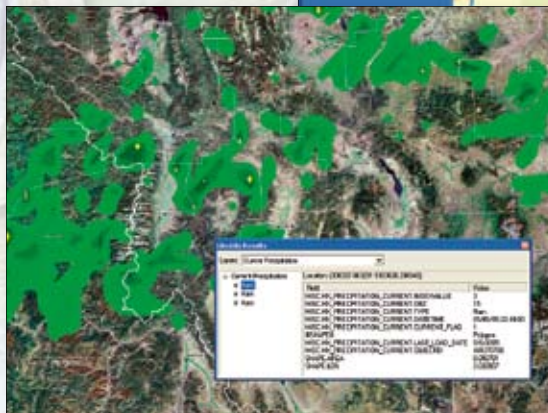
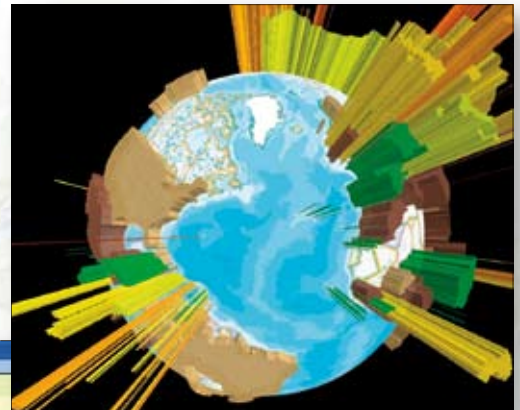


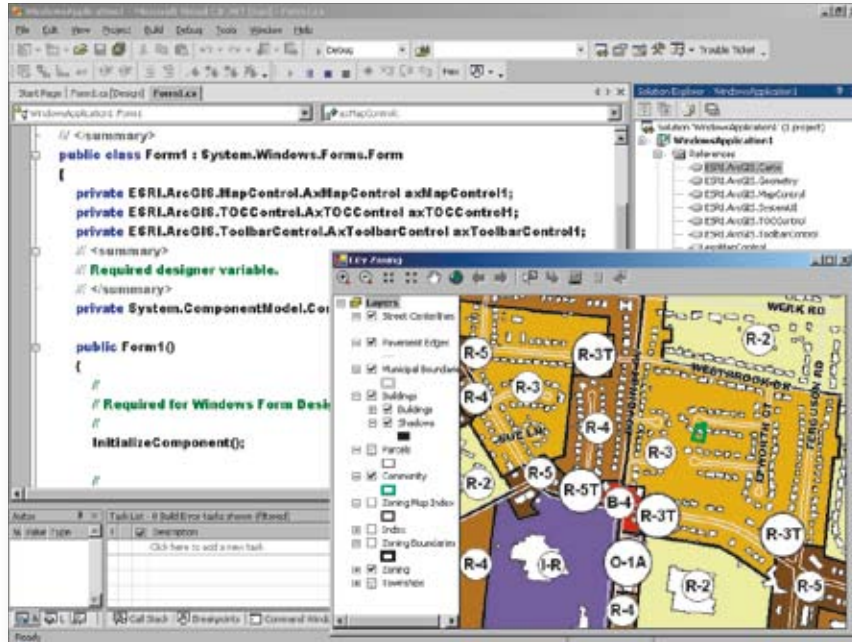
GIS and Mapping Solutions for Developers

ESRI Developer Network ESRI® Developer Network (EDNSM)



GIS and Mapping Solutions for Developers

If you are a software developer looking for an effective way to bring geography and mapping capabilities into your applications, ESRI has geographic information system (GIS) development and deployment tools designed to meet your specific needs.



ESRI software supports a range of common development environments including .NET, Java, Visual Basic, and C++.

Why Build GIS Applications?

It's fundamental to your business.

Customer addresses, time zones, office facilities, service areas, political boundaries, critical shipments, utility networks, field-workers, real estate, mobile assets, and warehouses—location is mission critical in every organization. Are you leveraging your location data?

By leveraging your location information that is inherent in your information systems, your organization can become more efficient and gain a competitive advantage. ESRI® technology is a standards-based, scalable, and interoperable platform that can exploit location data in your business processes. With ESRI GIS technology, you can make location information and analysis available to the people in your organization—at all levels—who need it most.

Why Choose the ESRI Platform?

The ESRI platform enables you to focus on solving business problems with full-featured Application Programming Interfaces (APIs), not on coding GIS functionality from scratch. ESRI has GIS development and deployment tools designed to meet your specific needs. Some of the reasons to develop on the ESRI platform include the ability to

- Develop applications using industry-standard programming languages.
- Deploy applications on a variety of platforms.
- Access and manipulate GIS data in multiple formats.
- Subscribe to a program that provides all the software resources needed to design and develop solutions.

“Think of GIS as more than a technological tool. Think of it as a method for strategic planning.”

Don Cortez
Vice President of Distribution Support
CenterPoint Energy

ArcGIS® for Developers

A Complete System for Deploying Your Applications Anywhere



ESRI ArcGIS is an integrated collection of GIS software products that provides a framework for deploying GIS functionality and business logic wherever it is needed. Developer tools offered with ArcGIS include

- Industry-specific data models
- An integrated help system and object library diagrams
- Sample code, utilities, and documentation

Deployment Options

With ArcGIS, developers can choose from a variety of development environments (Java™, .NET, C++, and COM) and Windows® and UNIX® operating systems. ArcGIS provides a complete system for developing desktop, server, and mobile mapping applications as well as Web services.

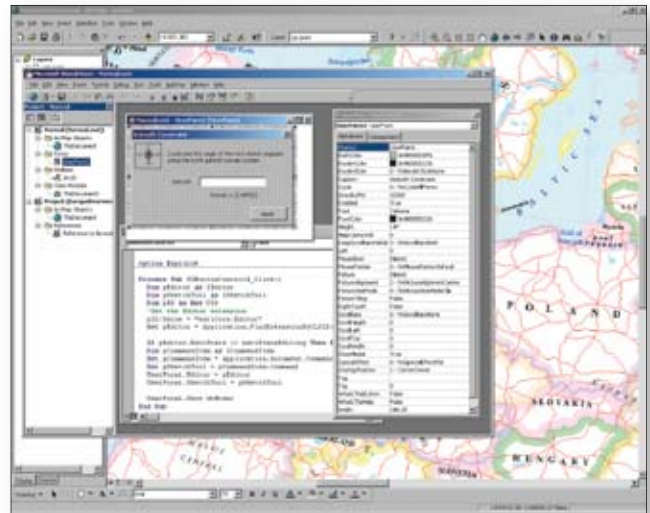
Desktop GIS is the primary platform to author, analyze, map, manage, share, and publish geographic information. ArcGIS desktop products include ArcInfo®, ArcEditor™, and ArcView®. In addition, ArcGIS Engine Runtime provides the core GIS infrastructure to run custom desktop GIS applications.

Server GIS allows GIS software to be centralized in application servers—delivering GIS capabilities to large numbers of users over networks. ArcGIS server products include ArcGIS Server, ArcGIS Image Server, and ArcIMS®. ArcGIS server products are Information Technology (IT) compliant and interoperate with other enterprise software such as Web servers, RDBMSs, and enterprise application frameworks including Java, Java 2 Enterprise Edition (J2EE™), and Microsoft® .NET. This enables the integration of GIS with numerous information system technologies and computing standards.

Mobile GIS enables field-based personnel to capture, store, update, manipulate, analyze, and display geographic information. Mobile GIS enables organizations to add real-time information to their database and applications, speeding up analysis, display, and decision making by using up-to-date, more accurate spatial data.

Web Services offer a cost-effective way to include mapping and location services in Web-enabled applications. Because ESRI hosts the data and services, developers don't have to worry about purchasing, installing, or managing GIS software, content, and additional hardware.

Learn more at www.esri.com/developer.



Create GIS applications that fit your development environment and operating system.



Which ESRI Products Are Best Suited to Your Development Efforts?

Use these tables as a guide to help you focus on which ESRI developer environments you should investigate further.

Deployment Scenarios	ArcGIS Server	ArcGIS Engine	ArcWeb Services
Desktop Application		X	
Server Based	X		*
Mobile Client	X	X	X
Web Application	X		X

* Services hosted by ESRI

General Suitability	ArcGIS Server	ArcGIS Engine	ArcWeb Services
GIS/Mapping Functionality	Very High	Very High	Moderate
Data Source Editing	X	X	
ArcGIS Extension Functionality	X	X	
Optimized Annotation and Labeling	X	X	X
Support for a Variety of Spatial Data Types	High	High	‡
Geoprocessing	X	X	
Geodatabase Aware	X	X	
ArcObjects Based	X	X	
Project-Based GIS		X	X
Departmental GIS	X	†	X
Enterprise GIS	X	†	X
Support for Server Deployments	X	†	‡
GIS Expertise Needed to Implement Solutions	Moderate	Moderate	Low
.NET Support	X	X	X
Java Support (J2SE, J2ME, J2EE)	X	X	X
Suitability for Internet Geopublishing	Moderate	N/A	High

† As client to ArcGIS Server

‡ Services hosted by ESRI

All products listed above are included in the ESRI Developer Network (EDNSM). EDN is an annual subscription-based program that cost-effectively provides software developers with the resources needed to build a wide range of custom GIS solutions. Learn more about EDN on the following page.

ESRI Developer Network



EDN provides developers with tools that increase productivity, foster a collaborative environment, reduce the cost and complexity of GIS development, and maximize opportunities for developers on the ArcGIS platform. Help your users effectively visualize and analyze their data on the desktop, client/server, mobile device, and the Web. With an EDN subscription, you can create or integrate dynamic mapping applications with the language of your choice (Java, .NET, COM, C++). EDN provides the complete software suite for developing and testing on every platform.

What Do You Get with EDN?

EDN offers a suite of development frameworks that help you rapidly build industry-specific GIS applications. These applications can be delivered on the desktop, client, Web, or server tier and embedded into both new and existing applications. The main software components of the EDN subscription include

- **ArcGIS Server**—Comprehensive server-based GIS
- **ArcGIS Engine**—Components for creating custom desktop GIS applications
- **ArcWebSM Services**—GIS Web services that can be integrated into applications
- **ArcGIS Image Server**—Management, processing, and distribution of imagery
- **ArcIMS**—Geopublishing on the Web

Optionally, you can add ArcView Single Use to your EDN subscription. This includes the ArcGIS 3D Analyst™, ArcGIS Spatial Analyst, and ArcGIS Network Analyst extensions.

During the term of their subscription, EDN developers receive the latest versions of these software components. The software included in the EDN subscription is for development and testing only. EDN does not include any rights for deployment or production use.

The EDN Software Library includes library documentation, a help index and search facility, object models, and ArcGIS/integrated development environment information.

Collaborate with Other Developers

The EDN Web site unifies the ESRI developer experience by providing a portal to all ESRI developer products. It also connects ESRI developers and subscribers as they share ideas and information. By providing the building blocks of a developer community, developers are able to interact better, share ideas, and collectively strengthen the ESRI development platform. Some collaborative features of the EDN Web site include

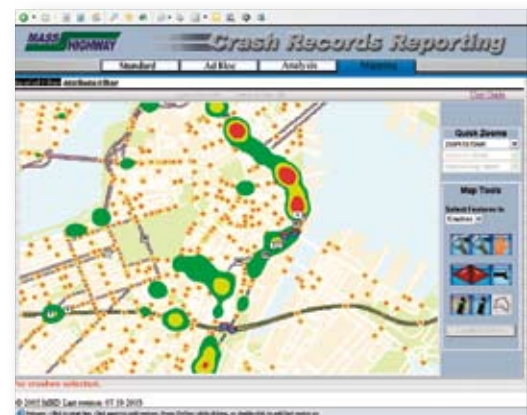
- Online developer documentation library
- Downloads—Utilities and tools
- Sample code and technical insight
- Discussion forums for developers
- Multimedia presentations on important issues
- User contributions and comments

Additional EDN Features

ESRI Support Services—For those developers wanting support beyond the EDN Web site, EDN subscribers can purchase high-quality technical support from ESRI Support Services. This support covers all EDN products and includes 10 support incidents.

Training—Developer-focused, instructor-led training is available at a discounted price to all EDN subscribers. The training consists of five days of instruction at an ESRI training facility and is offered to help EDN subscribers be successful with their GIS projects.

Create applications that effectively visualize and analyze data.



**For more information about the
ESRI Developer Network,
visit www.esri.com/edn.**

ArcGIS Server

Comprehensive, Server-Based GIS

ArcGIS Server is a complete and integrated server-based GIS. It comes with out-of-the-box applications and services for spatial data management, visualization, and spatial analysis. ArcGIS Server takes a centralized approach to GIS data management and application support, allowing focused GIS capabilities to be leveraged to distributed users who may not have any GIS expertise. Developers can use ArcGIS Server to build Web applications that meet specific GIS needs and deliver these applications to end users throughout the organization using a variety of clients ranging from browser to desktop to custom applications.

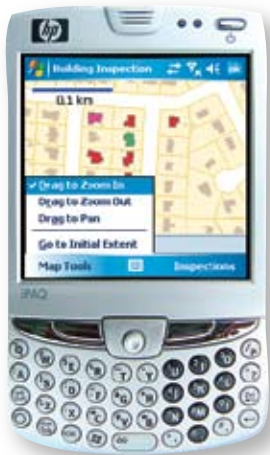
ArcGIS Server provides a rich Application Developer Framework (ADF™) for both the Java and .NET environments. Web application developers can build responsive, easy-to-use applications that leverage the latest AJAX and Web control technologies.

ArcGIS Server supports interoperability standards in both the GIS domain as well as the broader IT domain. Supported standards include ISO, ANSI, and Open Geospatial Consortium, Inc.® (OGC®).

ArcGIS Mobile Software Developer Kit (SDK) is installed with ArcGIS Server. ArcGIS Mobile lets developers create centrally managed, high-performance, GIS-focused applications for mobile clients. Mobile applications powered by ArcGIS Server contribute to increased field productivity and more informed personnel.

With ArcGIS Mobile, developers can use simple tools to create mobile applications customized to users' needs. It operates in a connected or disconnected environment, allowing updates to be made on the server in near real time. With ArcGIS Mobile, developers can deploy applications to mobile devices such as smartphones, Pocket PCs, and Tablet PCs.

Learn more at www.esri.com/arcgisserver.



ArcGIS Mobile is used to create custom mobile applications.

Use ArcGIS Server to build easy-to-use Web applications.



ArcGIS Server Scenario



ArcGIS Server Performing a Trace on a Gas Pipe Network

Gas Utility Company Call Center

A gas utility call center could use ArcGIS Server in the following way:

a customer telephones the call center to report a strong smell of gas in the neighborhood. The call center uses a browser to enter the customer's name and address and sends a request to ArcGIS Server. ArcGIS Server then performs a trace on the gas pipe network to find the upstream gas main to the customer's address and determines which valve needs to be shut off. ArcGIS Server instantly sends back to the browser client a map of the network trace; the location of the valve that needs to be turned off; and a listing with names, addresses, and phone numbers of all the customers who would be affected by shutting off the valve.

This entire process is accomplished without having to install any special software on the client and without any GIS expertise required of the end user.

Additional Server Products Included in EDN

ArcGIS Image Server

ArcGIS Image Server provides fast access and visualization of large quantities of file-based imagery—processed on the fly and on demand. Output imagery can be displayed nearly instantly for a number of users working simultaneously, without the need to preprocess the data and load it into a database management system.

Geospatial imagery is most valuable when a large number of users can access and use it as soon as possible. With conventional solutions, image processing and distribution are difficult and time consuming, and end users have difficulty accessing and utilizing the imagery in their standard applications. The unique ability of ArcGIS Image Server to quickly and seamlessly serve and process large volumes of imagery enterprise-wide allows organizations to maximize the value of their imagery and increase productivity. ArcGIS Image Server is integrated with ArcGIS Server, which allows the data to be distributed to Web-based, mobile, and OGC compliant clients.

To learn more, visit www.esri.com/imageserver.

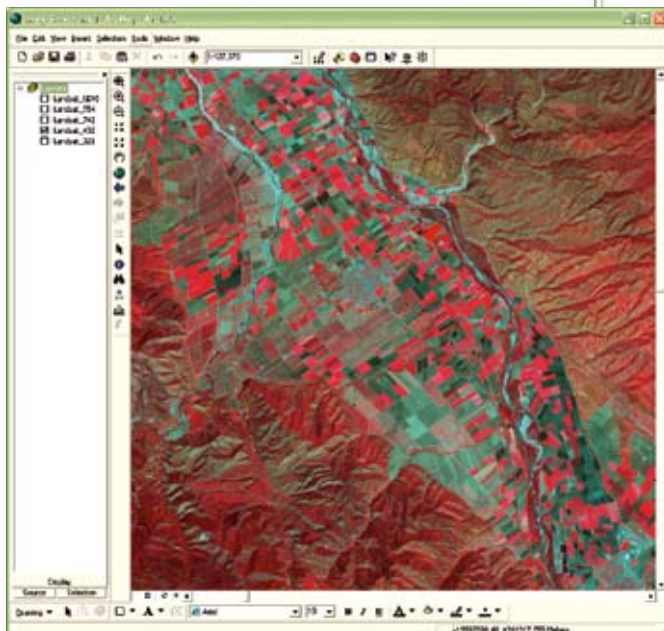
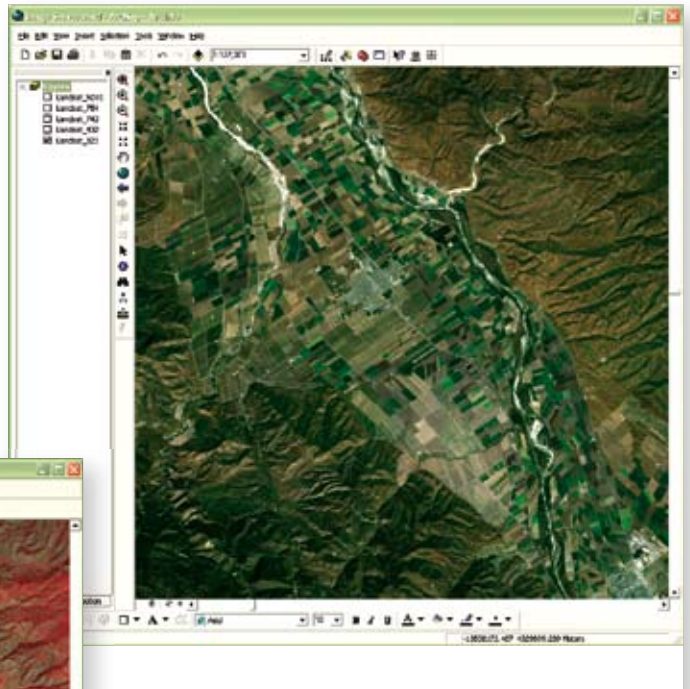
ArcIMS

ArcIMS is the solution for delivering dynamic maps and GIS data and services via the Web. It provides a highly scalable framework for GIS Web publishing that meets the needs of corporate intranets and the demands of worldwide Internet access.

ArcIMS is used to provide city and county land-use information, real-time traffic information, store location maps, business relocation and home buyer services, and countless other services. It also lets you share data and metadata with others to accomplish tasks and implement GIS portals.

To learn more, visit www.esri.com/arcims.

ArcGIS Image Server features dynamic on-the-fly processing, allowing multiple representations of imagery products to be served from native data sources.



ArcGIS Engine

Create Custom Desktop GIS Applications

ArcGIS Engine is a set of cross-platform ArcObjects™ components, ArcGIS software's underlying elements, used to build custom GIS and mapping desktop applications or add new functionality to existing applications. ArcGIS Engine applications can vary from simple map viewers to custom GIS editing and analysis programs. ArcGIS Engine is supported on Windows, Linux®, and Solaris™ and provides programming interfaces for .NET, COM, Java, and C++.

ArcGIS Engine can be used by

- GIS solution developers, third-party solution providers, system integrators, and corporate IT development groups
- Windows and Java developers
- Developers delivering cross-platform applications
- Existing applications that can benefit from the addition of GIS processing, analysis, and visualization in an industry-specific interface

ArcGIS Engine provides

- Standard GIS framework with access to ArcObjects, tools, and visual controls
- Developer kit and runtime products
- Cross-platform application development and deployment
- Multiple developer language choices
- Extensive developer resources
- Optional ArcGIS extension functionality
- Cost-effective delivery of custom GIS applications
- Access to ArcGIS Server for consumption of server-based data and logic
- Ability to customize GIS applications for disconnected, mobile devices

Visit www.esri.com/arcgisengine for detailed information.



ArcGIS Engine Scenario



Land Management Application

A software development company or systems integrator may need to develop a custom, industry-specific application that will be used by people having no familiarity with standard GIS software or methods. Developing a desktop application for assessment and land management, for example, will greatly benefit from the use of a cross-platform component library, both by shortening the software development cycle and supplying essential GIS functionality.

The application developer had several requirements for the application that made ArcGIS Engine the GIS framework of choice.

- Delivery of a product with a custom, easy-to-learn and easy-to-use GIS interface
- Did not need or want to deploy standard ArcGIS Desktop applications
- Access to a geodatabase
- Turnkey application delivery via automatically configured and installed runtime software

ArcWeb Services

On-Demand GIS Functionality and Content

ArcWeb Services offers a rich set of Web services APIs for integrating mapping functionality and GIS content into browser, desktop, mobile, and server applications to help solve many different types of business problems such as analyzing demographics for economic development and real-time tracking of vehicles for fleet management. Businesses choose ArcWeb Services because it provides more than just pushpins on a static map.

- ArcWeb Services provides five APIs: SOAP, JavaScript™, REST, OpenGIS Location Services (OpenLS), and Java 2 Micro Edition (J2ME™).
- ArcWeb Services offers an extensive set of tutorials, live code examples, and code downloads for many languages and frameworks including C#.NET, ASP.NET, JavaServer Pages™ (JSP™), and ColdFusion®.
- ArcWeb Services data comes from more than 20 leading commercial mapping data and content providers such as Tele Atlas, NAVTEQ®, and infoUSA®.
- ArcWeb Services functionality and data are fully integrated into the latest version of ArcGIS Desktop.

ArcWeb Services offers many benefits including the following.

Improves Your Decision-Making Capabilities—With ArcWeb Services, you can easily view patterns and trends by blending your disparate datasets, such as customer lists, point-of-sale data, property boundary data, or GIS data, within a visually rich Web-based mapping application. For example, if the majority of your retail customers are coming from a particular ZIP Code, a Web mapping application can be enhanced to display and explore a wide variety of demographic information for that area such as median household income.

Facilitates Rapid and Agile Application Deployment Models—ArcWeb Services APIs are standards-based Web services that will work in any Web-enabled environment. Integrating mapping with your business logic is much easier because you can choose the programming language, geographic content, and functionality that best fit your needs.

Lowers Your Operating Costs—With ArcWeb Services, you can build and launch your application without having to install or maintain additional mapping software, data, or hardware. This lets you focus on your core competencies because ESRI hosts and manages the APIs, terabytes of geographic content, and reserve capacity at redundant colocation facilities.

Visit www.esri.com/arcwebservices for a free 90-day evaluation.

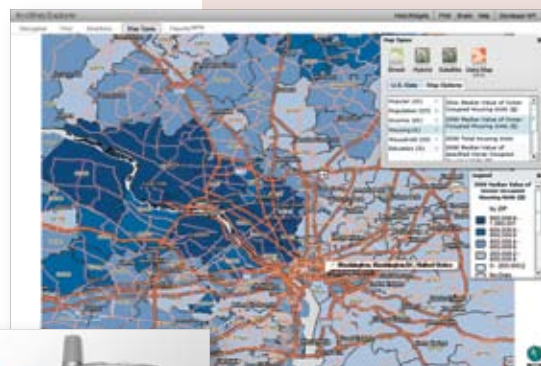
ArcWeb Services Scenario

Fleet Management Company Increased Efficiency and Saved \$3 Million Annually

Fleet management applications require managing multiple vehicles and job information such as addresses and driving directions. DS Waters integrated ArcWeb Services into its fleet management system, which covers 25 manufacturing facilities, 2,000 delivery trucks, and millions of customers. This has helped the company standardize systems and increase productivity, resulting in a gain of \$3 million in savings per year.

“I love hard-dollar savings and short returns on investment. This is how technology is supposed to work in business.”

Bob Branski
Vice President and CIO, DS Waters



ArcWeb Services Explorer offers rich Internet mapping APIs that provide a desktop like experience for end users.



Aligo Worktrack uses ArcWeb Services for real-time visibility into field employee location and status as well as for driving directions.

Continuing Commitment to GIS, IT Standards, and Interoperability

ESRI has made major investments in the development and implementation of open GIS standards not only to serve our own customers but also to promote the sharing of geographic data across all GIS platforms.

ESRI has developed products based on open computing standards to ensure a high level of interoperability across platforms, databases, development languages, and applications. We are committed to supporting and actively leading industry efforts that set these standards.

Handheld Devices	ESRI software supports platforms such as Windows CE, Windows Mobile, Palm OS, and J2ME as well as the 802.11 standard for wireless networks.	
Desktop Computers	ESRI's desktop software runs on Windows platforms. Custom desktop applications built with ESRI's ArcGIS Engine can run on Windows, Linux, and Solaris platforms.	
Servers	ESRI provides a range of server software that is supported on UNIX, Linux, and Windows.	
DBMSs	Commercial DBMSs supported by ESRI software include IBM DB2, Informix, Oracle, and SQL Server, all spatial types are supported as well.	
Networks	Protocols, such as TCP/IP and HTTP, allow the transfer of data and HTML documents.	
Developer Environments	Developers have a choice of development environments when using ESRI software including Visual Basic, C++, .NET, and Java.	
	.NET Framework	Java Platform
	Visual Basic .NET	J2ME
	C#	J2SE
	ASP.NET	J2EE
Spatial Data Formats	ESRI supports more than 40 formats including Spatial Data Transfer Standard (SDTS), Vector Product Format (VPF), imagery, CAD, digital line graph (DLG), and GML.	
Web Services	ESRI employs many Web standards such as XML, SOAP, Universal Description, Discovery, and Integration (UDDI), and WSDL. Web APIs, such as Web Feature Services (WFS), Web Map Services (WMS), and XML are also supported.	

Visit www.esri.com/standards for more information.

Applications that Benefit from Integrated GIS Technology

- Community Redevelopment
- Decision Support
- Demographic Analysis
- Emergency Management
- Energy Distribution
- Event Analysis
- Facilities Management
- Field Inspection
- Location Services
- Logistics
- Monitoring and Control
- Planning
- Public Information
- Resource Management
- Retail Operations
- Site Remediation
- Site Selection
- Surveillance
- Threat Analysis
- Vehicle Routing

“The application of GIS is limited only by the imagination of those who use it.”

Jack Dangermond, President, ESRI

Industries that Benefit from GIS Applications

- Business
- Communications
- Defense
- Education
- Engineering
- Government
- Criminal Justice
- Natural Resources
- Transportation
- Utilities

Visit www.esri.com/industries for more information.

ESRI Business Partner Opportunities

Partner with the World Leader in GIS

The worldwide market for GIS technology is growing at an accelerated rate. Each year, ESRI and its business partners continue to grow the success of GIS and solve business problems with new software applications, data, and value-added services. ESRI draws on the talents and skills of its business partners to expand end user knowledge of GIS while providing the partner with opportunities to expand its business and attain greater success.

Four primary program areas have been designed to meet partner goals and needs.

- **Developer Program**

GIS user demand for ready-to-use applications is on the rise. The ESRI Developer Program is designed to support professional software developers who focus on meeting user needs by building commercial off-the-shelf solutions based on ESRI technologies. The program provides access to software, training, marketing opportunities, and other tools developers need to grow and be successful.

- **Value-Added Reseller Program**

Value-added resellers (VARs) remarket select ESRI software while providing value-added services and solutions to customers. ESRI provides the tools that partners require to be successfully positioned to remarket GIS solutions.

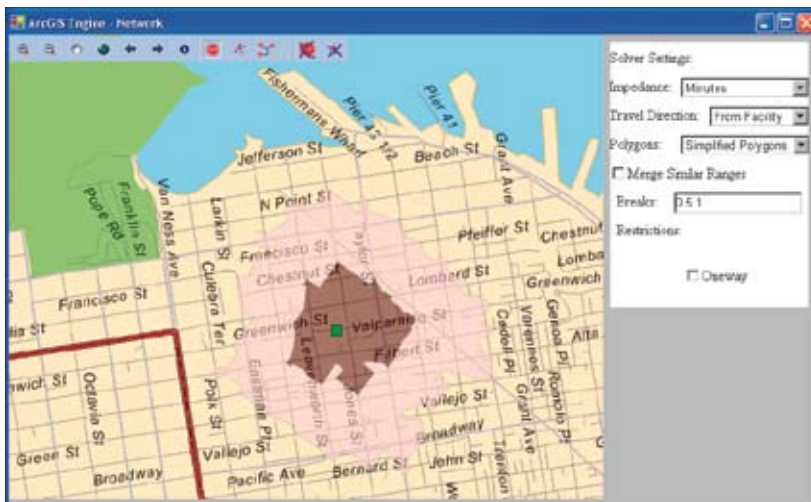
- **Consultant Program**

The program is designed to meet the needs of companies that offer consulting services to GIS users. The ESRI consultant business partner typically provides a broad range of services to a focused industry market. Services provided by these partners may include implementation planning, database development, and custom GIS application development.

- **ArcData® Publisher Program**

This is a global program designed for organizations that license and market their data products in digital formats compatible with ESRI software.

Visit www.esri.com/partners for information on how to become an ESRI business partner.



“ESRI’s innovative GIS software has provided the basis for our entire line of dynamic applications used by emergency management and law enforcement organizations throughout the country. The ESRI Business Partner Program has helped in every phase of our company’s growth with continuing support of our marketing and sales efforts as well as the excellent training programs that enhance the technical expertise of our personnel.”

Tony Bradshaw, President
Bradshaw Consulting Services



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For more than 35 years, ESRI has been helping people make better decisions through management and analysis of geographic information. A full-service GIS company, ESRI offers a framework for implementing GIS technology and business logic in any organization from personal GIS on the desktop to enterprise-wide GIS servers (including the Web) and mobile devices. ESRI GIS solutions are flexible and can be customized to meet the needs of our users.

For More Information

1-800-GIS-XPRT (1-800-447-9778)

www.esri.com

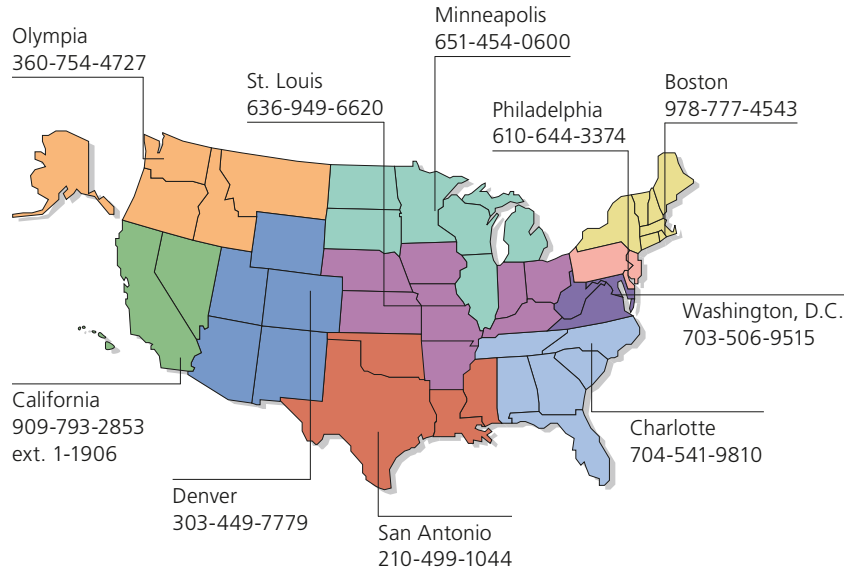
Locate an ESRI value-added reseller near you at

www.esri.com/resellers

Outside the United States, contact your local ESRI distributor. For the number of your distributor, call ESRI at 909-793-2853, ext. 1-1235, or visit our Web site at

www.esri.com/distributors

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