

MetaCarta GTS geOdrive

Geographic text search for the energy industry

In today's challenging E&P environment, geoscientists and engineers need access to all relevant information to make the best decisions. Critical information is primarily found in unstructured documents, reports, presentations, and papers. Most search technologies depend on the user's ability to specify keywords or phrases.

The unique MetaCarta® technology combines traditional text (keyword) search with powerful geographic search. Users can find all available content related to a specified location and view the results on a map.

MetaCarta GTS geOdrive™ helps upstream and downstream geoscientists, engineers, and managers instantly find documents from vast collections by specifying their geographic area of interest on a map. MetaCarta GTS geOdrive can easily be integrated in a wide range of mapping systems. It enables efficient access to unstructured documents, including reports, papers, bulletins, and Internet content across file shares, databases, and document management systems.

SOLUTIONS

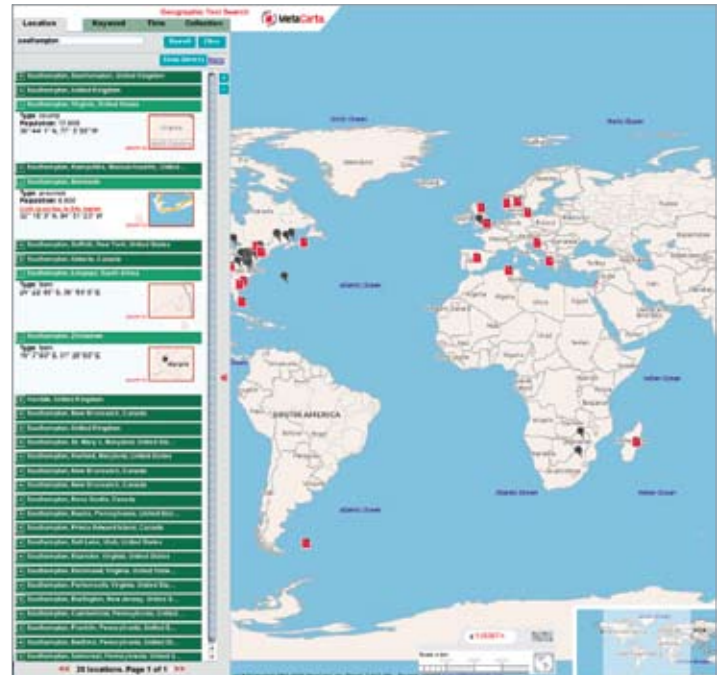
Placing relevant documents on a map goes beyond a typical text search. MetaCarta leverages proprietary technologies to process unstructured documents, tag geographic references within the document's text, and assign appropriate latitude/longitude values.

MetaCarta GTS geOdrive relies on cutting-edge natural language processing (NLP) technology to identify explicit and implied geographic references within structured and unstructured documents. The GTS geOdrive technology has the power to disambiguate place names based on linguistic clues contained within surrounding text. By using MetaCarta's energy industry-specific Geographic Data Modules (GDMs)—known place names and statistical patterns—the GTS geOdrive software can identify references such as "10 miles southwest of Thunder Horse." Furthermore, the system can differentiate between places such as "Cameron" and the field "West Cameron Area." MetaCarta's combined text and spatial index allows the processed documents to be rapidly retrieved based on geographic and textual elements of interest.

BENEFITS

The MetaCarta GTS geOdrive technology

- helps a geoscientist transferred to a new area quickly find geographically relevant reports to form the basis of a new prospect or joint venture
- allows a drilling engineer to efficiently locate a report written by a retired engineer that discusses how to solve a recurring drilling platform problem, regardless of where that document may have been stored
- allows a user to perform the "impossible" search—finding a document that refers to a specific well but not to the field, and vice versa.



GTS geOdrive Web interface.

PROCESSING DOCUMENTS

MetaCarta GTS geOdrive takes in documents from a variety of sources, including Internet and intranet sites, local hard drives and network shares, databases, and content management systems. The system retains a record of each document's source, which it presents as a link when that document is referenced in a search result set. For each document, MetaCarta uses NLP to extract and compute

- a latitude/longitude (lat/lon) coordinate for each geographic reference
- a GeoConfidence score for each geographic reference (estimated probability that the assigned lat/lon is correct).

The GTS geOdrive software analyzes documents by

- using NLP to identify explicit and implied geographic references within a document
- disambiguating the place name and assigning geographic coordinates/confidence values to potential locations as defined by the MetaCarta gazetteer
- indexing the geographic coordinates to make the document searchable
- using the GTS geOdrive Web GUI.



TECHNICAL SPECIFICATIONS

User interface

- Browser-based (default): Netscape® v7.0+; IE v5.5+; Mozilla® Firefox® v1.0+; extension for ESRI®

ArcMap

- v9.x

Base Map

- Map backdrops based on the Digital Chart of the World (DCW); useful to 1:1,000,000 scale; Military Specification Mil-C-89009. Also complies with third-party maps

Supported document types

- ASCII text files with or without extensions (.txt, etc.)
- HTML documents (.htm, .html)
- Adobe® Acrobat® files (.pdf)
- Adobe PostScript® files (.ps)
- Microsoft® Word® documents (.doc)
- Microsoft Excel® spreadsheets (.xls)
- Microsoft PowerPoint® presentations (.ppt)
- Rich text format documents (.rtf)

Updates

- New releases shipped directly from MetaCarta on DVD/CD-ROM

Operating system

- Linux®

METACARTA GDM

MetaCarta's GDM contains millions of names with locations, statistical patterns, and tuned geographic rules. For oil and gas users, MetaCarta has expanded its GDM to include publicly available, industry-specific names and locations. These include administrative areas such as blocks, quadrants, wells, surveys, gas fields, and sedimentary basins. In addition, MetaCarta can create custom gazetteers with internal, proprietary names and locations to ensure maximum search effectiveness within a given company.

METACARTA SEARCH INDEX

In general, search indices can be built based on text and location. A text index allows documents to be retrieved based on keywords. A spatial index allows documents to be retrieved based on a geographic area of interest. MetaCarta GTS geOdrive provides a single index that contains both text and spatial data. This patent-pending technology makes searches very fast.

SECURITY AND ACCESS CONTROL

MetaCarta GTS geOdrive provides strong security at the operating-system, user, and document level. It can be configured to authenticate and authorize users through Active Directory or Basic Authorization, allowing system administrators to control which personnel may submit queries and view documents. The software also retains access permissions of incorporated documents, and filters result sets to ensure that documents are available only to authorized users.

REGIONSEARCH

The GTS geOdrive software can filter results based on a specific geopolitical region (country, state, city, water body, etc.), which provides greater support for geoscientists or engineers concerned with a particular area of interest. RegionSearch provides greater control over the results from a search, further reducing the time needed to review information and make a decision.

DENSITY DISPLAY

This advanced analysis feature allows users to see the distribution of an entire geographic text search results set. Users can identify trends and see hot spots, which creates a more complete picture and thus facilitates better decisions.

SAVED SEARCHES AND NOTIFICATION

Geographic text searches can be saved and executed at scheduled times. While users are away or working on other tasks, the GTS geOdrive technology increases productivity and efficiency by working on their behalf— notifying them of information updates or changes related to their area of focus. Stored queries can be shared among a group to facilitate knowledge sharing and social networks. The e-mail, really simple syndication (RSS), instant messaging, and active browser notification modes proactively deliver relevant, targeted alerts to a user or set of users.

SUMMARY

- Searching historical corporate information, public domain bulletins, reports, and abstracts for geographic areas of interest is time-consuming and therefore often neglected.
- Finding the right information quickly saves time and money, providing petrotechnical professionals with all available intelligence relevant to their area of interest.
- Seeking information stored across multiple repositories using keywords and maps simultaneously provides a quantifiable competitive advantage.

SCHLUMBERGER INFORMATION SOLUTIONS

Schlumberger Information Solutions (SIS) is an operating unit of Schlumberger that provides software, information management, IT infrastructure, and consulting services. SIS enables oil and gas companies to achieve breakthrough team performance, unlocking the potential of E&P teams to step-change their effectiveness and productivity. Through our technologies and services, oil and gas companies can drive business performance and realize the potential of the digital oil field.

Schlumberger is the exclusive distributor for the oil and gas sector of the MetaCarta map-based geographic information search technologies from MetaCarta, Inc.

E-mail sisinfo@slb.com or contact your local Schlumberger representative to learn more.

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