

GeoStore.com Final Component

Image(ry) is Everything

In March 2006 Infoterra Limited, provider of geographic information products and services, celebrates its fifth birthday. Dr Andy Wells, director of sales and marketing, looks back at the company's history and the launch of GeoStore.

By Andy Wells



Tower of London and Bridge, London.

Web-based Service

In order to meet the demand for accurate and timely geographic information, capable of adding immediate insight to any situation, Infoterra launched GeoStore.com. This web based service, available since October 2005, provides aerial data across England which can be viewed, analysed and purchased on-line. As the only on-line system of its kind to provide images that have not been compressed in storage, images are delivered directly to the end user without having decreased in quality due to storage or transmission techniques.

Data Challenge

As part of Europe's space company EADS Astrium, Infoterra was able to draw from a 25 year history of commercial earth observation and geospatial knowledge. Despite this breadth of knowledge already within the

group, the challenge of storing and distributing vast amounts of aerial photography and other geospatial data was immense. However, for many business processes to benefit from this valuable resource, the need to solve the technical challenges associated with storing, managing and delivering such data required a solution. Begun in 2000, the £2m research and development programme finally culminated in the release of GeoStore.com.

With England-wide aerial photography requiring 13 terabytes of storage, overcoming the problems of loading, management and viewing aerial imagery, was crucial.

Infoterra invested in technologies that would enable aerial images to be rapidly loaded and easily managed, while still providing rapid delivery over thin bandwidths, such as the web and mobile phones. GeoStore utilises a technology that allows the user to immediately

receive accurate aerial images, irrespective of how the user roams, pans or zooms. This guarantees that the user waits the same brief amount of time for the delivery of any image.

EnviSAT

Established 10 years ago for the management of data from ESA satellites ERS1, ERS2 and EnviSAT, the data hosting centre in Farnborough is the largest commercial geographical data hosting facility in the UK with 1,500 terabytes of data available on or near-line and an archive in excess of 7,000 terabytes.

The core of the system is a storage area network (SAN) linked to multiple server configurations. The choice of the SAN was made following extensive testing and optimisation using geographical datasets. This enables multiple services to link to a single datastore. The system is supported by a number of additional services including a fire suppression system, flood detection, environmental control, four levels of building security, a secondary external generator, two separate lines from separate bandwidth suppliers and a nearline file restoration system capable of replacing 10 terabytes of data in less than a day.

Service Backbone

The latest technology is complemented by a staff with skill sets required for a successful geospatial Internet service provider (G-ISP). This centre provides the service backbone for GeoStore. In the months following the launch of GeoStore.com the site has delivered hundreds of aerial images to customers throughout the world. Two additional services will accompany GeoStore Select, the service initially launched that allows a precise location to be identified and displayed by using roam, pan and zoom functionality.

The two additional services include GeoStore Explore, which offers the ability to view and analyse geographic data through a web browser without the need to store a local copy of the data or for GIS software. This added functionality is suitable for rapid site investigation, including risk assessments, planning reviews and environmental enquiries.

Now live, GeoStore Direct enables immediate access to terabytes of data, delivered on-line through an open standard solution to the user's own geo-information system. By immediately receiving the image, the user has

in Corporate Strategy

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instant access, without having to use his own hard disk space to save and then insert the images required. Through an OGC WMS compliant interface, environmental reports, property reports, and others can be instantly enhanced with geographic imagery delivered through GeoStore.com.

ADS40 Digital Pan Broom Camera

Infoterra now services more than a dozen clients through this hosting centre including members of the insurance, property, mapping, government and international community. The company has continued to invest in new technologies having recently purchased the ADS40 digital pan broom camera. Unlike frame cam-

eras this device is able to capture a seamless strip of digital imagery over large areas. Using a three-line stereo sensor, the camera can simultaneously capture red-green-blue and colour infra-red imagery, providing the rapid production of both orthophotos and surface elevation models. The ADS40 has so far been used to capture 1,400 square kilometres of Berkshire, producing 16 lines of imagery that were mosaiced into a single image within a week.

Conclusion

For Infoterra, GeoStore.com is the final component in a corporate strategy initiated in 2003 to provide a complete end-to-end solution for

those needing support from geospatial information.

Future plans for GeoStore.com are currently being finalised. However further data layers are already being planned for loading and dissemination including the recently acquired “London Heights” layer comprising a ground and building height model with vertical accuracies better than 15cm.

Dr Andy Wells (andy.wells@infoterra-global.com) is head of sales and marketing at Infoterra. Have a look at www.infoterra.com for general information on Infoterra. Visit www.GeoStore.com to learn more about the product discussed in this article.