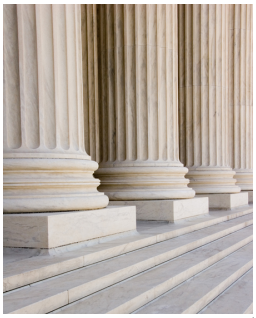
SAFE SOFTWARE

Lithuania National Land Service



Key Facts:

Industry: Government

Problem: Isolated, disparate geospatial databases make data sharing and integration difficult

Solution: FME Server

Results: Centralized web portal connects dispersed geospatial databases, reducing duplicate data, easing data sharing and creating economic efficiencies

Location: Lithuania

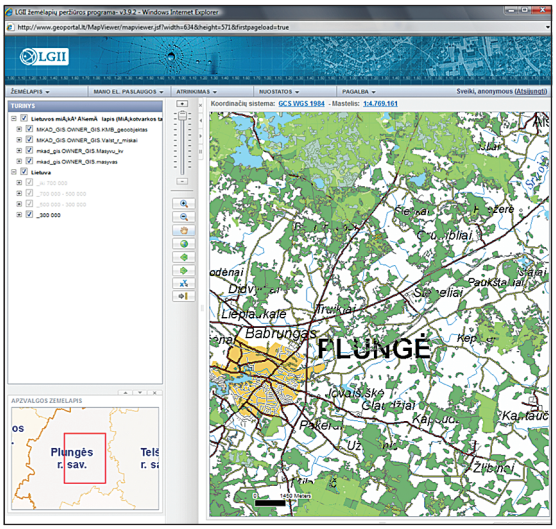
CASE STUDY

"Before the LGII, GIS staff could spend 70 percent of their time just searching for or acquiring needed data that another agency often already had. By unifying the available data, we estimate that the LGII will reduce this search and collection time by 40 percent. That decreased duplication and improved efficiency equals a cost savings of nearly 5 million euro."

– Saulius Urbanas, director of the NLS' cadastres and geodesy department

Summary

Lithuania's National Land Service (NLS) needed to create a system that would unify countrywide disparate geospatial information through a central web-based access point and meet the European Union's (EU) INSPIRE initiative designed to establish a European-wide infrastructure for spatial information. Using Safe Software's FME® technology, the NLS created a centralized, spatial data infrastructure online portal where users access diverse databases, view the data on offer, specify their needed datasets in the format they require and download them. The shared gateway is allowing users to improve productivity and efficiency and create economic opportunities.



Available at any time of the day, users can access the LGII portal to peruse the data offerings and acquire whatever specific dataset they may need for their business tasks. Based on their data selection, FME automatically requests data from one or more of the connected data providers, compiles the selected data layers and exports them into the requested format.

The Organization

Recognized as Lithuania's national mapping agency, the National Land Service (NLS) under the Ministry of Agriculture, develops the national strategy for coordinating, collecting and maintaining geoinformation across the country. Its responsibilities are numerous including preparing long-term national mapping programs and creating strategies for developing and maintaining GIS and cadastre information systems. Supporting this mandate is GIS-Centras, a state-run enterprise established by the NLS to manage the state geospatial framework and principal geodatabases.

The Situation

Lithuanian public agencies have amassed significant amounts of spatial information including cadastres, address registers, topographical maps, road networks, orthophotography, hydrographic surveys and forest inventories, and created geographical information systems to store it. But they have tended to acquire spatial data in ad hoc isolation rather than in coordinated, open-data strategies.

The lack of a shared network or repository of spatial data has made it difficult for users to easily exchange information, coordinate data acquisition and integrate datasets, and has perpetuated a significant level of data redundancy. With such multiple, disparate data stores, public authorities have often been consumed by trying to find, receive and integrate data, rather than on developing more efficient and valuable e-government information services - a priority for the Lithuanian government.

Server

The Challenge

The NLS and GIS-Centras aimed to eliminate the notable inefficiencies caused by the inability to easily find and access datasets and share data. To achieve this goal, they initiated the Lithuanian Geographic Information Infrastructure (LGII) project to create a harmonized spatial data infrastructure (SDI) that would connect a host of dispersed geospatial databases into one central web portal system with one user interface.

To succeed, the LGII needed to have an effective back-end system for managing, integrating and manipulating a multitude of diverse data layers and a user-friendly front-end web portal to view and distribute the data. It would need to enable users to easily participate and allow them to continue to work in their native GIS software and formats, removing them from the data interoperability burden.

Equally important was that the web portal system would conform to the EU's INSPIRE principles: data should be collected once and then easily shared among different users, be combined seamlessly with different data sources across Europe, be easily searched and be easily viewed in user-preferred formats.

The Solution

The NLS and GIS-Centras tasked HNIT-BALTIC, a leading ESRI® GIS software supplier, to develop the Lithuanian Geographic Information Infrastructure (LGII) central web portal system based on FME technology.

Arranged in a distributed environment in GIS-Centras, the LGII's central spatial node seamlessly connects nine diverse public agencies and one municipality's remote GIS nodes. Users securely access the LGII portal, select their desired area from a map view, choose the data layers they need, and specify their particular GIS output parameters by selecting from the 18 different data formats and 10 coordinate systems commonly required. Based on their data selection, FME automatically requests data from one or more of the connected data providers, compiles the selected data layers and exports them into the requested format. Users then receive an email with a link to the data for them to securely download at their convenience.

As FME handles all data conversions automatically, data providers can upload new datasets or data updates into their existing databases and the software stores them to the right nodes of the shared server database in the right coordinate system. That automation reduces a significant amount of their data processing burden and ensures that users view and acquire the most up-to-date information available.

The Benefits

The centralized geoportal system provides an open window to dispersed geospatial data and efficiently delivers needed datasets on demand. Unlike in the past where public authorities as well as private customers needed to inquire and request data from multiple sources, users can now view topo maps, property registers, satellite imagery, forest inventories, road networks and other spatial data from nine different agencies, request specific data layers and receive them in minutes. The one-stop spatial shop allows users to coordinate data collection and creation, significantly reducing data redundancy and positively impacting their bottom line.

By aligning with the INSPIRE initiative, the NLS and GIS-Centras have also successfully positioned the portal system to be the gateway for other European countries, bringing tremendous economic opportunities to Lithuania.

With the new-found ability to create data services, the LGII team is planning to capitalize on FME's flexibility and scalability to connect Lithuania's municipalities to the portal, providing even more detailed spatial depth to users and further enhancing their ability to develop customized, local information services.

What They're Saying

"Without FME, the LGII would still be just 'a good idea'. Instead, we have a centralized portal to a wealth of viewable, interoperable, repeatable, customizable and downloadable datasets that users can acquire any time of day," says Laimonas Liskauskas, a software specialist with HNIT-BALTIC and the LGII FME expert. "And we have met INSPIRE's principles as well, proving that the initiative is achievable with the right software tools."

Learn More

For more information, please visit *www.safe.com/FMEServer*.

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