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Who Uses ArcGIS® Server?

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Who Uses ArcGIS Server?

Introduction

ArcGIS® Server connects people with the geographic information they need. Organizations use ArcGIS Server to distribute maps and geographic information system (GIS) capabilities via Web mapping applications and services to improve internal workflows, communicate vital information, and engage others.

This white paper discusses various use cases for ArcGIS Server and provides a list of additional resources.

With ArcGIS Server, simple applications can be created that use very sophisticated functionality and large volumes of data. These applications can be used on mobile and desktop systems as well as via the Web.

GIS Professionals

GIS professionals use ArcGIS Server to publish and promote their work. They share the maps, globes, imagery, geographic processing techniques, and workflow scenarios they create in ArcGIS Desktop with others through Web applications and services. This reduces software deployment costs for their organizations and disseminates geographic knowledge to improve decision making. It helps standardize geographic processing techniques and workflow scenarios, reduce software deployment costs, and ease implementation burdens. The fully integrated framework of ArcGIS means that ArcGIS Server allows GIS professionals to improve project collaboration and quality at every step, from project prototype to completion.

From small communities to large jurisdictions and from federal agencies to international corporations, GIS professionals rely on fully integrated, commercial off-the-shelf software like ArcGIS. Mapping agencies and map book publishers use ArcGIS Server in combination with ArcGIS Desktop to produce publication-quality maps and map book products. The interoperability and standard development environment of ArcGIS allow organizations like these to build custom management systems that help GIS specialists streamline their workflows and produce consistent, high-quality products.

Case study: *Rand McNally & Company: Producing Commercial Maps Efficiently and Accurately*—www.esri.com/library/casestudies/randmcnally.pdf

Application Developers

Application developers use ArcGIS Server to build responsive, easy-to-use applications that leverage common Web technologies. ArcGIS Server provides an open set of APIs for environments such as Adobe® Flex™, JavaScript™, Microsoft® Silverlight™, Java, and .NET, which allow developers to consume services published by ArcGIS Server. Application developers can consume the services published by GIS professionals when building new or customizing existing applications without having to become GIS experts.

An application developer can quickly build a user-friendly application for a city's program using published mapping and geoprocessing services created by the GIS team. The application layout can be customized and Web controls added to further simplify the user experience, allowing the application to serve multiple departments. Submitting the criteria settings kicks off sophisticated, behind-the-scenes geoprocessing on the server.

Users can pan and zoom on the map from a citywide overview to a street-by-street analysis.

Case study: *The ORIGIN Property Information Map from the City of Greeley, Colorado*—http://gis.greeleygov.com/origin/propinfo.html

Developers are encouraged to join the ESRI Developer Network (EDN℠), a complete resource for building and testing GIS solutions. The EDN software library includes ArcGIS Server. For more information, visit www.esri.com/edn.

Information Workers

Information workers use ArcGIS Server Web services and applications to answer questions, ensure best practices, and improve productivity. Making GIS transparent to users enriches their experience with GIS applications while ensuring that they adhere to the best practices and techniques defined by GIS professionals.

Information workers often need only to accomplish specific tasks, solve recurring problems, evaluate common issues, update information systems, produce reports, or contribute to interdisciplinary processes. For example, the integration of an ArcGIS Server application with a traditional reporting mechanism allows users in a public works department to perform quality control inspection of individual road features that are being transitioned from a legacy database to a geodatabase for producing a new, updated map book. Users are presented with electronic reports, itemized by road segment, with a link that launches a Web mapping application. The map is automatically zoomed to the road segment and displayed with other map elements and attributes to help the inspector evaluate the quality of the data, eliminating the need to switch between computer applications or have paper reference materials cluttering the desk.

Case study: *County of San Bernardino, California: Traffic Road Book Quality Control Using ArcGIS Server*—www.esri.com/library/casestudies/sanbernardino.pdf

Mobile Workforce

Mobile workers can use ArcGIS Mobile to access ArcGIS Server geographic data and maps in the field to collect new information, immediately edit data, and perform advanced analysis on the spot. Updates are synchronized wirelessly with the GIS server and are easily and immediately viewable by others. ArcGIS Mobile operates in connected, disconnected, or periodically connected environments and allows field updates to be incorporated in real time and shared enterprise-wide.

Mobile workers are interested in increasing field efficiency and productivity while reducing costs. Traditionally, mobile workers compiled and edited spatial information with paper maps and forms. ArcGIS Mobile allows them to simplify and automate this process by using handheld devices such as laptops, Tablet PCs, PDAs, and smartphones. Spatial data is sent to the device via a real-time connection to the server. Field-workers can then edit and update their information remotely, submitting electronic data back to the office instantly. Both field-workers and managers have the ability to enhance communication and improve decision making by leveraging this mobile component of ArcGIS Server.

Case study: *Oakland County Animal Control: ArcGIS 9.3 Mobile Solution Speeds Pet Licensing, Increasing County Revenue*—www.esri.com/library/casestudies/oakland-county.pdf

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IT Administrators

IT administrators use ArcGIS Server to integrate services and applications into the broader IT landscape, integrating various business workflows and centralizing GIS data and imagery management. ArcGIS Server supports numerous platforms including Windows Server®, Red Hat® and SUSE® Linux®, and Sun™ Solaris™. ArcGIS Server fits the worldwide IT trend of consolidating servers and applications, reducing the cost of updates and system maintenance.

Systems and information service departments can leverage investments in GIS data and IT infrastructure by providing centralized GIS processing and analysis to support departmental workflows and improve enterprise-wide data management, for example, serving multiple geoenabled applications from central servers to allow control over corporate content and focused management solutions. Supervisors, desktop users, and field-workers all share common application frameworks but with different levels of access and functionality based on their needs and responsibilities. Supervisors can view job histories segmented by inspection regions to analyze performance and maximize resource deployment. Desktop users can run analyses and generate mailing address reports used to notify residents in a selected area of upcoming construction. Field-workers have access to property and utility information to create maps and reports to support their daily tasks.

Case study: *City of Mesa: Enterprise GIS Improves Workflow and Data Management*—www.esri.com/library/casestudies/city-of-mesa.pdf

Database Administrators

Database administrators use ArcGIS Server to improve geospatial data management by reducing duplication and increasing performance. ArcGIS Server supports the geodatabase, which implements validation rules, and a rich geographic data model on top of commercial database systems, such as Oracle®, SQL Server®, IBM® DB2® and Informix®, and PostgreSQL.

Database administrators care about the performance, security, and recoverability of their databases. Many government and private organizations have multiple databases containing related but disconnected information. By using a geodatabase, database administrators can integrate and manage all their organizations' information in one database. Geodatabases support all the different types of data that can be used by ArcGIS such as attribute tables, geographic features, satellite and aerial imagery, surface modeling data, and survey measurement.

Case study: *Elkhart County, Indiana: GIS Improves Parcel Maintenance Productivity*—http://www.esri.com/library/casestudies/elkhart-county-ind.pdf

Additional Resources

ESRI provides Web help for ArcGIS Server for both the Microsoft .NET Framework and the Java platform. These online documents are excellent resources for understanding important concepts and include valuable tutorials to get started quickly.

The ArcGIS Server Resource Center provides access to online software developer kits, sample GIS servers, and online content to include in applications.

Other resources include

- Creating Effective Web Maps—Web site with seminar materials and demos
- ESRI Instructional Podcasts and Speaker Series Podcasts
- The ArcGIS Server Development Blog
- The EDN Web Site Blog
- The Inside the Geodatabase Blog

Training

ESRI's learning centers provide a wide variety of ArcGIS Server classes for every role in the organization.

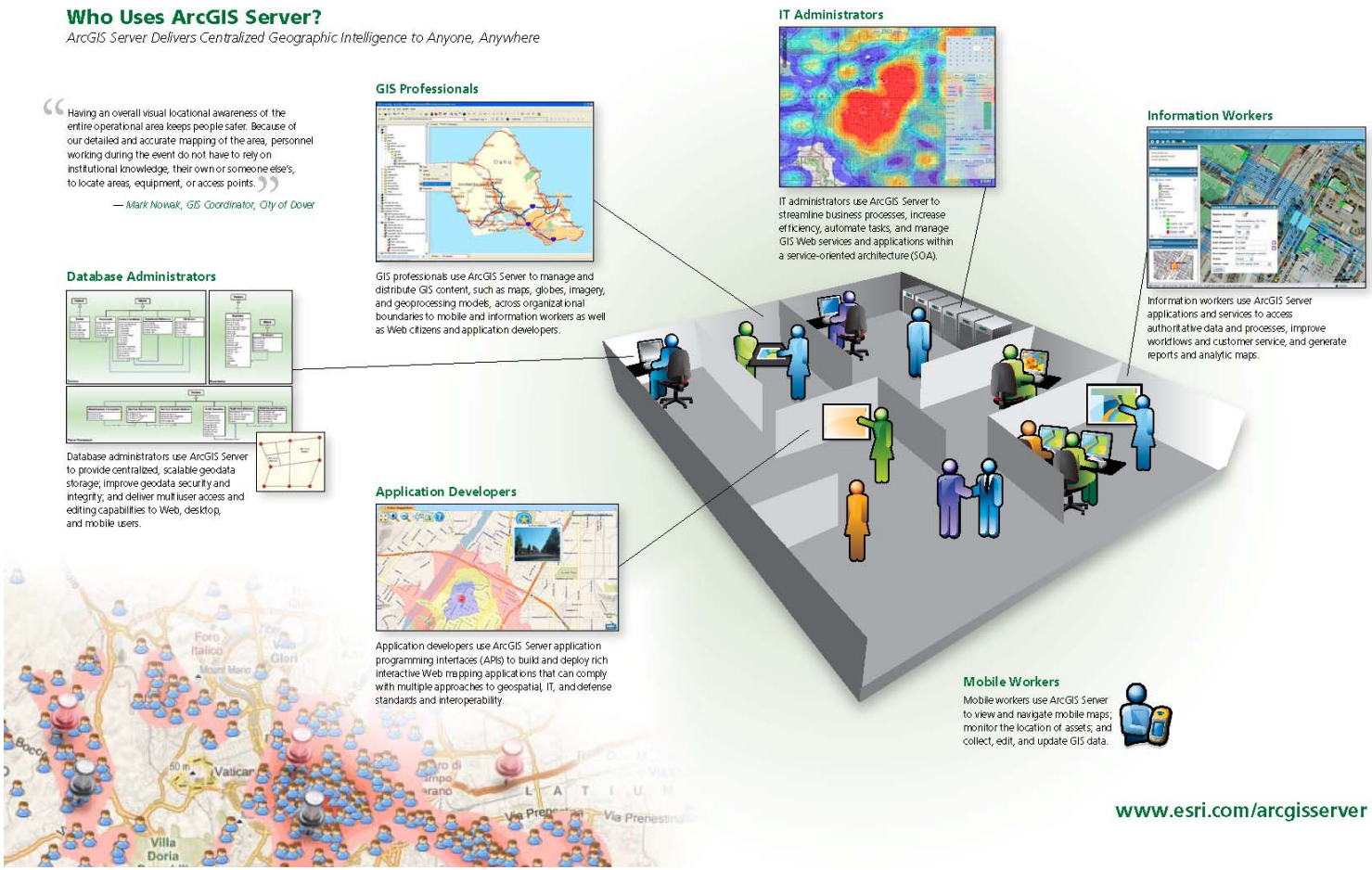
- Introduction to ArcGIS Server
- Developing Applications with ArcGIS Server (for Java or Microsoft .NET)
- Authoring and Serving ArcGIS Mobile Projects
- ArcGIS Server: Web Administration Using the Microsoft .NET Framework
- ArcGIS Server Enterprise Configuration and Tuning (for Oracle or Microsoft SQL Server)
- Data Management in the Multiuser Geodatabase

Conclusion

ArcGIS Server has extensive functionality, can deal with terabytes of data, and uses a standards-based approach, making it ideal for providing GIS capabilities to a wide range of distributed users.

People use ArcGIS Server to efficiently deliver GIS applications throughout and beyond their enterprise. ArcGIS Server integrates with the larger IT environment, so the benefits of spatially enabled information can be shared with a greater number of people at a lower cost.

Appendix A: Who Uses ArcGIS® Server?



About ESRI

Since 1969, ESRI has been helping organizations map and model our world. ESRI's GIS software tools and methodologies enable these organizations to effectively analyze and manage their geographic information and make better decisions. They are supported by our experienced and knowledgeable staff and extensive network of business partners and international distributors.

A full-service GIS company, ESRI supports the implementation of GIS technology on desktops, servers, online services, and mobile devices. These GIS solutions are flexible, customizable, and easy to use.

Our Focus

ESRI software is used by hundreds of thousands of organizations that apply GIS to solve problems and make our world a better place to live. We pay close attention to our users to ensure they have the best tools possible to accomplish their missions. A comprehensive suite of training options offered worldwide helps our users fully leverage their GIS applications.

ESRI is a socially conscious business, actively supporting organizations involved in education, conservation, sustainable development, and humanitarian affairs.

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