# **ArcGIS® Server**

Comprehensive, Server-Based GIS







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### Comprehensive, Server-Based GIS

ArcGIS® Server is a complete and integrated server-based geographic information system (GIS). It comes with out-of-the-box, end user applications and services for spatial data management, visualization, and spatial analysis. ArcGIS Server offers open access to extensive GIS capabilities that enable organizations to publish and share geographic data, maps, analyses, models, and more. With the ArcGIS Server rich standards-based platform, centrally managed, high-performance GIS applications and services can be accessed using browser-based, desktop, or mobile clients.



ArcGIS Server comes with browser-based Web applications for editing.



The City of Mesa, Arizona, developed this ArcGIS Server application for gas utility valve maintenance.

#### Why Use ArcGIS Server?

ArcGIS Server offers the following advantages:

- Browser-based access to GIS makes applications readily available both internally and externally. ArcGIS Server comes with browser-based Web applications for viewing and editing.
- Lower cost of ownership through centrally managed, focused GIS applications that are easy to use and can scale to support many users. Centrally managed data, models, tools, maps, and applications can be created once and reused, leading to greater organizational efficiency.
- Integration with other enterprise systems such as customer relationship management (CRM) or enterprise resource planning (ERP) systems using industry-standard software. As a result, the organization can gain new value from existing information, which, in turn, improves the decision-making process and increases return on investment.
- Support for interoperability standards in both the GIS domain as well as the broader information technology (IT) domain.
   Supported standards include ISO, ANSI, and Open Geospatial Consortium, Inc.
- Ability to create custom applications and services for browser, desktop, mobile, Smart Client, and enterprise deployments using .NET or Java<sup>™</sup>.

"ArcGIS Server provides the platform for us to develop more robust, user-friendly, and secure enterprise GIS applications."

Jason Bell IT Services Leader City of Mesa, Arizona

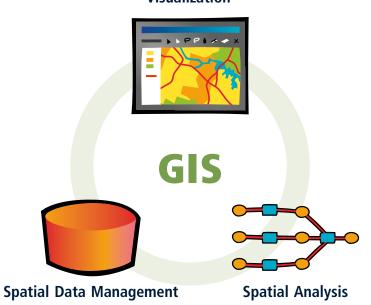
www.esri.com/arcgisserver

## **ArcGIS Server Key Features**

ArcGIS Server supports spatial data management, visualization, and spatial analysis to form a complete Web GIS.

ArcGIS Server offers Web mapping services that support 2D dynamic and cached maps as well as 3D globes. GIS analysts can configure rich browser-based Web mapping applications that consume these services with point-and-click ease.

#### Visualization



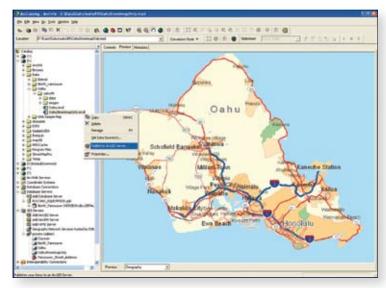
ArcGIS Server includes both workgroup- and enterprise-level geodata management based on the ArcGIS geodatabase model. Geodata services allow administrators to publish geographic data for extraction, checkout/check-in, and replication.

ArcGIS Server offers server-based analysis and geoprocessing. This includes vector, raster, 3D, and network analytics; models, scripts, and tools; desktop authoring; and synchronous processing.

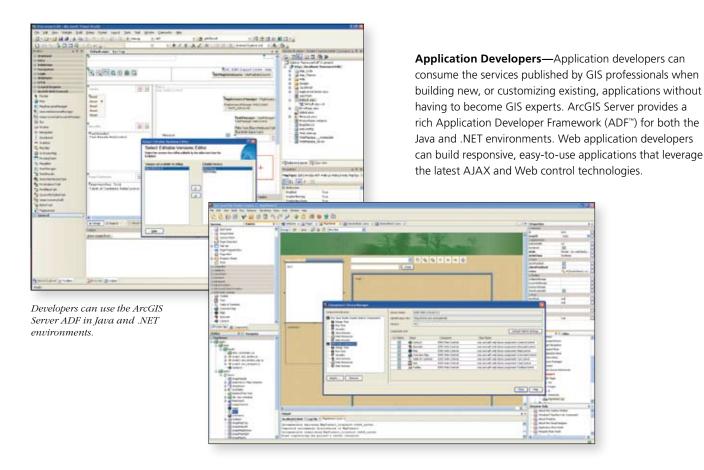
### Who Benefits from ArcGIS Server?

Users across an organization can benefit from the shared, GIS-based services that ArcGIS Server provides. These users include

**GIS Professionals**—GIS professionals can use ArcGIS Server as a platform to publish and promote their work in the form of shared maps, globes, processes, and functions. This helps them to standardize on geographic processing techniques and workflow scenarios, reduce software deployment costs, and ease implementation burdens.



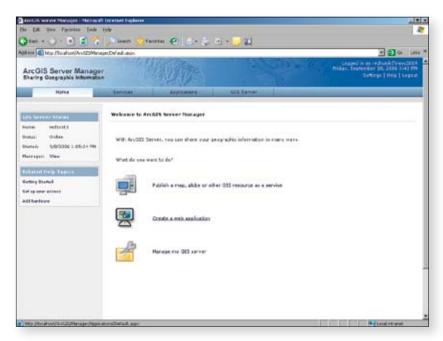
GIS professionals can use ArcGIS Desktop to publish their work to ArcGIS Server.



**End Users**—End users can consume Web services based on ArcGIS Server via focused applications that are infused into their other applications. Depending on the level of integration, users may not even realize they are implementing GIS techniques and processes. Making GIS transparent to users via services enriches their applications while ensuring they adhere to the best practices and techniques as defined by GIS professionals.



End users can transparently access ArcGIS Server applications as part of their day-to-day workflows.



IT administrators can use ArcGIS Server to integrate GIS services into the broader IT landscape.

IT Administrators—IT administrators can use GIS services and integrate them into the broader IT landscape in support of various business workflows. For example, GIS services can be integrated with work order management systems, financial systems, supply chain management, business intelligence reporting, and executive dashboards, to name a few.

"Centralization of our GIS data and applications via ESRI server technology is critical to reducing redundancy and providing a more efficient workflow."

Mike Cohen Application Development—GIS Team Leader Information Services Department San Bernardino County, California

# **Client Applications and Extensions**

#### **Client Applications**

ArcGIS Server is an open and interoperable server that supports a broad range of clients including

**ArcGIS Explorer**—ArcGIS Explorer is a lightweight client that is included with ArcGIS Server. It offers an easy way to deliver access to GIS content and capabilities. ArcGIS Explorer supports 2D and 3D mapping services as well as geoprocessing services for spatial analysis. With ArcGIS Explorer, users can consume and fuse standard Web services including those from ArcGIS Server, ArcIMS®, WMS servers, and others.

**Browser Based**—ArcGIS Server delivers out-of-the-box browser-based applications. This includes a viewer and a browser-based editing application to support basic geodatabase editing tasks.

**ArcGIS Mobile**—ArcGIS Server features a software developer kit (SDK) called ArcGIS Mobile that supports mobile application development for the .NET platform. It includes a set of tools for building and deploying mobile applications that are powered by ArcGIS Server. These developer components support mobile applications that work in various states of connectivity (connected, periodically connected, not connected).

**ArcGIS Desktop**—ArcInfo®, ArcEditor™, and ArcView® can be used as desktop clients to author, publish, and consume ArcGIS Server capabilities.

**ArcGIS for AutoCAD**—ArcGIS for AutoCAD is a free application that installs on top of AutoCAD 2007. It provides access to every GIS vector, raster, and image format supported by ArcGIS Server through the map service view, without the need for special data connections, symbology mapping, conversion, or translation. Advanced cartography, sophisticated data management, and the benefit of world-class GIS analysis are now all passed through this map service object.

In addition, ArcGIS Server supports a series of open APIs and standards that allow virtually any other client (e.g., CAD, GIS, image processing, and SQL-based applications) to interact with and use the mapping, spatial analysis, and data management services of ArcGIS Server. These services can also be called on, and integrated with, other Web services using standard Web services protocols such as SOAP and XML.

#### Add Capabilities with These Optional Extensions

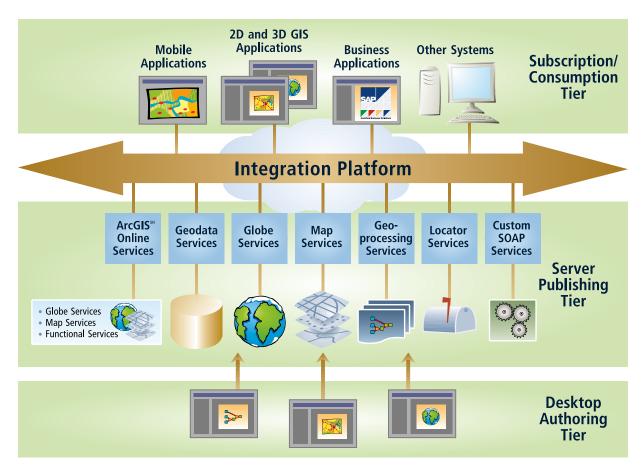
You can add capabilities to your ArcGIS Server applications using these optional extensions:

- The ArcGIS Server Network extension provides networkbased spatial analysis capabilities including routing, travel directions, closest facility, and service area analysis.
- The ArcGIS Server Spatial extension provides a broad range of powerful spatial modeling and analysis features that allow developers to create and analyze cell-based raster data, perform integrated vector-raster analysis, and derive information about their data.
- The ArcGIS Server 3D extension provides advanced GIS functions for three-dimensional modeling such as cut-fill, line of sight, terrain modeling, and more.
- The ArcGIS Server Data Interoperability extension
  enables custom ArcGIS Server applications to directly access
  hundreds of data formats. The extension also provides
  access to data translation tools and brings spatial extraction,
  transformation, and loading (ETL) capabilities to custom server
  applications via the geoprocessing framework.
- The ArcGIS Server Job Tracking extension (JTX™) provides a framework for users to organize, centralize, and standardize project workflows. Developers can use it to build and deploy job tracking and workflow management systems.



ArcGIS Server supports serving 2D maps and 3D globes to browser-based, mobile, and desktop clients. ArcGIS Explorer is a lightweight desktop client that comes with ArcGIS Server.

# **Open Server for Enterprise Initiatives**



A geospatial SOA allows common GIS functions to be delivered as services throughout the enterprise. ArcGIS Desktop can be used to author applications, while ArcGIS Server is used to publish these applications as services. The openness and compliance of ArcGIS Server to standards allow these services to be consumed by many clients beyond those developed by ESRI.

ArcGIS Server is an open, flexible, and scalable technology that runs on industry-standard IT infrastructure and supports geospatial service-oriented architecture (SOA) initiatives. ArcGIS Desktop software complements ArcGIS Server by acting as a means of authoring, configuring, and maintaining data, models, and applications. This authored content can be published via ArcGIS Server, which provides the technology foundation for organizations to build and implement GIS-based Web services. With the addition of an integration platform, GIS services, such as mapping, geocoding, geoprocessing, and data management, can be fused with other shared services of complementary enterprise systems (e.g., CRM or ERP). Because ArcGIS Server supports industry standards, these services can be consumed by a variety of client applications, workflows, and processes to provide a more complete business picture.

To learn more about ArcGIS Server, visit www.esri.com/arcgisserver.

#### Join the ESRI Developer Network

The ESRI® Developer Network (EDN®) is an annual subscription-based program that provides software developers with the resources needed to build a wide range of custom GIS solutions. An annual EDN subscription provides a library of software for developing and testing applications that include ArcGIS Server as well as ArcGIS Image Server, ArcIMS, ArcWeb® Services, and ArcGIS Engine. EDN cannot be used to deploy applications. For more information, visit www.esri.com/edn.

"Without ArcGIS Server, the integration with CRM would not have been a success. GIS played a very important role in the entire project."

Pat Holdsworth Administrator Mayor's Action Center City of Indianapolis, Indiana



#### **ESRI**

380 New York Street Redlands, California 92373-8100 USA

Phone: 909-793-2853 Fax: 909-793-5953 E-mail: info@esri.com

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**

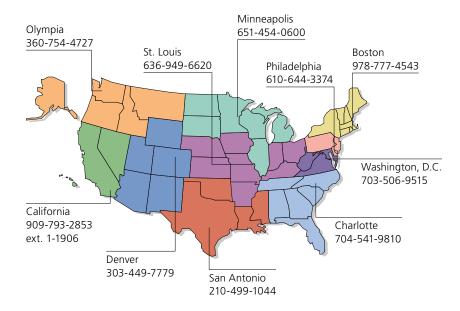
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