

Munsys Product Information

Overview

The Munsys product range consists of an integrated set of ready-to-use spatial applications, designed specifically for the growing needs of utility and government organizations. Munsys is a database driven solution that conforms to industry business rules. The integration of leading spatial technologies has resulted in a total enterprise solution for the management of spatial information.

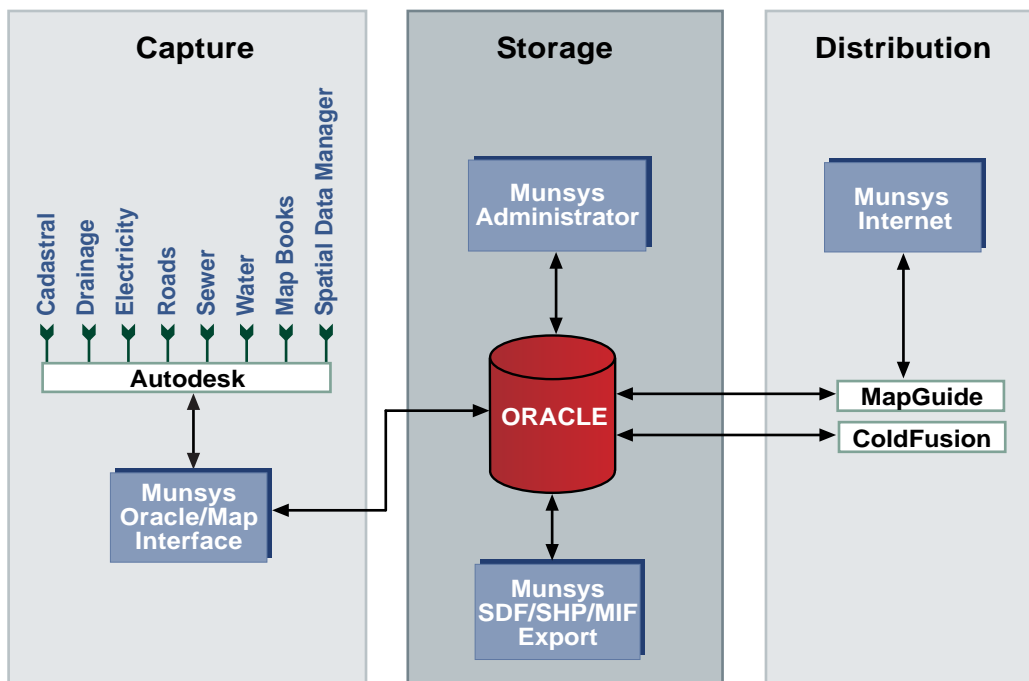
Munsys Structure

The Munsys spatial solution is structured as three major components—**capture and maintenance**, **storage of data** and **distribution**.

Capture and maintenance—the Munsys interface provides capture and maintenance capabilities for each application by way of tailored menus and toolbars. Autodesk Map™ is used as the design technology to present spatial information. Each Munsys application is a packaged solution that combines business rules per discipline within organizations. For the first time, these tools do not have to be designed specifically and at additional cost to the client in order to cater for individual requirements.

Storage—Oracle® database technology is used for the storage of both attribute and spatial data in an open system. The database technology enables for various applications to share the same data and eliminate islands of data.

Distribution—Spatial information is easily distributed throughout the organization using standard Internet technology. The Munsys Internet application is a starter website that can be enhanced to cater for specific organizational requirements.



Benefits

Productivity is increased due to the application-specific characteristics. The high performance together with specialized applications, further save time and resources while ease of use alleviates the need for ongoing support and training.

Storage of data takes place in an open system, allowing various applications to share the same data. Data standards and security is easily enforced because of it being centrally controlled.

Integration of other systems such as treasury and asset management systems are made possible via the database gateways that Munsys offers.

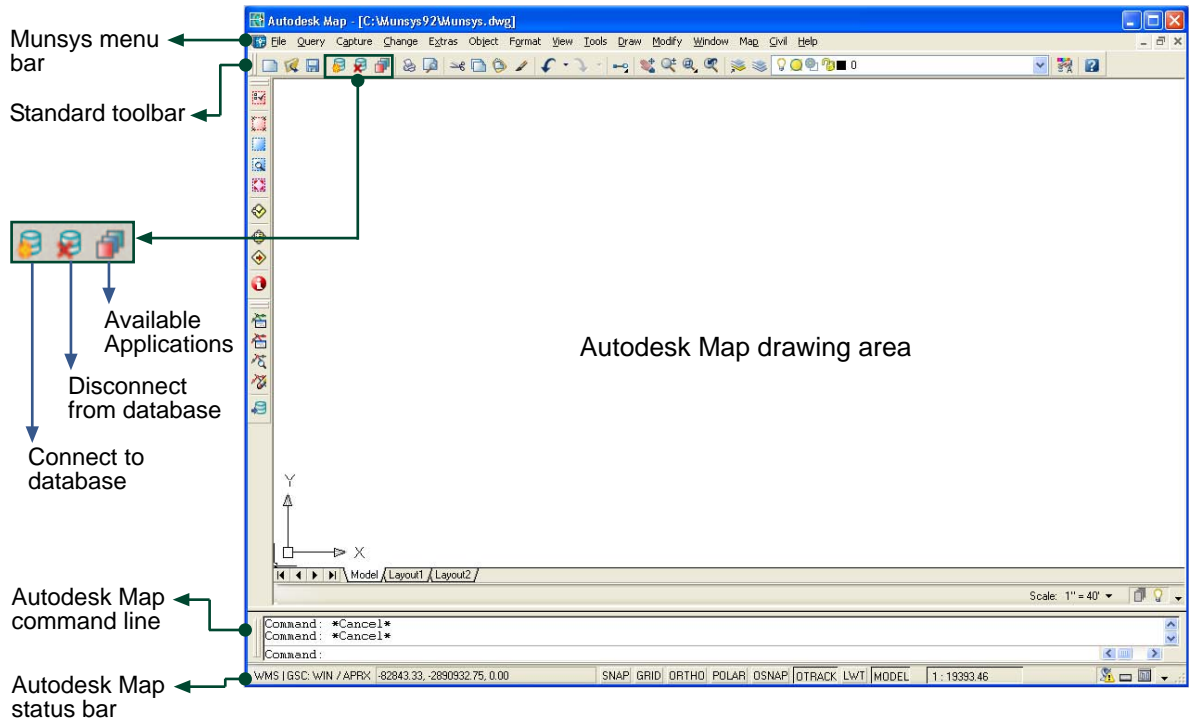
Various Munsys applications are designed to simplify tedious and time consuming tasks such as the capture and maintenance of spatial and attribute data. Amongst all the Munsys generic functionality, each application contains its own specific menus and toolbars for executing queries, capturing and changing of data.

Ready-to-use applications simplifies the management of spatial information in a database environment.

Leading spatial technologies, Autodesk, Oracle and OpenGIS® standards provide a scalable solution that caters for the growing information needs of international organizations. The OpenGIS philosophy enables the exchange of data across various GIS systems.

Munsys Interface

The logical structure and layout of the Munsys Interface simplifies the usage of the system and enhances productivity. The menu bar combines Munsys and Autodesk Map menu items, providing the necessary functionality to use the system. Although the system comprises three different spatial technologies – Munsys for capture and maintenance, Autodesk Map for presentation and Oracle for storage, all the necessary functionality is available in a single user interface.



Cadastral

Munsys Cadastral is used to capture and maintain cadastral base data from registered documents. The cadastral data forms the foundation of the system, as all other applications make use of it to locate and construct their services.

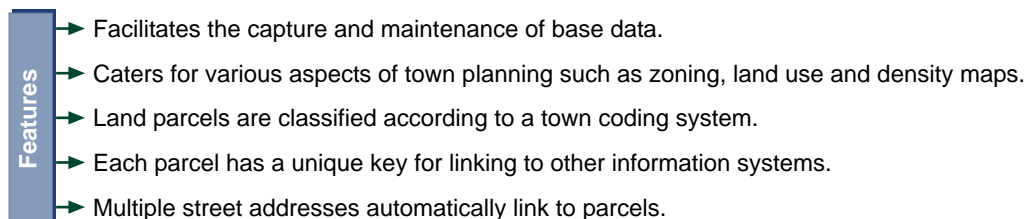
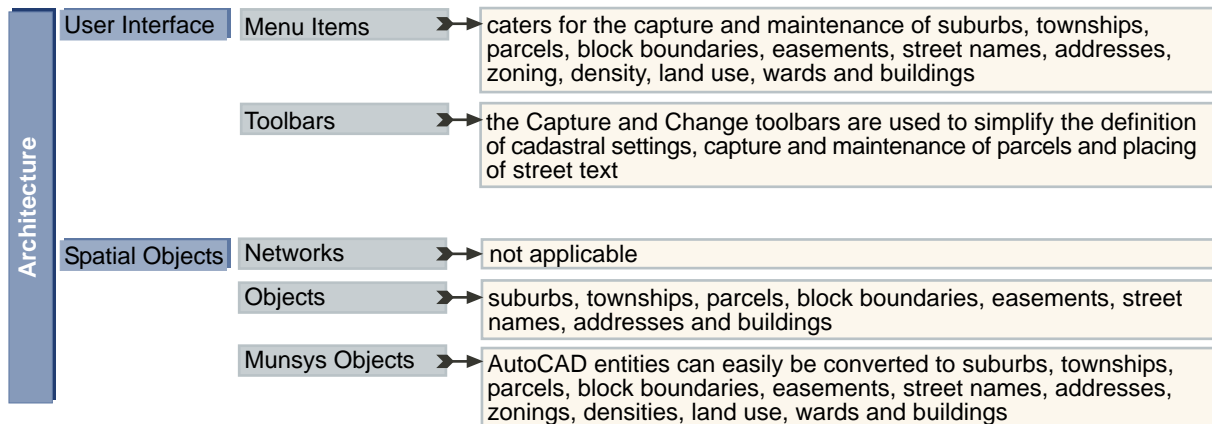
Using Munsys Cadastral, users can capture and maintain cadastral objects such as suburbs, townships, parcels, easements, buildings, street names and addresses, to name but a few. Munsys allows users to define cadastral settings to simplify the capture process. The application caters for aspects of town planning such as zoning, density and land use polygons.

Where necessary, land parcels are classified according to a town coding system, allowing users to easily locate information by suburb or township name. In addition, parcels are classified according to their legal and work status as proposed, current, or archived. Conversion of spatial objects to cadastral objects extends the capture capabilities within Munsys.

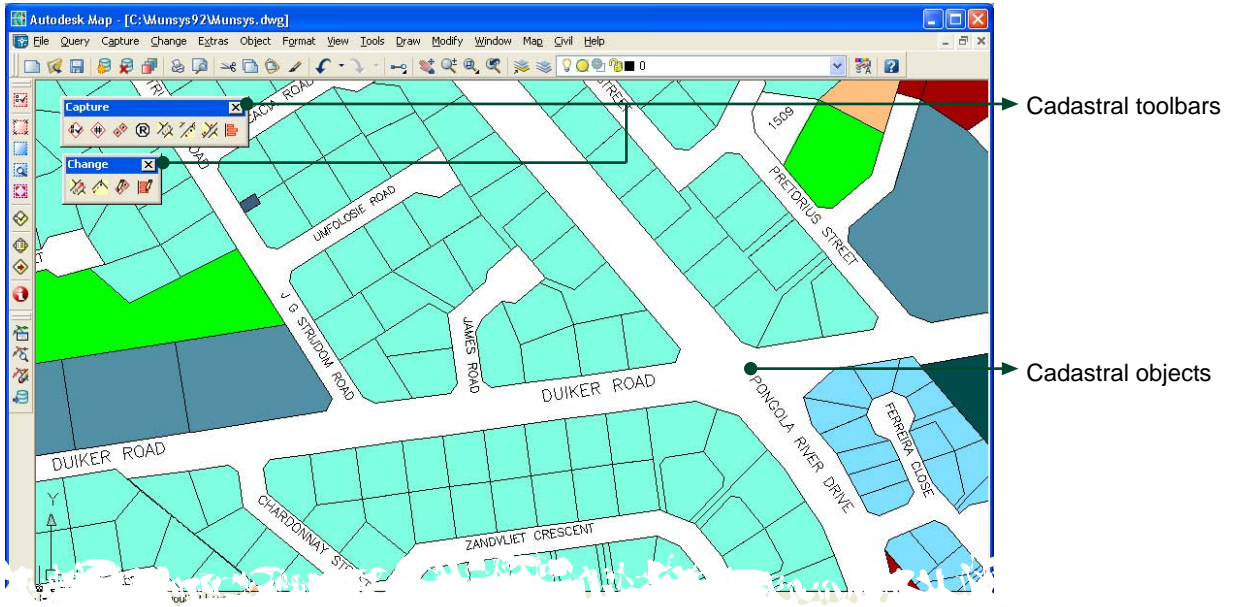
Benefits

- Data can be queried by suburb, township or Geographic Search Criteria.
- Zoning, density and land use are handled separately from land parcels.
- Addresses can be linked to parcels.
- Efficient cadastral capture tools enable users to construct data by coordinates.

Cadastral Layout



Cadastral Interface



Drainage

Munsys Drainage is used for the capture and maintenance of stormwater networks and related information including rivers, floodlines and dams.

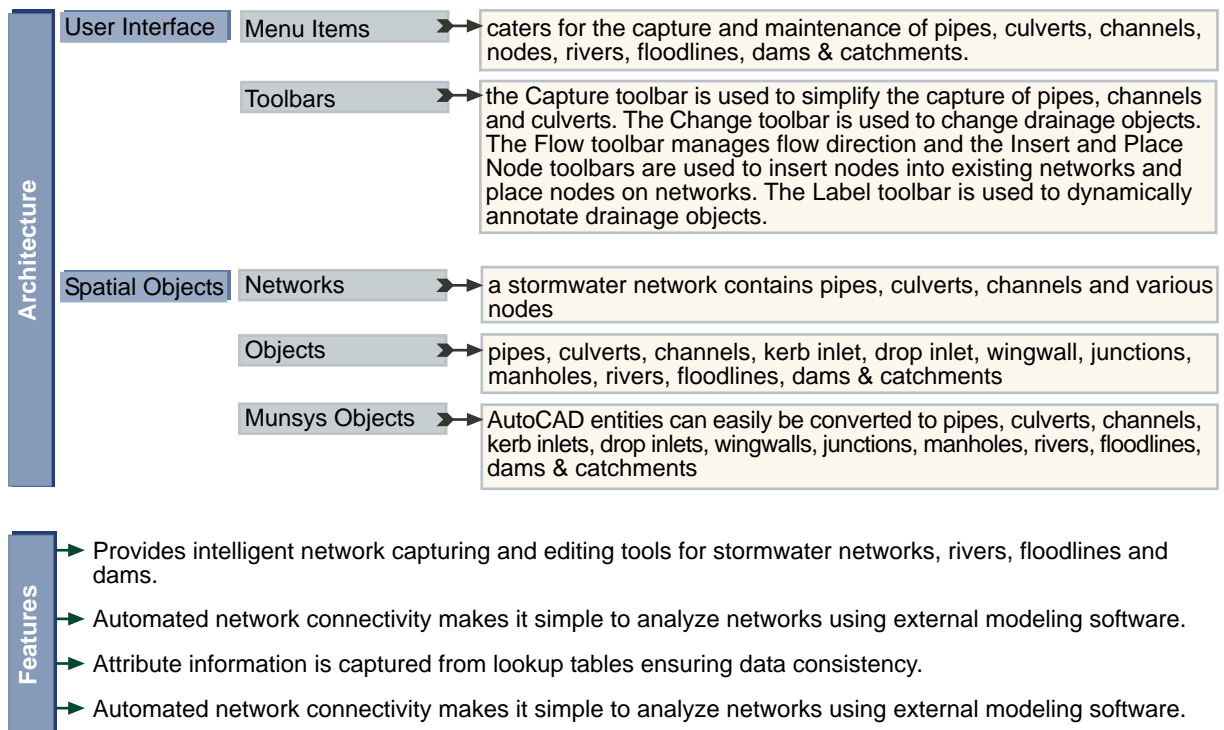
The network model, information detailing the connectivity of the stormwater network is automatically maintained by Munsys Drainage, allowing customers to easily extract the model for third party network modeling and analysis software.

Munsys Drainage also contains business rules that allow users to edit existing networks with minimal effort. When inserting a new manhole onto an existing pipe, Munsys will, for example, automatically re-calculate the connectivity model and also interpolate new levels for the objects from existing information.

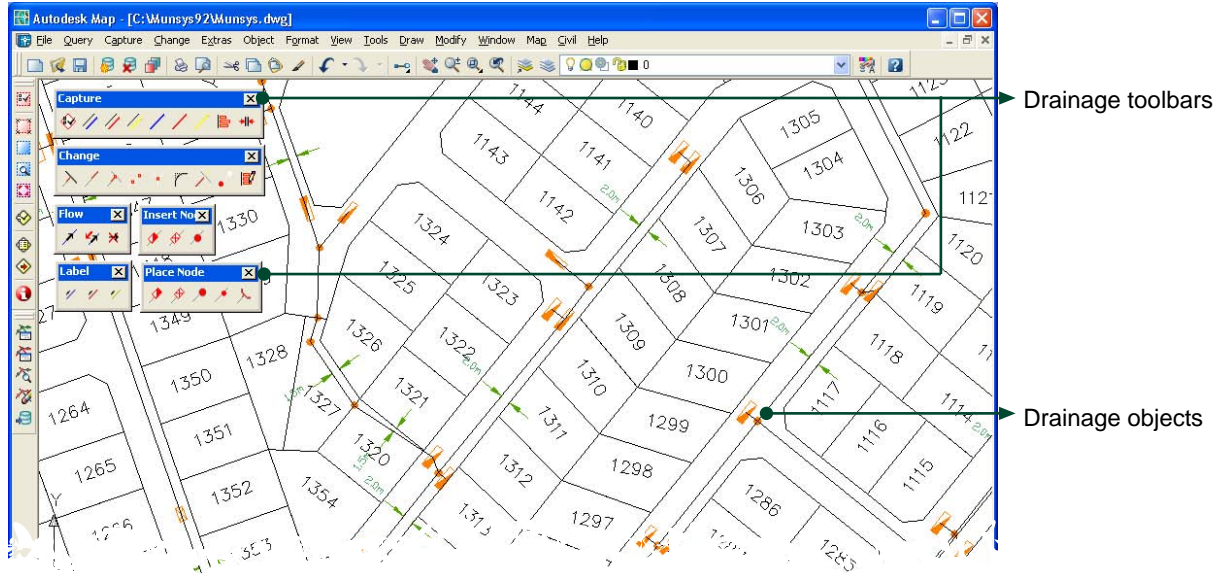
Benefits

- Capture routines automatically clean pipe intersections and snap nodes onto pipes.
- Network connectivity is generated from the start and end nodes which are automatically stored with a pipe.
- Editing of networks interpolates new pipe and node levels.

Drainage Layout:



Drainage Interface:



Electricity

Munsys Electricity is used for the capture and maintenance of electricity distribution networks and related data. The capture functionality supports networks of Extra High Voltage, High Voltage, Low Voltage and Street Lights, as well as the capture of Service Connections and Electricity Zones.

Munsys Electricity automatically generates network connectivity and also calculates cable slack information for each length of cable. The application also maintains a set of connectivity rules thereby preventing users from inadvertently connecting the wrong cables.

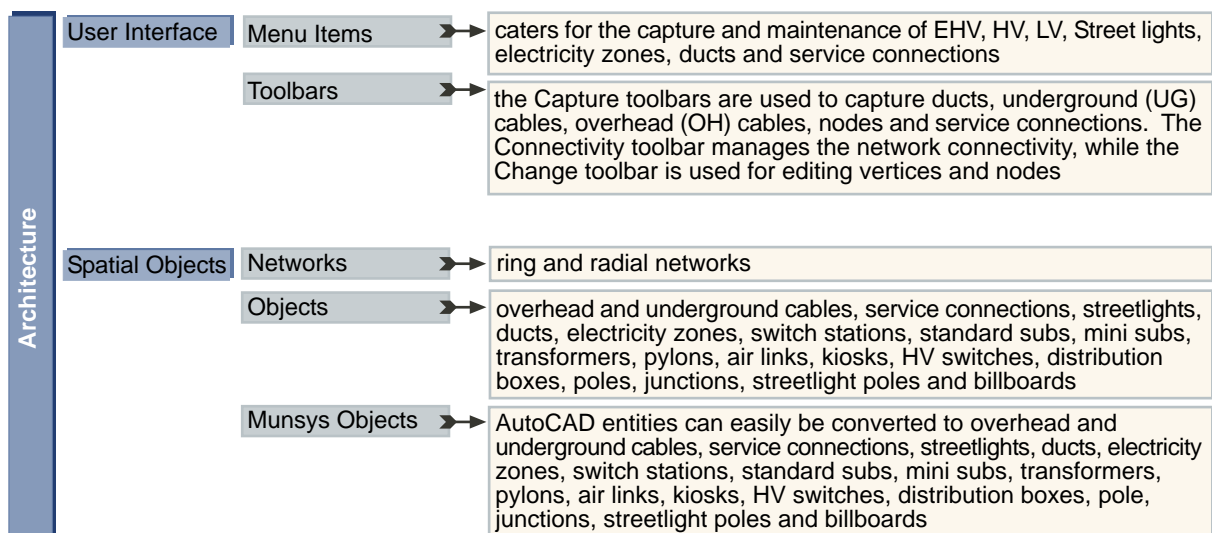
Supply node information is carried along during the capture process, enabling users to identify which regions are supplied from any specific substation.

The flexible storage mechanism of Munsys enables integration with other systems such as volt drop analysis.

Benefits

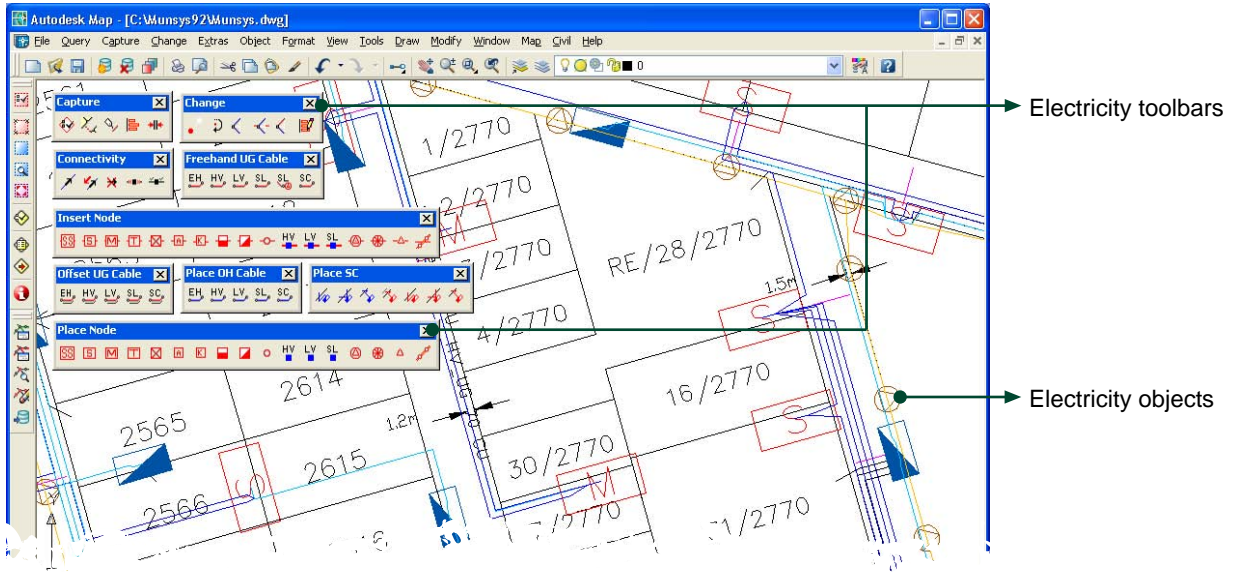
- The start and end points of electricity cables are automatically tied into nodes when captured.
- Users can change the rule-based connectivity that is stored in the database.
- Service connections can automatically be linked to parcels, creating a link between the network and parcel-related information.
- Munsys Administrator caters for the ability to integrate with other applications that provide information such as electricity consumption and meter information.

Electricity Layout:



- | | | |
|----------|---|--|
| Features | → | Electricity distribution networks are maintained using rule-based connectivity. |
| | → | Network connectivity is automatically maintained as cables are attached to nodes. |
| | → | The network is classified into extra high voltage, high voltage, low voltage, street lights and service connections facilitating the easy detection of different services. |

Electricity Interface:



Roads

Munsys Roads is used to capture and maintain road networks and associated data such as traffic intersections. Roads are constructed within road reserves or at a specified offset distance from cadastral boundaries.

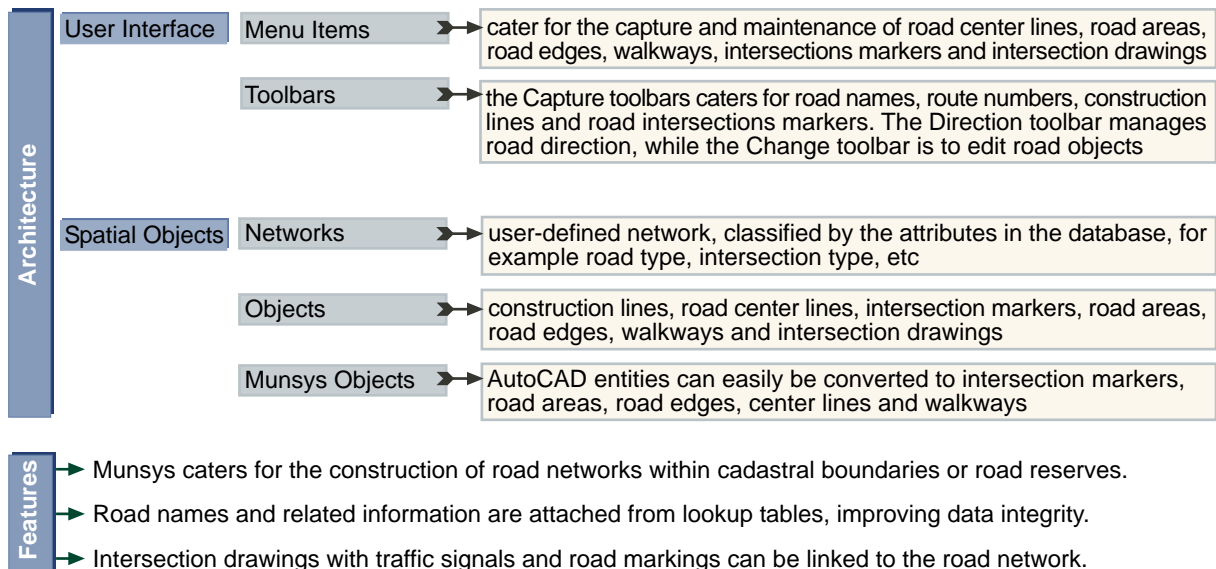
When creating or modifying roads, Munsys Roads automatically maintains network integrity between road center lines and intersections. Attributes such as road names and route numbers are maintained in master lookup tables, ensuring consistent spelling and naming conventions.

The intersection menu is used to design pedestrian crossings, islands, lanes, guard rails, traffic signals, road markings and warning signs. The design is saved as a drawing, which is referenced by an intersection marker.

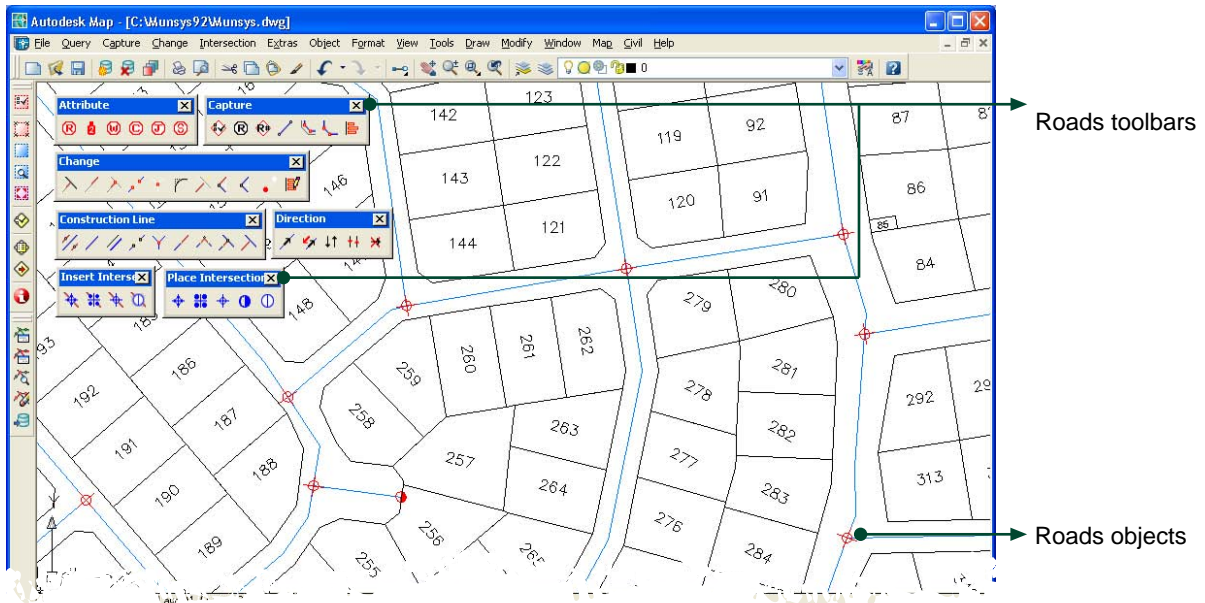
Benefits

- The storage of the start and end intersection of each road segment contributes to the accurate network connectivity capabilities.
- Various tools are available to clean road.
- When a center line is broken, advanced editing tools assign attribute information to the new center lines.
- The application has the ability to integrate with pavement management systems.

Roads Layout:



Roads Interface:



Sewer

With Munsys Sewer, users can easily construct and maintain gravity, pressure and vacuum sewer networks. The application also caters for sewer basins, which represent different parts of the sewer network.

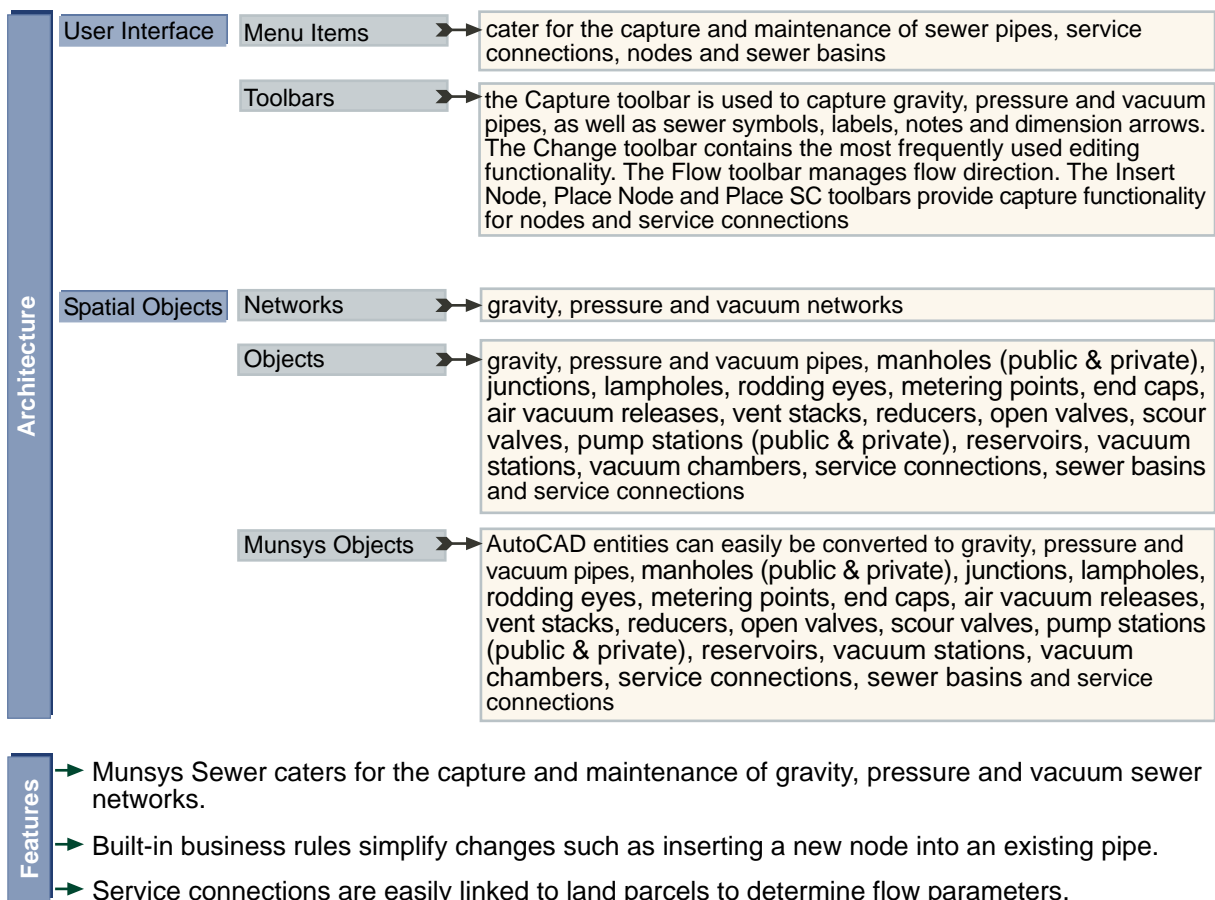
Munsys Sewer automatically maintains the integrity of the sewer network model by ensuring consistent connectivity between pipes, nodes and service connections.

Built-in business rules simplify changes in the sewer network such as inserting new nodes or replacing existing pipes.

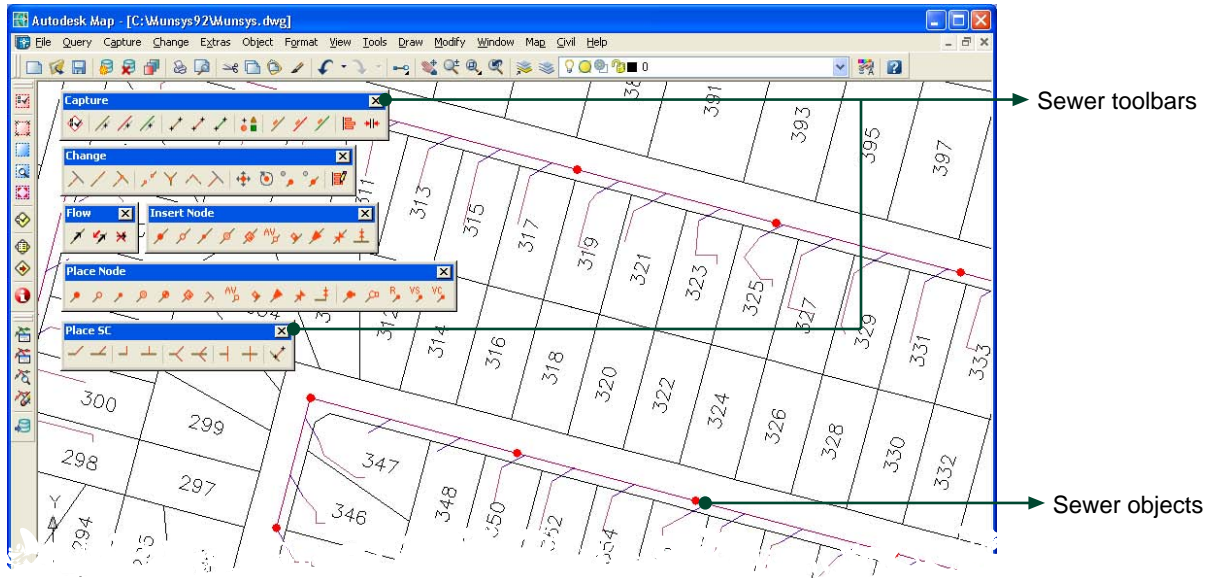
Benefits

- Start and end identifiers are stored with each pipe to maintain connectivity.
- The network model can easily be used by external applications for flow modeling purposes.
- The application caters for advanced editing such as inserting a new manhole into existing pipes, whereby new levels are interpolated for pipes and nodes.
- Munsys Sewer can be integrated with other systems such as billing and asset management.

Sewer Layout:



Sewer Interface:



Water

Munsys Water is designed to capture and maintenance water networks and related data such as water tower zones. A water reticulation network consists of a series of water pipes that function on pressure and form a circular network. Munsys Water caters for potable, reclaimed, raw and abandoned categories.

Various tools are available for cleaning pipe intersections during capture, as well as indicating which pipes are crossing over each other. Nodes can easily be placed on pipes with automatic symbol alignment, while pipes can easily be broken without the need for lengthy editing procedures.

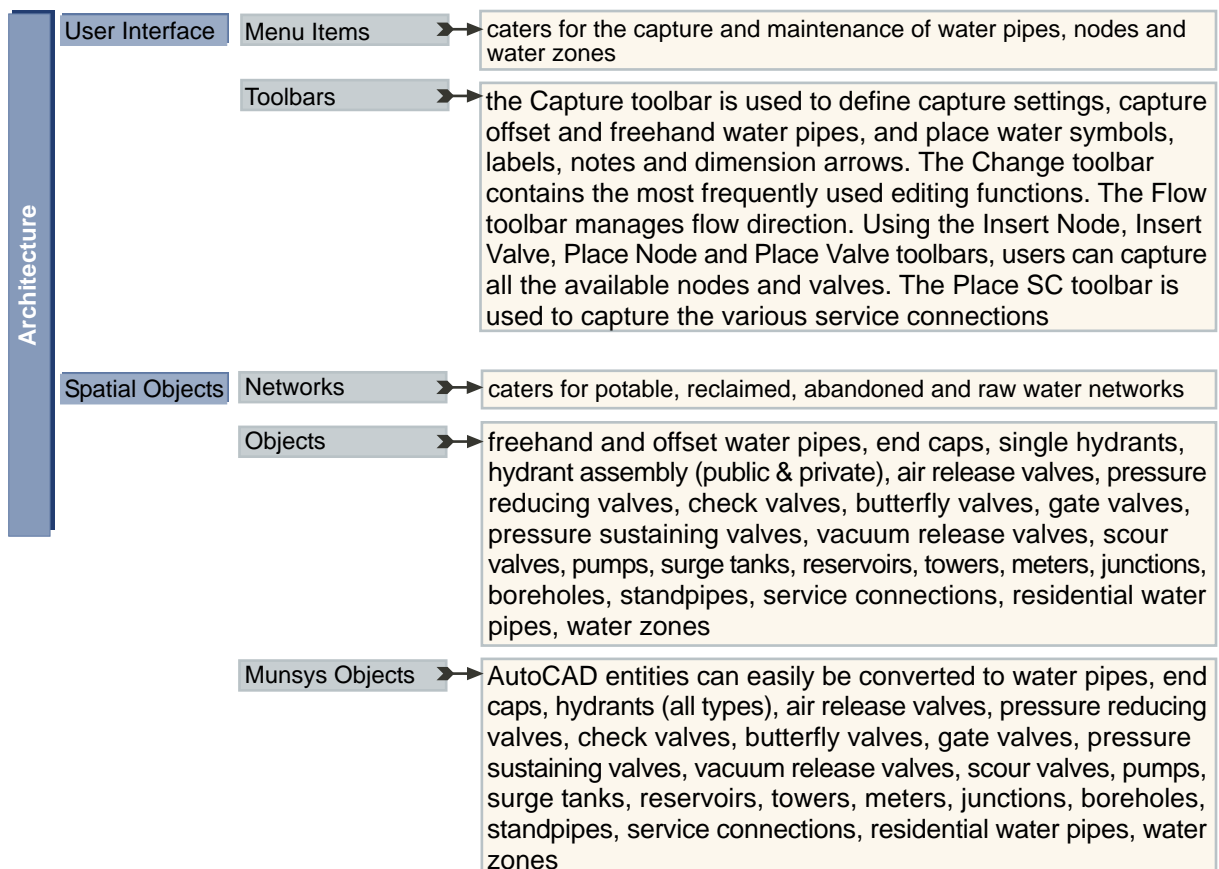
Both spatial and attribute data integrity are checked before objects are posted to the database. Munsys Water supports the ability to easily insert nodes into existing pipes, while at the same time generating connectivity between nodes and pipes.

Service connections can be linked to land parcels for determining flow parameters.

Benefits

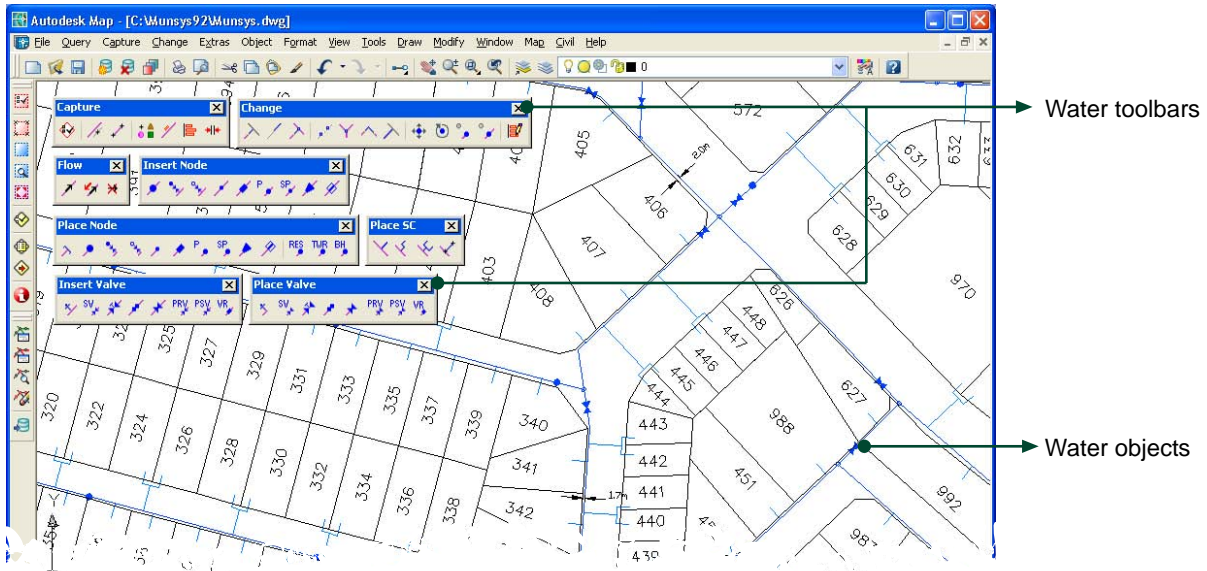
- Advanced capture and editing capabilities allow for functions such as the joining and breaking of pipes.
- Placing of nodes on underlying pipes, automatically break pipes and maintain network integrity and connectivity.
- Service connections link to parcel information such as water consumptions.
- The storage facilities in Munsys provides for the integration of external applications to easily model the networks.

Water Layout:



- Features**
- Munsys Water caters for the capture and maintenance of potable, reclaimed, raw and abandoned water networks.
 - Water pipes are captured relative to cadastral boundaries.
 - Nodes are placed on pipes with automatic symbol alignment.
 - Network connectivity is maintained automatically between pipes, nodes and service connections.
 - Service connections can be linked to land parcels.
 - The application caters for water zones that represent different parts of the water network.

Water Interface:



Spatial Data Manager

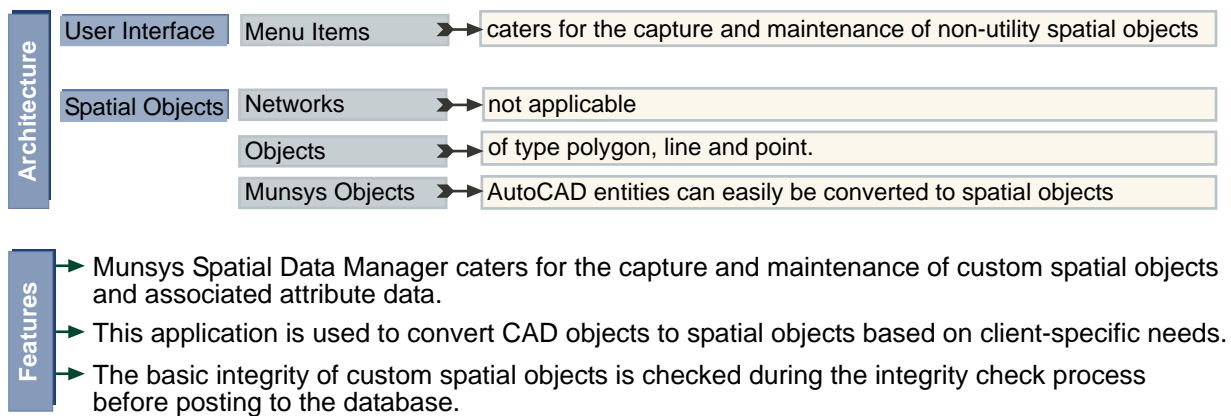
Munsys Spatial Data Manager is designed the capture and maintenance of custom spatial objects based on client-specific needs.

The application allows CAD drawing data to be converted into spatial objects. The conversion process checks the validity of the selected objects against the spatial data type selected.

Benefits

- Drawing data can be converted to intelligent spatial objects that are stored in the database.
- Drawing attributes such as layer names can be transferred to a column as attribute information.
- Multiple objects can be selected for bulk attribute updates on additional columns added to custom spatial tables

Spatial Data Manager Layout:



Map Books

Munsys Map Books is designed for the production of map books for use in the field. The application generates map book pages based on the various spatial layers of data available in the database.

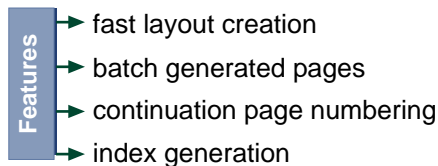
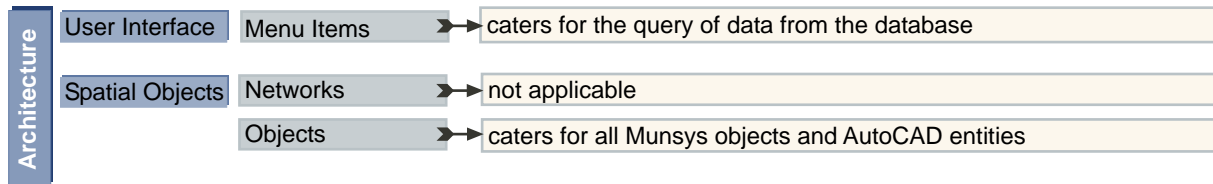
The Map Books application allows a single sheet layout to be used for multiple map books with different contents. Pages derived from standard paper sizes are automatically numbered as they are placed. Page numbers and continuation page numbers for adjacent pages are automatically generated.

Various indexes can be generated to easily locate page numbers.

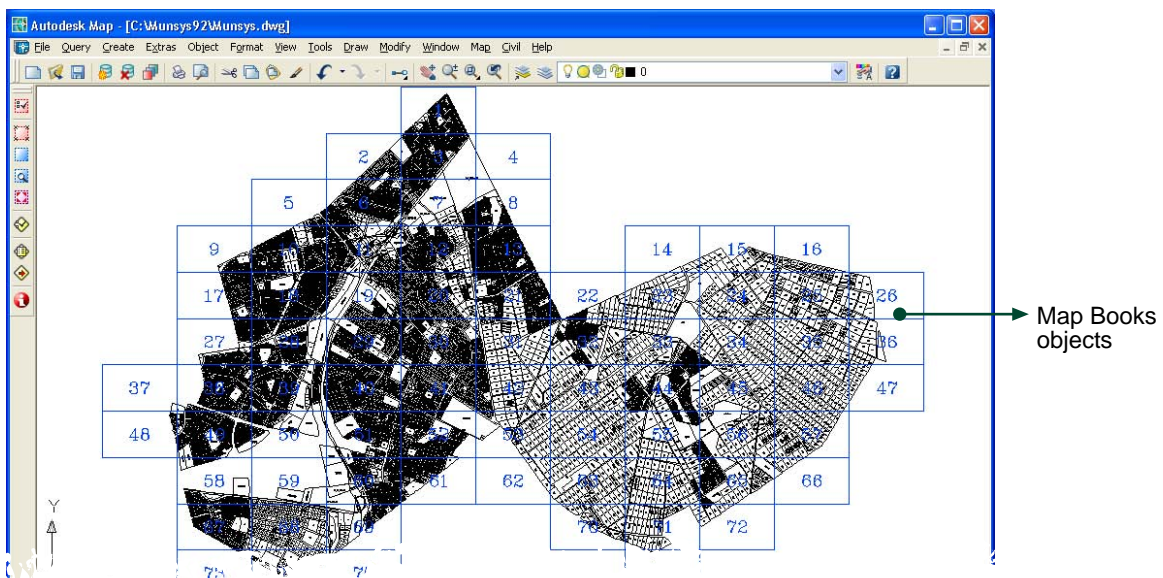
Benefits

- Munsys sheet placement functions simplify the creation of sheet layouts.
- Multiple pages are generated without user intervention.
- When the sheet layout is created, page and continuation page numbers are automatically generated.
- Index pages are automatically generated from the sheet layout.

Map Books Layout:



Map Books Interface:



Internet

Munsys Internet is a basic starter web site that demonstrates the capabilities of distributing spatial data. The Munsys Internet site is used as a foundation catering for extensive customization suited to each client's requirements.

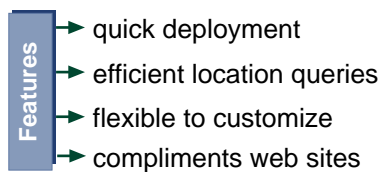
The Internet site is based on Autodesk MapGuide® 6.0 and is designed to integrate with the Munsys database design. Standard HTML and JavaScript commands are used to present and manage user input in Internet Explorer.

Munsys Internet contains various tools to locate information in the map window, report on data in the database and display information based on user requirements.

Benefits

- Ready-to-use starter web site.
The application is based on existing Munsys applications making spatial information available.
- Search options are performed on the central database.
- The starter website can be customized.
- Additional management reports and map queries can be added to cater for new organizational needs.

Internet Layout:



Administrator

Munsys Administrator simplifies database operations such as assigning user rights, changing system settings and defining default values for application lookup tables from an Oracle Client PC.

The user interface simplifies the task of the database administrator in generating complex SQL statements to perform various tasks.

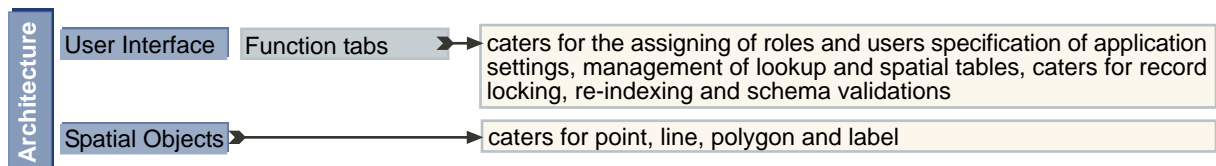
Munsys Administrator caters for more advanced database operations such as altering existing and defining new spatial tables for custom spatial objects. With the link table option, related data derived from internal or external sources can be viewed in any Munsys application. Database administrators can easily manage and view user locks to determine which data has been locked and who has locked it. Munsys Administrator provides validation capabilities that are used to verify Munsys tables against validation rules required by Munsys. Tables from other systems are migrated to Munsys spatial tables with ease.

The **Munsys Export Utility** enables the exporting of spatial data to formats supported by various GIS vendors. The **Munsys Schema Utility** prepares the Munsys schema to store spatial and attribute data for Munsys database structures. The user also has the option to export data or drop a schema, using this utility. The **Munsys Schema Update Utility** is designed for existing Munsys users to upgrade current database structures to Munsys 9.2.

Benefits

- security
- application settings
- linked tables
- lock administration
- data validation

Administrator Layout:



- Features:**
- ➔ Allows the administrator to control aspects such as user rights and passwords.
 - ➔ The database administrator configures the required application settings from a central database.
 - ➔ With the linked tables function, users can view data from external sources.
 - ➔ The application caters for lock administration.
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