



Overview

Country or Region: United States

Industry: Government

Customer Profile

Located in Salt Lake City, Utah, the Utah Automated Geographic Reference Center (AGRC) provides a wide range of geographic information system (GIS) support to the State of Utah.

Business Situation

The Utah AGRC strives to facilitate coordination among Utah GIS users, and it needed a way to efficiently manage and maintain GIS resources.

Solution

The organization adopted ArcGIS Server from ESRI and now runs the system with a Microsoft® SQL Server® database solution.

Benefits

- Easy sharing of GIS data
- Improved efficiency
- More-streamlined management
- Reduced costs

Government Agency Increases Efficiency, Accuracy with Right Technology Combination

“Using SQL Server in conjunction with our ESRI system has resulted in huge savings, which means that we’re being more thoughtful about how we spend taxpayer resources.”

Matt Peters, Utah Automated Geographic Reference Center

The Utah Automated Geographic Reference Center (AGRC) provides a central source for all geographic information system (GIS) data for the State of Utah. The center relies on the ESRI ArcGIS Server geodatabase in addition to Microsoft® SQL Server® database software and the Windows Server® operating system to keep the flow of information running smoothly. Because its chosen technologies make it easy to share GIS data, the Utah AGRC has experienced an increase in the use of such information throughout the state, thus increasing interagency cooperation. Additionally, since it migrated from an Oracle to a SQL Server database, the Utah AGRC has reduced the amount of time required for system management and cut costs significantly.



Figure 1. The Utah State Geographic Information Database provides a mechanism for people to search for GIS data by type of information, format, area, theme, and so on.

Situation

The Utah Automated Geographic Reference Center (AGRC) was established to facilitate effective use of geographic information system (GIS) across the state of Utah. The center provides stewardship, maintenance, and access for the Utah State Geographic Information Database (SGID). The Utah AGRC acts as a centralized point where cities, counties, state and federal agencies, tribes, non-profit organizations, and members of the general public can gain access to everything from aerial photography and satellite imagery to maps of municipal boundaries and wilderness areas.

To ensure that it could provide this information to all interested parties and do so

efficiently, the Utah AGRC needed technology that would support its efforts. "It makes sense for us to make GIS information readily available to other agencies so that everyone's working from the same core data," says Matt Peters from the Utah Automated Geographic Reference Center. "If we don't, people will create their own GIS data, which is not only an unnecessary duplication of effort, but also results in multiple versions of the data and potential inconsistencies."

The Utah AGRC wanted a scalable GIS solution that was easy to maintain in-house, easy to use, cost-effective, and flexible enough to offer several different ways of serving information to a variety of users. The organization determined that what it needed was a distributed system for storage, retrieval, and integration of large amounts of geospatial data along with a central access point to search and download GIS data sets from the State Geographic Information Database.

Solution

The Utah AGRC established this distributed system based on technology from ESRI, a leader in the development of GIS-related software and a Microsoft® Gold Certified Partner. "We first embraced ESRI solutions in the 1980s and have relied on them ever since. As a partner, ESRI has continued to meet our needs and make it easier for us to fulfill our mission," says Peters. "We always keep our eyes open for new software options but have not found anything that equals ESRI systems for the type of work that we do here."

The center uses ESRI ArcGIS Server for the storage, creation, and management of spatial data, and it takes advantage of the geodatabase technology within ArcGIS Server to help it maintain a single, scalable data storage and management architecture. ArcGIS Server makes it possible for the Utah AGRC to provide information to interested

The screenshot shows the Utah GIS Portal website. At the top, there is a navigation bar with links: Home, GIS Data, AGRC, GISAC, UGIC, Calendar, Feedback, Site Map, and a search box. Below the navigation bar is a large banner image of a landscape with a river and a dam, titled "Utah GIS Portal".

The main content area is titled "Utah SGID: GIS Vector Data Download Index". It contains a search form with three dropdown menus:

- * Select Category(s): A dropdown menu with options: Administration, Climate, County/Parcels, Cultural, Demographic, DFIRMS, Energy.
- * Select Geographic Extent(s): A dropdown menu with options: statewide, BEAVER, BOXELDER, CACHE, CARBON, DAGGETT, DAVIS.
- * Select GIS Data Format(s): A dropdown menu with options: GDB, SHP.

Below the dropdown menus are two buttons: "Find Data" and "Clear Selections". A note at the bottom states: "An asterisk (*) indicates a required field. You must select at least one item from each list box."

On the left side of the page, there is a "MAIN MENU" with various links: Home, Maps, GIS News & Events, GIS Resources, SGID, Utah GIS Data, SGID Disclaimer, Data & Map Servers, Download GIS Data, Vector Data, Index, By Category, Index, By Name, Data Selector, Raster GIS Data, Other Data Links, Info & Change Log, Data Standards, Support, SGID FTP Site, Training & Education, Scripts and Code, Mobile GIS Resources, TURN GPS Network, Presentations, GIS Organizations, GIS Forum, Survey Resources, Site Info, REGISTERED USER MENU, Register, USER LOGIN, Username, Password, Remember me, Login, Lost Password?, No account yet? Register.

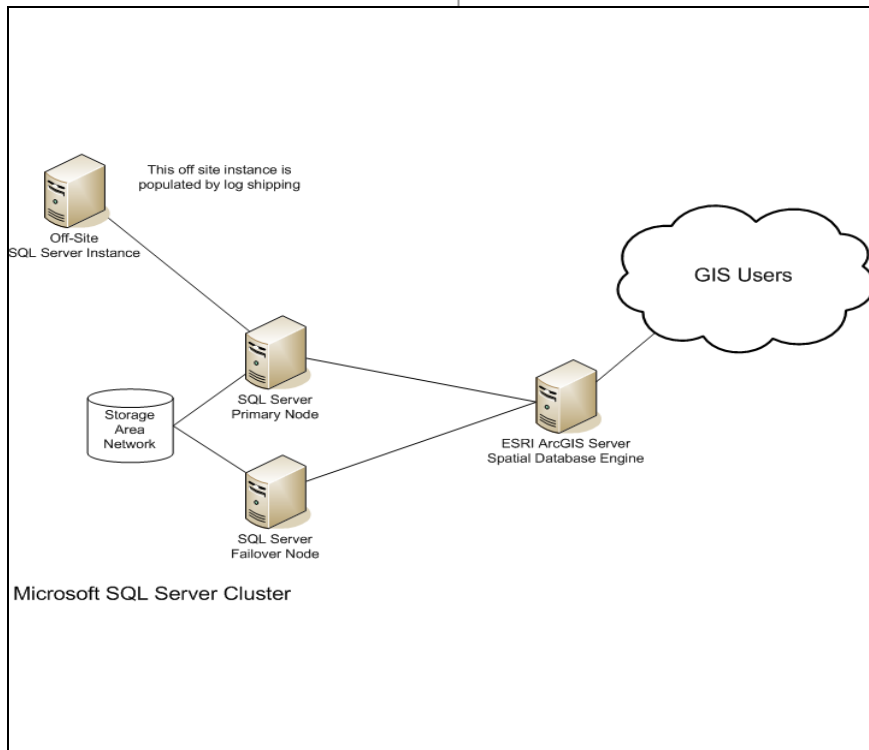


Figure 2. The AGRC database consists of a Microsoft SQL Server cluster with ESRI ArcGIS Server SDE technology layered on top of it. GIS users connect to the database with their ESRI client software.

parties through a variety of channels, including Web services, interactive maps, an ESRI GIS client, and a file transfer protocol (FTP) server.

Until 2001, the Utah AGRC used relational databases from Oracle to help run its ESRI system. "In the past, our parent organization handled our database management, but we wanted to bring that management in-house to improve the speed with which we could make changes," says Peters. "When we looked at the existing structure, we realized that it had a prohibitively steep learning curve and a huge licensing price tag, so we sought a better alternative."

After investigating its options, the Utah AGRC decided to migrate to a solution based on Microsoft SQL Server® database software. The center runs on SQL Server 2005 and the

Windows Server® 2003 operating system but plans to upgrade to Microsoft SQL Server 2008 in the future. It also uses a single named instance of SQL Server that occupies approximately 25 GB on 15 distinct databases. "We saw a general trend in other organizations toward running ESRI and other GIS systems on SQL Server technology because of the ease of management and cost," says Peters. "Plus, Microsoft is making significant investments in extending the product's scalability for the enterprise space, which makes it even more appealing to us."

Today, the Utah AGRC shares management duties with its parent organization. "Because SQL Server has become so popular, our parent agency has started to support it, so that organization handles the core operations and underlying database fundamentals, and we manage our own named instance of the database so that we can quickly make the day-to-day changes that we require," says Peters.

Benefits

Thanks to its ESRI and Microsoft technologies, the Utah AGRC is making it easier to promote the use of shared GIS in the state of Utah. The combination helps the Utah AGRC reduce IT management, increase efficiency, and conserve financial resources.

Easy Sharing of GIS Data

The Utah AGRC uses technology that makes it possible to get GIS data to the people who want it. In fact, the center estimates that 100 GB of GIS information gets shared through the FTP server every week. "People can find the best documents to support their objectives because our system makes it easy to identify and gather the right materials," says Peters. "We've helped make GIS information become more widely used in the state of Utah, particularly by growing numbers of agencies, because of the access we provide to standardized data. Interagency

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cooperation has steadily increased because the organizations begin with a common set of information.”

Improved Efficiency

With that data sharing comes increased efficiency because agencies can leverage GIS information that already exists, rather than taking the time and resources to create their own maps. This boost to productivity also results in increased accuracy. “Having access to standardized information means that decision makers aren’t bogged down by having to sift through different versions of the same GIS information,” says Peters.

More-Streamlined Management

Since its migration to a SQL Server-based solution, the Utah AGRC has enjoyed reduced management time. “We probably wouldn’t have been able to bring an Oracle system in-house because of the time and costs associated with learning to manage it,” explains Peters. “After only about a week of learning about all the SQL Server tools I had at my disposal, I was able to effectively manage our system.

“In addition to saving time, we’re also now avoiding frustration,” says Peters. “Now that we can see the issue, we can resolve it at the lowest level possible.”

Reduced Costs

In addition to saving management time, the Utah AGRC also is saving considerable financial resources. “Using SQL Server in conjunction with our ESRI system has resulted in big savings, which means that we’re being more thoughtful about how we spend taxpayer dollars,” says Peters.

For More Information

For more information about Microsoft products and services, call the Microsoft Sales Information Center at (800) 426-9400. In Canada, call the Microsoft Canada Information Centre at (877) 568-2495. Customers who are deaf or hard-of-hearing can reach Microsoft text telephone (TTY/TDD) services at (800) 892-5234 in the United States or (905) 568-9641 in Canada. Outside the 50 United States and Canada, please contact your local Microsoft subsidiary. To access information using the World Wide Web, go to: www.microsoft.com

For more information about ESRI products and services, call (800) 447-9778, or visit the Web site at: www.esri.com

For more information about Utah Automated Geographic Reference Center (AGRC) products and services, call (801) 538-3665, or visit the Web site at: agrc.utah.gov

Microsoft Server Product Portfolio

For more information about the Microsoft server product portfolio, go to: www.microsoft.com/servers/default.aspx

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