Global Search
Search and Retrieval Services

Search, Discover and Utilize Geospatial Information

Overview

Global Search is the content search, discovery, indexing, harvesting and federated component of Web Enterprise Suite (**WES**). It is a sophisticated sub-system used for discovery of geospatial and non-geospatial information and data/data products located either locally and/or federated. **Global Search** was implemented using a modular design and has the ability to "link into" other content management systems, both COTS and open source, to provide organizations with a complete content management and discovery solution. Because it is a **WES** Sub-System, it is cloud-ready for an organization's big data needs.

Features & Benefits

Global Search provides additional features and benefits that go well beyond the competition and include:

- **Faceted Search** - Techniques within **Global Search** for accessing collections of information and content represented using **WES** faceted classifications capabilities that provides users with the ability to quickly browse information and content stored within collections.

- **Protection Level 3 (PL3) Compliance** - A part of Web Enterprise Suite, **Global Search** utilizes a hierarchical, role-based access relationship model between users and information and content stored throughout the enterprise so that information and content is only made available to the users and user communities/groups that are permitted to do so.

- **Service-Based Architecture** - **Global Search** provides programmable Standards-based interfaces that enable access to the information and content via external systems or alternate interfaces. This includes extensions to the ever-expanding mobile computing platform environments.

- **Search Agents** - These agents define content of interest and then instruct **Global Search** to look for this content unattended. Every time this subsystem locates content of interest, the user is notified and the results are made available. Like all components of **WES**, Search Agents follow the **WES** permission model allowing users to make their Search Agents sharable with other users.

- **Structured Data** - With **Global Search,** structured data is any data and/or metadata that can be stored regarding an item or asset. **Global Search** includes a Discovery Metadata Catalog (DMC) with information and content stored within collections so that data of a similar nature can be easily referenced.

- **Unstructured Data** - **Global Search** can turn your unstructured data into data that can be easily cataloged, discovered and accessed through intuitive user and interfaces.

- **Metadata/Data Harvesting** - **Global Search** has an advanced harvesting system that provides for the harvesting of both structured (databases, structured files, etc.) and unstructured (system directories, Web trees, User Generated Content (UGC), etc.)

- **Systems Connectiors/Adaptors** - Included is a library of "out-of-the-box" modules/interfaces for connecting other systems, both internal and external , to the organizations enterprise content held within Enterprise Search. Thus making it easy to reach out to all content of interest making it discoverable and accessible through a common set of user interfaces. The library includes connection to Corba-based GIAS libraries that are used for storage of imagery and related geospatial data products used in military and defense agencies.

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Delivering Innovation

Sophisticated and Intuitive Global Search and Content Management
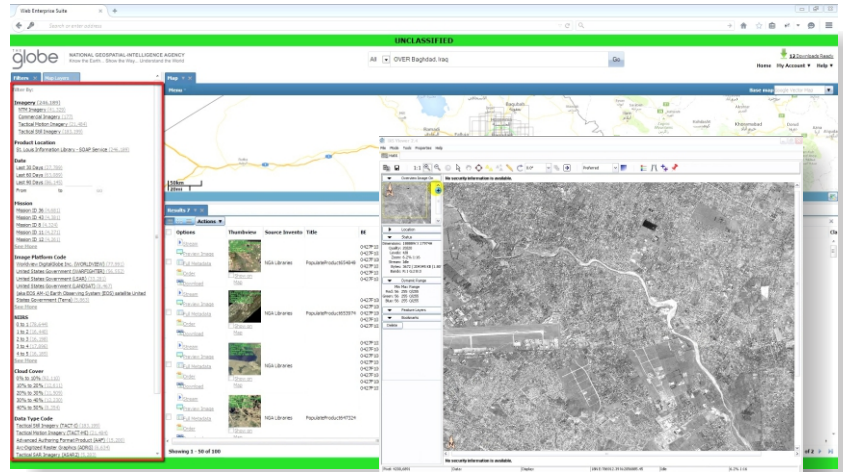
Discovery Management

Global Search provides users with the ability to discover, view, assemble and obtain desired data and services for a particular area of interest, without needing to know the details of how the data and services are stored and maintained by data custodians within and external to the organization. The objective is to meet this vision by providing tight integration into an organizations services and infrastructure and to provide an efficient and effective method to link content, services and data (geospatial/non-geospatial) for easy access by the users. Global Search provides three content indexing engines:

Discovery Metadata Catalog (DMC) - The DMC is a relational database used to store information and content from sturctured systems and data. This infrastructured supports both:

- Harvestable - Systems within the enterprise will be queried by the DMC for the purpose of harvesting structured metadata content into the catalog.

- Federated - In some instances an enterprise system that cannot be queried for the purpose of harvesting the metadata content. In these cases, the DMC infrastructure will be used to query the external system on behalf of the user using the system's native interface.

Apache Lucene - An open source full-featured text search engine library written entirely in Java and supported by the Apache Software Foundation.

Apache SOLR - An open source enterprise search platform built on Apache Lucene. Solr is highly reliable, scalable and fault tolerant. It provides distributed indexing, replication and load-balanced querying, automated failover and recovery, centralized configuration and is used by many of the world's largest internet sites.

Sensor Management

Global Search includes a special component to allow users to discover and access real-time or near-real-time data collected and/or observed by sensors.

Depending on the capability of the devices being accessed, there are options provided within Global Search that enable the tasking and control of sensors including the ability to extract alerts and other conditions maintained and known by the sensor.
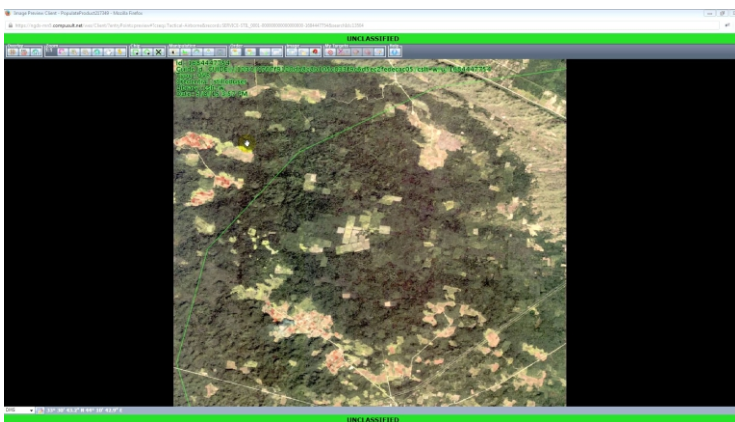
This component of Global Search utilizes standards from OGC with sensor type adaptors and module interfaces for providing access to a wealth of sensor types. Sensors are categorized within WES into two broad categories:

- Stationary Platforms - These sensor platforms are fixed to a known location.

- Platforms in Motion - These sensors provide data as the platform moves on the earth.

Global Search is a component of:

Compusult's Web Enterprise Suite (WES); a suite of SOA-based applications and toolkits that support Web mapping, sensor integration, information cataloging, discovery, retrieval and delivery services. **WES** is used by many organizations to support situational awareness and real-time operations.