Four Corners of the World

As the use of spatial data plays an increasingly important role in the day to day business decisions of your enterprise, the amount of imagery being utilised is growing exponentially. Therefore, easy retrieval of your imagery and knowing the validity of that data, is of critical importance.

Data Management

The major mineral and petroleum exploration companies maintain regional offices throughout the world’s remotest locations, exploring in the harshest of environments. The flow of information between these sites and head office is of the utmost importance. Decisions based on the latest results or interpretations must be made promptly and accurately. While recognising the significance of efficiently disseminating information, the delivery of that information - specifically imagery - has presented a problem. Imagery is a valuable exploration tool but, primarily due to large file sizes, has been poorly managed and distributed, typically being delivered by CD.

Very early in its role as a leading Australian supplier of GIS technology and services, Meridian GIS recognised the value of data management to organisations who maintain spatial data. Meridian GIS found their clients’ datasets to be in a poor state of organisation, often duplicated, lost and generally stored without any metadata to indicate its validity. These clients required an effective method of managing their data.

In response, Meridian GIS developed a commercial software product, Compass, for the MapInfo desktop GIS application. With this tool, clients could catalogue and maintain MapInfo tables, saved queries, workspaces and Earth Resource Mapping Image Web Server connections. The Compass catalogues could be searched either hierarchically or spatially with the results presented to the user in a logical, intuitive interface. Once a search area has been identified the user can further narrow down the search by utilising the catalogued metadata associated with each dataset. The Compass catalogue is a relational

Fig. 1 Index map for spatial searching
database which stores file locations and metadata, and can be filtered and sorted using standard SQL. Recognising that this approach could be used with imagery to aid corporations with remote offices, Meridian GIS began development on Compass Web Server. Leveraging on the success of Compass, the concept of searching a catalogue of images on a server side database with the results presented in an Internet browser was developed. The intuitive interface would walk users through a spatial search from an index map, accurately narrowing down the number of images presented for selection and resulting in only the imagery over the specified area being presented. Images could then be previewed with data from the ECW header displayed in an information panel. By displaying the stored metadata, valuable information such as currency, size, cost, validity, and ownership could be used to evaluate the image's integrity. Once the correct image has been selected the user can open that image in their browser.

Essential to the success of Compass Web Server is Earth Resource Mapping's Image Web Server and their compression format, Enhanced Compressed Wavelet (ECW). With the ability to view imagery 300% faster than any other wavelet-based compression format, Image Web Server could effectively deal with Terabyte sized image files. Entire corporate image databanks can now be stored and managed in a centralised server located at corporate headquarters. Allowing compressed data to be served on an Intranet or the Internet eliminates the obstacles to easily and reliably sharing large imagery. The emergence of Image Web Server and Compass Web Server has eliminated the disconnected islands of information syndrome in which spatial data is managed at separate locations. While maintaining data integrity through the most up to date information, no longer are employees, partners and customers reliant on CD's arriving in the post only to discover it has already been superseded. Compass Web Server, while originally designed for exploration companies, is equally applicable to diverse enterprises such as local and state government departments, and data providers.

The Internet has allowed corporations to change the way they operate by re-engineering business processes to drive revenues, increase customer satisfaction and improve overall company productivity. Compass Web Server adds the final and yet most important piece to the image delivery jigsaw - Data Management.