



Case Study: Landcare Research



Key Facts:

Industry: Environmental Research

Problem: Increasing resource pressure due to growing user demand for access to spatial data

Solution: FME Server

Results: Flexible, scalable system for automated spatial data distribution via the web

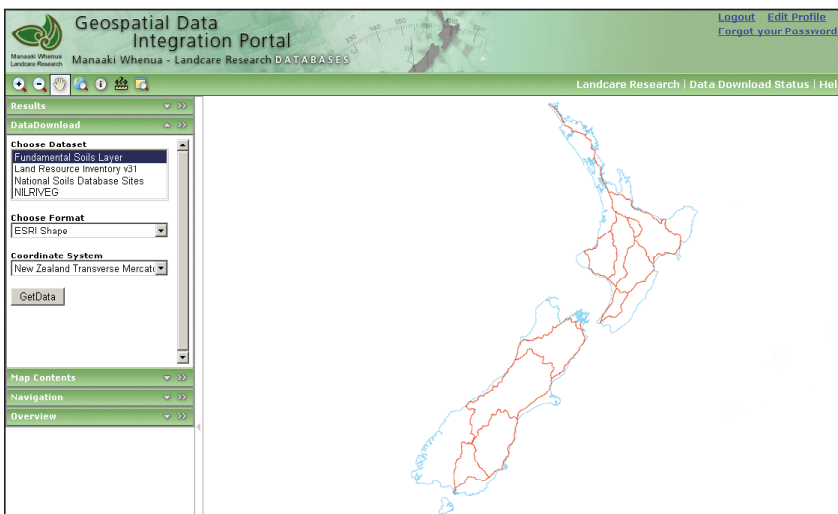
“Landcare Research discovered many benefits to using Safe Software’s new FME Server to enable web-based distribution of spatial data for their Geospatial Data Integration Portal.”

About Landcare Research

Landcare Research is a government-funded environmental research organization that specializes in the sustainable management of New Zealand’s land resources. In compliance with their mandate, Landcare Research manages an extensive repository of environmental data for New Zealand, Antarctica and other regions. The inventory includes a number of digital soil maps, as well as datasets from the New Zealand Land Resource Inventory (NZLRI). These datasets include administrative and natural boundaries, land-use capability assessments, data on pastoral and forestry production, and descriptions of land parcels in terms of their rock, soil, and vegetation types, as well as slope and erosion risk.

The Challenge

In recent years, Landcare Research has encountered increasing challenges in attempting to meet growing user demand for access to spatial data. Although clients can view available data layers and query map features via Landcare Research’s web-based Geospatial Data Integration Portal, the current portal has no provision for automatic data download. To obtain a dataset covering a given land area, a client must contact Landcare Research staff who then extract the required datasets manually. The results are then mailed to the client on a CD, or uploaded to an FTP site. Faced with rising investments of time and staff resources to service data requests, Landcare Research began planning a new configuration for the GIS portal that would allow clients direct, real-time access to data.



The Solution

Initially, Landcare Research assumed that there was no suitable data delivery solution available. On investigating the capability of Safe Software’s new FME Server, however, Landcare Research recognized that this spatial ETL platform offered a superior alternative to developing their own custom data transformation service. Based on translation and data model restructuring capability already familiar to Landcare Research through their use of FME Desktop, FME Server opened up new possibilities for applying this same spatial ETL technology to web-based data distribution. With Safe’s FME Server, Landcare Research could offer both raster and vector data for automatic download in dozens of different formats and coordinate systems.

Landcare Research’s Geospatial Data Integration Portal gets tops marks for usability. After selecting the required dataset, format, and coordinate system from drop-down lists, users can quickly and easily define their area of interest by zooming in on a map of New Zealand.



“FME Server proves an extremely flexible platform for automated data delivery. The .NET API available for the FME Server allowed seamless integration into our existing architecture, and FME Server’s internal job request database has also provided a better trail for auditing data usage.”

In addition to the proven data transformation capability of FME, Landcare Research’s choice of FME was also influenced by the ease with which FME Server could be integrated into the existing architecture of the GIS portal. FME Server offered a variety of different APIs, allowing very quick and easy integration with many of the portal’s existing back end systems, as well as the web front end user interface technology provided by ESRI’s ArcIMS 9.2. A data server consisting of ESRI ArcSDE and Microsoft SQL Server completes the final system architecture which is distributed across two servers in different locations.

Landcare Research’s new Geospatial Data Integration Portal is expected to be live by the end of the year. To enter the portal, the client must login via a user-specific password – a requirement that will allow Landcare Research to control access to specific datasets and, in some instances, charge a fee for downloads. After selecting the dataset of interest, the user can download data in one of three different coordinate systems and six different formats – either ESRI Shape, ESRI Coverage, MapInfo MIF/MID, Autodesk AutoCAD DWG/DXF, KML, or MicroStation Design (IGDS). On receiving the translation request, FME Server clips the required data subset from the larger database and transforms the data to the specified format and coordinate system. Translation results are zipped and made accessible to the user via a link on a download page.

The Benefits

According to Landcare Research, FME Server has performed extremely well, easily managing translations from larger datasets such as the Fundamental Soils Layer, which includes over 100 000 features. In addition to the quick integration with their existing IT infrastructure, Landcare Research points to the flexibility of FME Server as an outstanding advantage in configuring the current portal, and in allowing for future expansion.

FME’s inherent support for translating data to dozens of formats will allow Landcare Research to easily extend the number of formats and coordinate systems offered in the future. FME Server also offers Landcare Research a virtually unlimited number of data transformation options. And since the data transformation requires no coding, but is instead controlled by a graphical user interface provided by the FME Workbench application, Landcare Research found configuring and editing the required data processing workflows was extremely fast. Landcare Research also places a high value the scalability of FME Server. As demand on the system increases, Landcare Research can upgrade FME Server by simply extending their FME Server license.

Learn More

To find out how FME can help address your data interoperability challenge, or to download a free evaluation copy of FME, visit www.safe.com.

Designing the FME Server’s coordinate reprojection and dataset clipping workflow was a simple matter of selecting four data “transformers” and connecting these to create a data flow diagram that controls the actual data transformation.

