MICROSOFT + ESRI

>> Giving you the power to think and plan geographically
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“Microsoft and ESRI develop solutions that better enable people to understand their world and make better decisions. Through the use of our technologies, businesses and governments are capable of increasing productivity and organizing information within various contexts including geographic insight.”

— Ted Kummert, Senior Vice President, Business Platform Division, Microsoft

“GIS technology is making a profound difference in overcoming the challenges facing today’s businesses and governments.”

— Jack Dangermond, President, Esri
PARTNERS SINCE 1986

The world leader in geographic information systems (GIS), Esri creates software that’s used in more than 500,000 organizations worldwide—including each of the 200 largest cities in the United States, most national governments, and more than two-thirds of Fortune 500 companies.

For more than 20 years, Microsoft and Esri have been working together to deliver complete GIS solutions. Esri software programs are compatible with Microsoft operating systems and software, ensuring the highest level of GIS functionality for our customers. Esri products run on the Microsoft Windows platform, and Esri has developed its core product family, ArcGIS, using Microsoft Visual Studio development tools.

Microsoft + Esri. It’s a combination that gives people everything they need to view, analyze, understand, question, interpret, and visualize geographic data, helping them make better decisions.
Esri’s server-based GIS comes with out-of-the-box, end-user applications and services for spatial analysis. And it’s all designed to work with Microsoft Windows Server®, the .NET Framework, Microsoft SQL Server™, Microsoft Bing Maps™, Microsoft Office SharePoint® Server, and Microsoft Windows Mobile so it’s easy to implement in any Windows environment—at the office or in the field.

Geography has become an essential component of enterprise business intelligence. Yet too often the absence of a true enterprise GIS solution can rob a company of the benefits of geographic information and analysis. For example, the inability to easily share knowledge across the organization means decisions are made with incomplete knowledge. A piecemeal approach also prevents a company from taking advantage of all aspects of its data and precludes it from integrating geographic and business analysis with other business systems.

Microsoft + Esri can change that.

Esri GIS solutions enable you to become more productive by sharing your geographic information across the enterprise: distributing your maps, models, and tools to others in your organization or the public in a way that fits their workflows. People throughout your company—from office staff to field personnel—can edit and query accurate, up-to-date data using simple, browser-based GIS.
The result: increased productivity every time GIS information is used.

Esri ArcGIS provides the foundation for a geospatial service-oriented architecture that allows common GIS functions to be delivered as services throughout the enterprise. It integrates with other enterprise systems, such as customer relationship management or enterprise resource planning systems, using industry-standard development tools. And, because it runs on Windows Server and SharePoint, you can deploy applications on a variety of client platforms, including Windows 7, and Windows Mobile.

**Pidpa**, a Belgian water utility, uses a complete Microsoft + Esri solution to maintain a large amount of data on the company’s water distribution network. Visualization tools allow every employee to easily access related geographic data in a Web browser.

The Pidpa GIS, named GeoLink, accesses data from the same central database that’s used by the GIS editors, so users always have the most up-to-date data. This spatial analysis application uses SQL Server with Windows Server for the central ArcGIS database. A secondary, public SQL Server database contains a subset of GIS data that can be accessed over the Internet by municipalities, contractors, fire departments, and other organizations.

The increased availability of GIS data offered by the utility’s Esri solution provides many possibilities for analysis, as well as support for management decision making. Additionally, nontechnical departments are discovering how to leverage GIS, both for water network management and other applications.

“The implementation of the ArcGIS from Esri provides a solid GIS foundation. This database-centric GIS environment for water distribution network management has been operational for more than two years and is still expanding to additional departments. The integration of GIS with other key IT systems provides the organization with new strategic, tactical, and operational opportunities.”

— Patrick Vercruyssen, Chief Engineer-ICT Manager, Pidpa
Esri ArcGIS provides a rich application developer framework for the .NET environment. That’s one reason an extensive developer community uses the ArcGIS platform as part of its standard toolset. ArcGIS provides application programming interfaces (APIs) SharePoint parts for developers using Silverlight \ WPF, C#, VB.Net or Visual C++. These APIs include a series of high-level visual components that make it easy for even a casual programmer to build a GIS application.

Today’s information workers are often stymied in their attempts to use geographic information. The power of geographic information is often overlooked, and there are no native geographic capabilities within their applications. Custom solutions can be costly to build and difficult to maintain. Dealing with requests for individual user interfaces can be a challenge, and providing public access to geographic information is all but impossible.

Or at least it was before Microsoft + Esri.

Esri has developed the ArcGIS system, using Microsoft’s Visual Studio development tools. All of the ArcGIS applications can be configured and customized to meet your needs using Visual Studio. ArcGIS developers can also leverage the power of Visual Studio to extend, build new, and deploy custom GIS solutions for the PC, Server, Mobile device and the Cloud.
Developers can take advantage of a wealth of resources, such as Visual Studio—specific projects, templates, and wizards; .NET controls for rapid application development. ArcGIS Mapping for SharePoint relies on the Microsoft Silverlight platform to provide a rich and impressive user experience.

**New Zealand Post** (NZ Post) is using Esri technology on a Microsoft platform to maintain its reputation as one of the most efficient and inexpensive postal services in the world. NZ Post’s traditional approach of capturing address data directly from a widely distributed delivery network was impairing its ability to achieve maximum processing and delivery efficiencies and to fully exploit commercial data opportunities.

The organization needed a data model incorporating spatially defined reference datasets, such as postal sort zone, postcode, and suburb/township. The result was an easy-to-use, map-based application for capturing and managing address data. This solution was developed using the Microsoft .NET Framework integrated with existing delivery systems using Microsoft BizTalk Enterprise Application Integration to facilitate business continuity through the change period. “ArcGIS has enabled us to develop an intuitive thin client, map-based application for the capture and maintenance of postal address data for our entire network,” says Matt Lythe, NZ Post’s address data manager.

The Microsoft + Esri solution enables staff members to add, change, and map postal addresses easily and accurately. As a result, customers continue to receive mail reliably and at a low cost—and NZ Post saves up to 10 percent on the processing cost of a standard letter item.

“ArcGIS has enabled us to develop an intuitive thin client, map-based application for the capture and maintenance of postal address data for our entire network using the Microsoft .NET Framework integrated with existing delivery systems and Microsoft BizTalk Enterprise Application Integration. Fully integrated within a complex environment, this architecture has proven to be robust and scalable while keeping address data definitive.”

— Matt Lythe, Address Data Manager, New Zealand Post
Esri ArcGIS is used to access multiuser geographic databases stored on premises with Microsoft SQL Server and/or on the Cloud leveraging Microsoft Azure. It serves as the database access engine to spatial data and related attributes and metadata.

The more people using your corporate geographic data, the more complex your task. You need a way to centrally manage and store all of the data. Deal with concurrent editors of enterprise data. And work with complex data models.

Microsoft + Esri make it easier to do all of it.

Esri enables users to easily store and manage vector, raster, and survey data directly in SQL Server. As a core component of the information infrastructure, spatial data is available for fundamental business and government activities, such as mapping customer locations, site selection, routing and logistics, utility asset management, land records management and tax assessment, and customer care. Users can deploy spatial data and mapping solutions to any client, from any server, anywhere on the network.

Esri employs a geodatabase (short for “geographic database”) that provides the common data access and management framework for ArcGIS. The geodatabase not only defines how data is stored, accessed, and managed, but it can also implement unique business logic, such as modeling of spatial relationships between data (such as topologies, networks, and terrains) and data validation (such as subtypes and domains). The geodatabase enables you to leverage your spatial data to its
full potential and maintain a consistent, accurate database. It’s implemented as a collection of tables within SQL Server for top performance and security.

South Carolina Department of Health and Environmental Control (SC DHEC) is one organization that’s making use of Esri’s SQL Server database compatibility. SC DHEC needed an efficient way to provide health data and emergency information to the public.

SC DHEC adopted SQL Server and ArcGIS for managing statewide maps and data in order to serve information and provide driving directions and routing capabilities on the Internet.

The interactive data retrieval system has proven indispensable for community assessment, planning, and health practices. The GIS keeps data current and accessible. Before, it had been almost impossible to study health problems below county-level boundaries without expending a tremendous amount of time and manual labor. Now, for example, the Shelter Navigation system makes it easy for the public to find shelters, and SC DHEC can monitor and track shelters and evacuees efficiently when needed, at the neighborhood level.

“Esri software has helped us keep data current and accessible. Instead of doing this manually, we are able to save a considerable amount of time and man-hours with GIS.”

— Jared Shoultz, Informatics Manager, Division of Biostatistics and Health GIS, PHSIS, SC DHEC
GO MOBILE

Esri provides solutions for mobile GIS and field mapping applications. ArcGIS, provide field-based personnel with the ability to capture, analyze, and display geographic information without the use of costly and outdated paper map books. ArcGIS takes full advantage of the Microsoft Windows Mobile platform and the wide range of handheld devices.

The challenge: provide data access to field workers. Allow them to edit enterprise data. Give them the ability to do advanced analysis in the field. And do it all using a simplified user interface for mobile devices.

The solution: Microsoft + Esri.

It all starts with mobile GIS, the expansion of a geographic information system from the office into the field. A mobile GIS enables field-based personnel to capture, store, update, analyze, and display geographic information in real time.

Esri’s mobile products, ArcGIS Mobile and ArcPad, run exclusively on the Windows Mobile platform and provide database access, mapping, GIS, and global positioning system (GPS) integration to users in the field via handheld and mobile devices. And Esri ArcGIS includes specialized tools for use on a Tablet PC and laptops. For instance, digital ink technology allows users to create notes or sketch diagrams and tie them to a geographic location. Ink can also be used to highlight features and sketch shapes on a map that can be used to perform GIS editing tasks.
Using mobile GIS and a Windows Mobile device or Tablet PC, firefighters, police officers, engineering crews, surveyors, utility workers, soldiers, census workers, field biologists, and other field workers can create, edit, and utilize GIS maps while in the field; create and maintain an inventory of asset locations and attribute information; document the location and circumstances of incidents and events for further action or reporting; and much more.

San Francisco Public Utilities Commission (SFPUC) has launched a major program, “Only Rain Down the Drain,” that seeks to reduce pollutants at their sources through a series of public outreach, inspection, and monitoring initiatives. Educating residents on the importance of keeping contaminants out of the storm water system is a key aspect of the program that SFPUC coordinates and implements using mobile GIS technology.

SFPUC maintains an enterprise GIS running on ArcGIS to extend its 200-plus layers of data to personnel working at facilities across the city. Many offices and departments within the commission perform planning and management operations in the GIS environment. SFPUC expanded the digital workflow to include field activities as well by equipping field personnel with handheld GPS data collection receivers running ArcPad and Windows Mobile.

SFPUC has quickly realized the value of GIS-enabling field crews. The system enables SFPUC personnel to verify features in the field, while they are physically standing in front of the asset, and then enter that information into ArcPad software instead of using paper notebooks and performing data entry back at the office.

“Our main goal was to ensure a successful and productive field session for every SFPUC field worker and make sure the information was being captured in a standard way. Ease of use was another important factor.”

— David Marley, Senior GIS Applications Developer for Esri business partner VESTRA Resources
ENCOURAGE AWARENESS

Go beyond searching, routing, and address matching by combining Esri technology and Microsoft Bing Maps content and services. Esri ArcGIS allows you to integrate existing GIS data with Bing Maps basemaps to improve your analysis, data creation, authoring, and data management.

The recent resurgence and interest in the study of geography owes much to GIS technology. Several recent advances in geospatial technology have truly caught the popular imagination.

Microsoft + Esri provide the tools that allow the public to see their homes and neighborhoods in a global context.

Today, even elementary school children are able to easily access the power of simple mapping and visualization to gain geographic understanding. Leveraging this ready access with the sophisticated analytical strength of Esri GIS allows people to realize the power that GIS provides to government, retail, the oil and gas industry, insurance, disaster management, financial services, real estate, the military, conservation, and a host of other sectors.
ArcGIS can be used to publish map services to the Cloud and build Web applications. With ArcGIS you can also build and extend your Web applications and dynamically display your Esri content on a Bing Maps base map.

By leveraging ArcGIS with Bing Maps systems, users now have a complete, end-to-end technology stack for enterprise customers. Users can better perform data creation, map authoring, data management, and analysis/visualization in a powerful, interconnected platform.

Interoperability has been brought to a new level for application developers with ArcGIS. The interactive ArcGIS for Silverlight API and ArcGIS Mapping for SharePoint are tightly integrated with Bing Maps, allowing for rapid application development, complete with live geo-processing and mashup capabilities.
MICROSOFT + ESRI: KNOWLEDGE. INSIGHT. AWARENESS. ACTION.

As the leader in the geographic information system (GIS) software industry, Esri enables organizations around the world to leverage their IT investments by integrating GIS and mapping technologies. Esri applications, running on more than 1 million desktops and thousands of Web and enterprise servers, provide the backbone for the world’s mapping and spatial analysis.

Esri ArcGIS produces information that answers specific questions and makes it easy to share that information. And the ArcGIS framework enables organizations to deploy GIS functionality and business logic wherever it is needed—on desktops, servers (including the Web), or mobile devices. And Esri makes it even easier to incorporate GIS into an enterprise because Esri’s ArcGIS is built on Microsoft-standard technology.

To find out more about how your company can benefit from Microsoft + Esri, talk with your Microsoft or Esri representative.

Microsoft + Esri: Software solutions to help you create, visualize, analyze, and present information better and more clearly. Solutions that give you the power to unlock the valuable spatial component of your data.

For more information, visit www.microsoft.com/esri

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