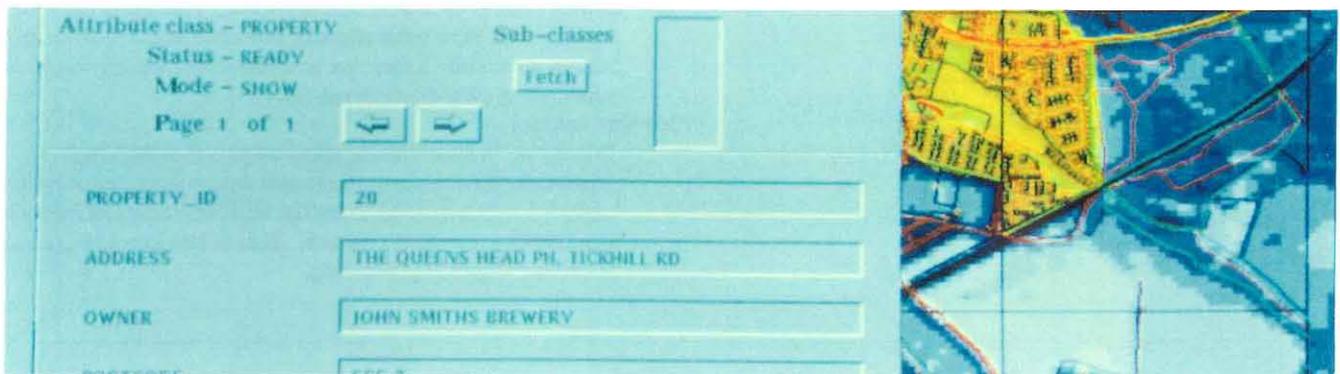


DATABASES

Relational databases, used to store non-graphical and control information, play a major role in most operations within a Geographic Information System (GIS). Laser-Scan GIS products include a standard interface to an Rdb/VMS relational database, but can also be interfaced to third-party Relational Database Management Systems (RDBMS), such as Ingres® and ORACLE®.



Product description

The interface utilises the standard Structured Query Language (SQL) provided by most vendors to facilitate a transparent link to the database. It provides facilities for map library maintenance, attribute handling and flowline control during complex processing work.

The Ingres interface allows links to both local and remote databases and provides full support for Ingres/NET connections to foreign operating systems. If a connection to a local or remote database is required with ORACLE, this is achieved using the SQL* Net product.

If there is a special requirement for an interface to another RDBMS, this can be developed by Laser-Scan providing that the RDBMS supports standard SQL.

NB: A runtime Rdb licence, included free with all VMS installations, is sufficient to run a Laser-Scan GIS with Standard Rdb/VMS interface. Users needing the extra facility of interactive SQL require an interactive licence.

The Benefits

- Map and attribute handling is possible via a transparent interface to a RDBMS
- Optional links are available to several third-party databases
- Links to existing data can be established easily and with little disruption
- Customisation for users with experience in SQL is easy

Data input

All data input operations within the GIS are implemented using standard SQL which provides a common interface to all RDBMS. For customers who have large amounts of attribute data held in the RDBMS, the system provides a mechanism for linking to this data with little or no amendment to the existing database schema.

Database features

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Map library

When a user requests a specific area of interest for display, the GIS interrogates the map library held in the RDBMS to determine which map sheets cover the area. The matching sheets, stored as IFF files, are then loaded and displayed. System management tools allow the user to maintain this map library using a simple menu interface requiring no knowledge of SQL.

Attribute data

Each feature in the map database can have one or more attribute classes associated with it. When a user queries the attributes of a feature, the GIS interrogates the RDBMS to determine which attributes are linked to that particular feature. Complex hierarchies of attributes can be handled on a feature-by-feature basis allowing powerful ad hoc queries to be posed. Attribute classes can be defined easily using the tools supplied for system management.

Flowline control

In complex tasks requiring many steps and background processes, such as during link-node data structuring, flowline control is maintained by using the RDBMS to record each job, identified by user, date and time. This allows jobs to be paused at various stages of processing.

Requirements

The *Database interface* is an integral feature of the *METROPOLIS* and *HORIZON* GIS products. Rdb/VMS is provided as the standard database, with ORACLE or Ingres available as options.

Laser-Scan Geographic Information System (GIS) products are *METROPOLIS* – designed for applications such as property management, land charges, market analysis and emergency planning, and *HORIZON* – for environmental applications including terrain analysis and telecommunications planning. These products integrate vector and raster mapping with a relational database and provide a full range of analytical tools within a state-of-the-art menu interface. Products may be customised to meet the exact needs of different users.

Ingres is a registered trademark of Ingres Corporation.
ORACLE is a registered trademark of Oracle Corporation.