

TransCanada PipeLines Used Intergraph Technology for a Successful Enterprise-Wide Application



TransCanada PipeLines combined two in-house applications into an enterprise-wide application, taking advantage of Geomedia software.

THE CHALLENGE:

Headquartered in Calgary, Alberta, Canada, TransCanada PipeLines (TCPL) network of about 38,000 kilometres (24,000 miles) of pipeline transports most of Western Canada's natural gas production to the fastest growing markets in Canada and the United States. TransCanada PipeLines also owns, controls, or has under construction about 4000 megawatts of power. In August 2002, the GeoFind project was started at TCPL to investigate the feasibility of combining functionality and data from two internally designed Intranet Web applications that had complementary capabilities (FIND and XFIALS). Each application catered to a different business audience and different needs, although they were both used outside of their target audience group. The new application was to combine the best of both application worlds and be positioned to be used Enterprisewide, meeting the spatial needs of a vastly expanded user base.

The FIND system (Facility INformation Database) enabled Pipeline System Design users to do comprehensive attribute searches and data maintenance on facility based information found in the FIND database. The capacity and gas flow data is also used to help determine business need for new facility requirements. The XFIALS (eXtended Facility Information And Location System) system enabled Pipe Engineering users to do spatial navigation and analysis of facility based information found in the ORION database.

THE OBJECTIVES:

- Create a GIS Portal that provides access to facility and related spatial data across the organization, as well as the ability to link to related applications relevant to the user
- Create a single application that provides targeted navigational capabilities via the spatial graphical map-based interface of XFIALS combined with attribute searching, display, and editing capabilities of FIND
- Provide access to data, data display characteristics, and functionality that is metadata driven based in the groups that the user belongs to.

PROFILE:

Name – TransCanada Pipelines

Web site – www.transcanada.com/

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KEY BENEFITS:

- Enabled Pipeline System Design users to do comprehensive attribute searches and data maintenance on facility based information
- Helped determine business need for new facility requirements
- Enabled Pipe Engineering users to do spatial navigation and analysis of facility based information found in the ORION database

PRODUCTS USED:

- GeoMedia Professional
- GeoMedia WebMap Professional

THE SOLUTION:

With the help of Intergraph technology, TCPL created the GeoFind project, a joint production between the Pipe Engineering and Pipeline System Design departments. The GeoFind system allowed users to complete database searches and data maintenance on facility-based information, as well as execute spatial navigation and analysis of facility-based information found in the ORION database. GeoMedia WebMap Professional was selected for this project and its XFIALS predecessor because the ability to leverage an existing knowledge and object base from earlier GIS initiatives that utilized GeoMedia and GeoMedia Professional. For example, the PRIME (Pipeline Risk Information Management Enabler) system used GeoMedia technology and dynamic segmentation with TCPL's quantitative risk models to determine a system wide risk profile of the pipeline. Intergraph technology was selected for the PRIME project for its object oriented design, nonproprietary programming language, direct access to data in multiple databases and formats, support of both Oracle Spatial and linear referencing systems, and flexible programming options.

"I found the GeoFind system particularly useful for getting details on pipelines and facilities when I was reviewing and approving projects, analyzing incidents, and more. It was a great step in the evolution of tools (XFIALS and FIND) from serving specific business needs to a single integrated tool that can serve the needs of many users, maintaining and improving value while finding new opportunities to leverage off the platform that has been created," said Corey Goulet, director, Pipe Engineering, TransCanada PipeLines.

Users became able to log into the GeoFind system and, based on the groups that they belonged to, were provided with a customized user interface that governed both the data and functionality that was available. By changing configuration information in the database, existing profiles could be modified to make new data available, change the display characteristics of legend items, provide customized links to other applications, change who accesses the profile, and more. In addition, the advanced reporting capabilities of GeoFind provided users with a quick and easy way of summarizing and publishing query results. The regional offices, which are geographically dispersed throughout Canada, have utilized the

extensive map capabilities to plan work and navigate to job sites. This configuration flexibility enabled GeoFind to be accessed by a constantly growing and diverse user audience without becoming too complicated for non-traditional users. Standard map functionality was enhanced to provide for the comprehensive multi-field wild card searches that were common in the GeoFind application. Search results could be sent to a table, Excel, or to the map as a query.

Restricting the search to the map boundaries further filtered searches against spatial data. The project provided employees with both advanced query and geospatial search capabilities on TCPL facilities, enabling staff to make timely business decisions due to faster data searches.

"GeoFind represented a technical milestone for TCPL, bringing many diverse technologies together seamlessly to meet expanding enterprise wide needs for spatial data visualization and analysis," explained the project manager for GeoFind. "Our use of Web services to deliver GIS functionality, FileNet EDMS as our source for dynamic satellite imagery and AutoCad Basemap integration, and iMQ middleware for enabling data publish/subscribe options with other applications has positioned GeoFind for enterprise growth and expansion."

THE FUTURE

Expansion continued within the environment group to provide new profiles and access to environmental data such as hazardous materials, vegetation management, etc. Additional work was completed to consolidate redundant data sources to augment the relevance of the current facility data set. Although the company has moved beyond the original project, GeoFind became the basis for TCPL's expanding GIS integrations.

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plants and ships, and protecting critical infrastructure and millions of people around the world. For more information, visit www.intergraph.ca.

