI-based solutions. IBM will assist your team with logical and physical geo-database models and data conversion strategies, involving the high-performing geo-databases critical to data rich, ESRI solutions.

For specific industry areas, IBM Spatial Services has GIS experts with focused industry expertise and experience, who deliver cross-industry ESRI GIS Solutions via Maximo Spatial or other Spatial platforms. IBM Spatial Services consultants bring expertise from both the public and private sector, and apply industry geospatial solutions such as: Energy and Utilities; Waste Water; Transportation; Government Services and Transmission and Distribution. In addition, when appropriate, we consult with IBM industry experts outside GIS, who bring first-hand experience and lessons learned from other industry-related projects.

Our Spatial consultants also boast a strong relationship with ESRI, based on our decade-long partnership. And for Maximo Spatial solutions, our consultants have direct links to IBM Maximo developers who collaborated with ESRI to build Maximo Spatial.

Maximo Spatial—an enhanced product approach

From a product perspective, IBM is leading the way, expanding the breadth, depth and agility in Asset Management/GIS systems. IBM provides an innovative product approach that unites the full functionality of an industry-leading Asset Management solution with an industry-leading GIS solution: IBM Maximo and the ESRI ArcGIS Server. Integrating these two solutions, we have created an advanced, modern architecture that applies the power of Maximo asset and work management via the ArcGIS Server. The Maximo Spatial solution goes far beyond traditional, static GIS/CMMS maps, and provides a level of innovation, interactivity, usability and business value beyond anything previously available.

Maximo Spatial delivers an integration framework through the ArcGIS Server Technology that renders GIS assets visible to Maximo users, and provides detailed Maximo work and asset information available to GIS support staff. Based on Java, XML and Web services, this interaction easily and dynamically provides a geospatial view of assets, work and relevant, land-based events and factors that can affect efficient work execution, such as roads, buildings, pipelines and even weather.

Through the Maximo Spatial solution, Maximo and ArcGIS interact to reply to provide integrated information on asset location, alignment, and proximity to other objects or events, and on condition, maintenance history, and inspection status. The Maximo Spatial solution enables visibility and insight to GIS managers and users that tabular display numbers and words alone cannot convey. This integrated information enables more comprehensive asset and service management system support for activities such as geospatial work order management, emergency outage response and mobile dispatch.

Call Center agents, supervisors and others can use this information to quickly locate assets geographically, and assign work. They easily can associate asset location maps with needed servicing or reported problems, and can identify closest work crews to dispatch for quickest service. Automated workflow routes requests through proper reviews, and workflow data can be applied to identify recurring issues, allowing managers to flag problem areas. The Maximo Spatial solution facilitates better decision-making, increased productivity and faster and more efficient response times. This translates to improved service to customers.

IBM Spatial Solution

Features	Advantages	Benefits
Spatially-enabled Maximo applications (Assets, Locations, Work Orders, Service Requests.)	• Supports visualizing asset locations and work orders. • Leverages GIS investment, and supports Visual Business Analysis. • Enables asset and work views in proximity and context with other spatial features.	• Aligns specific business needs. • Provides better out-of-the-box functionality into complex utility eco-systems in which GIS is used. • Supports efficient resources-to-assets use.
Editing, creating and modifying GIS feature attributes and geometry	• GIS Editing can be performed without exiting Maximo	• Leveraging GIS functionality from within Maximo creates efficiencies in business processes.
Rational consolidation	• Simplifies integration of GIS and Work/ Asset Management technologies. • Provides single source for GIS information related to Assets, Resources, and more.	• Lowers total cost of ownership for IT departments by providing a common platform for all asset management and GIS users • Promotes best practice behavior throughout the enterprise

Maximo Spatial solution benefits

Organizations that own, operate and manage geographically dispersed assets will find significant business benefits in an integrated Maximo/GIS Spatial and Asset Management solution:

- Reduces costs through greater efficiency in streamlining work and scheduling activities, and faster response via 'Hot spot' identification.
- Permits users of both Maximo and ArcGIS to access the two systems simultaneously, via one integrated application.
- Enhances communication and collaboration between GIS and work management teams.
- Improves measurement capabilities from enhanced Spatial context.
- Extends modeling options based on deeper knowledge regarding asset locations and greater visualization capabilities.
- Improves tactical and strategic decision-making based on more comprehensive information.
- Facilitates compliance through enhanced systems mechanisms.

The Maximo Spatial solution enables Asset Management organizations and GIS systems to drive new business value sources and possibly to change how business is conducted. Establishing a single information source shared across all organizational disciplines permits access to the same information at the same time, and also eliminates the need to track data in multiple locations, or to synchronize asset attributes between GIS and asset management systems.

Why IBM?

IBM's Spatial Services consultants help integrate and implement ESRI GIS software and Asset Management systems that enable greater visibility and facilitate better decision-making. We support the world's leading asset-based organizations—and their Work Management teams—in transforming their companies into 'Smarter Asset Management Organizations'. A GIS/Asset Management system is a big step toward developing 'Smarter Businesses', and ultimately, toward building an integrated, 'Smarter Planet'.

IBM Spatial Services consultants are uniquely qualified to assist you with your Spatial solutions, and they are committed to your success. They bring unparalleled Maximo knowledge, expert ESRI and Spatial knowledge, Industry application knowledge, and proven skills and tools to every solution. Choosing IBM Spatial Services consultants to help with your GIS needs assures advanced expertise and deep connections into IBM's research and development organizations and close relationships to IBM partners. We bring decades of experience working with organizations large and small and we understand the different needs of each type of organization.

Our Spatial consultants utilize industry-leading project management techniques. We apply our World Wide Project Management Methodology (WWPMM) for GIS projects, and the Maximize Methodology for Maximo Spatial projects, a proven methodology supported by our Asset Management Center of Excellence (AMcoe). Via the AMcoe, we manage our intellectual capital and provide AMcoe Delivery Packs to our consultants, assuring consistent solution delivery everywhere in the world. The AMcoe provides a hub through which our consultants continually contribute feedback on the tools and processes they use, thus participating in a process that enhances both our products and methods—and increases benefits to you.

As part of the world's largest and most experienced asset management consulting organization our IBM Spatial Services consultants will deliver the most comprehensive approach to your GIS needs. They will help you implement the most transformative solution achievable, supporting your company's need to be competitive and innovative in today's rapidly changing world.

Ask your IBM representative for more information on IBM Maximo, IBM Professional Services and IBM Maximo Accelerators, or please visit:

ibm.com/gbs/assetmanagement.com

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