



Web Enterprise suite

Product Overview

Geospatial Data Discovery,
Management & Decision Support Solutions

Global Search, Situational Awareness, Collaboration, Mobility



Homeland Security, Emergency Response, Law Enforcement, Public Health and Safety

COMPUSULT
Delivering Innovation



Geospatial Data Management & Decision Support Solutions



Overview

Web Enterprise Suite (WES) is an integrated suite of applications, based on open standards, providing geospatial data discovery, exploitation, management, dissemination, information sharing and collaboration within a comprehensive, interoperable, geospatial data management system.



A Complete, Location-based, Data Management Solution

WES contains tightly integrated, open standards-based applications providing one of the only interoperable, geospatial, end-to-end data management solutions available. Each component has been strategically designed to integrate and work with each other.

Whether it is first responders feeding data and information back to central decision makers, or analysts and planners searching many disparate data sources for vital information, **WES** provides the tools and framework necessary for quick, accurate and informed decision making through increased situational awareness and an improved common operational picture.

WES and **GO Mobile** provide the platform for discovering, accessing and managing images, maps, charts, terrain, features, reports, files, videos, text documents and many other data sources including real-time sensor data. By using this suite of integrated, standards-based tools, users can now easily find relevant information without switching between multiple systems or use the **Portfolio Manager (PM)** as a management tool to organize, manage and track all geospatial information from diverse sources such as UAV data or intelligence documents, available internally, externally or cross domain.



Environmental Management

Emergency Response

Public Health and Safety

Homeland Security

Law Enforcement

Situational Awareness

What Can WES Do for You?



Search and Retrieval Services

Global Search

Search, Discover and Utilize Structured *and* Unstructured Data

1. Global Search and Discovery

National Intelligence requires immediate access to geospatial data at all times. It could be for information for a military mission, or data to assist in locating a missing vessel. In any case, officials require systems in place that allow the easy and swift discovery of geospatial information for all operations.

Global Search is the key search, discovery, indexing, harvesting and federated access sub-system of **WES**. It is a sophisticated, high performance full-featured search engine providing easy and intuitive access to information/content for **both structured and unstructured data**, including data/data products, located through-out the enterprise.

By employing three content indexing engines; Discovery Metadata Catalog (DMC), Apache Lucene and Solr, users can discover, view, assemble, organize 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.

WES Vault is the data warehouse management component of **WES** for ingesting, receiving, searching, cataloging, ordering and delivering data product libraries and collections. The application is composed tightly integrated modules that provide the ability to catalogue and organize data and data product holdings, and provide users with the ability to access, analyze, organize and share/distribute information and content.

In conjunction with the **WES Vault**, other components and toolkits of **WES** enable **Global Search** and data discovery:

WES Catalog, a component of **WES**, military officials can access vast amounts of location based information, and use this data to support command and control tactics. **WES Catalog** is a comprehensive, standards-based, catalog creation and management application providing discovery, publishing, access and maintenance of web-based service metadata. Officials can search, manage and access geospatial information from both structured data (satellite imagery catalogs, air photos, web services, data catalogs, sensor data and other ISR systems) and unstructured data (file directories containing pdf, image files, documents, video, etc.). All available from a variety of end user interfaces.

Meta Manager is an effective solution for metadata management for both structured and unstructured data. It supports exposing metadata, contained within relational database management systems, by mapping metadata attributes to a metadata standard. Included profiles are ISO 19115 plus NAP, FGDC, DDMS, Dublin Core and others are easily added. For unstructured data, Meta Manager will crawl directory systems, detect files (all files supported), and automatically extract the metadata for effective search and discovery. These holdings and data assets are then exposed via Web-based interfaces using the Open Geospatial Consortium (OGC) standard, Catalog Service for the Web (CSW).



Portfolio Manager for Incident-Event Management



Data Fusion Organizing, Collaborating, Visualizing

2. Collaboration and Decision Support

Public Safety and Intelligence officials consistently require geospatial data for daily operations. They search and discover satellite imagery, sensors, files, images, maps, web services and other document and data necessary for mission specific tactics, and often access large amounts of data. It is imperative, once users are able to access data, they have systems in place to effectively manage the information for superior decision support.

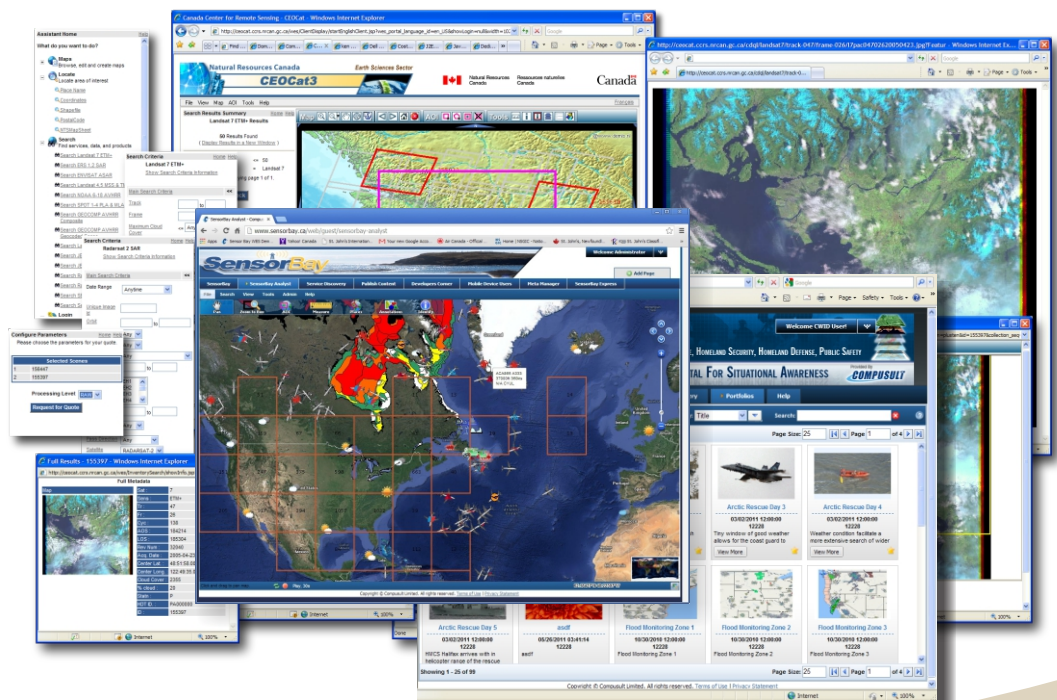
WES and its **Portfolio Manager (PM)** offer organizations the ability to better manage and share information. The **(PM)** can track and manage content within user-defined themes by aggregating remote sensing data, RSS feeds, imagery, videos, audio, sensors, documents and social media. It also provides users with the ability to upload and georeference files and documents associated with the portfolio of interest. This process supports decision making as it opens the information flow, and manages data that is discovered and relevant to the organization. The **(PM)** is a tool for displaying and managing a Common Operating Picture (COP), and creating situational views that organize and visualize content from disparate data sources and applications for a particular area of interest or topic.

3. Visualisation / Data Fusion

WES is ideal for organizations requiring access to vast amounts of disparate, data and information. Military and intelligence agencies are examples of organizations that have large data holdings, and use this information on a daily basis to make informed, strategic decisions. Taking multiple forms of distributed data and merging the findings creates a Common Operating Picture, improving visualization and ultimately decision making.

WES Analyst is a key visualization component that allows users to build a more comprehensive COP by accessing and combining disparate geospatial data, sensors and services into a single managed view. Using the included map viewer, or a 3rd party map viewer such as Google Earth, officials can visually fuse findings from multiple sources using OGC/International standards and specifications. **WES Analyst** also provides the ability to track and visualize moving objects in the map using open standards.

When military commanders require strategic direction for mission specific tactics, it is vital intelligence officials use various approaches to analyze all information, as well as geospatial specific data. **WES Analyst** provides users with an advanced user interface for geospatial exploration, discovery and access, and also provides users with a quick and easy way to view, create and assemble unique situational views.



Web Enterprise Suite Mobile Situational Awareness



Mobility & Security



4. GO Mobile

Working in any industry in today's environment requires individuals to be on the move and have easy access to information related to work tasks. Industries such as Homeland Security, Public Safety and the Military are no exception, and personnel may typically need to use their mobile devices for retrieving geospatial data and services, **even in disconnected or limited bandwidth environments.**

GO Mobile is a mobile application for devices such as Android and Windows phones and tablets, giving users the ability to easily search and access products through **WES**. Encompassing several valuable features, it not only provides users with the option of sharing information with others through the mobile device, but **GO Mobile** also enables officials to use their device of choice for Situational Awareness and Common Operating Picture functions.

An Android or Windows device can become a "sensor", capturing and sharing data such as the device location, imagery, situational information such as conditions or events and other sensor data. **GO Mobile** is an added feature of **WES**, supporting organizations that require fast, secure and reliable access to geospatial information for decision making purposes.

5. Security & User Management

Officials in the military and homeland security access and share information on a daily basis and require systems that are highly secure. With the **WES Portal**, administrators can understand, discover, access, share and organize geospatial information and content.



WES Portal provides a highly customizable open source portal framework to help organizations communicate and share GIS information more effectively. It is a pre-configured collection of geo-portlets and servlets that provide the ability to quickly deploy standards-based geospatial portals. In addition, **WES** can now be integrated within **Microsoft SharePoint** infrastructures.

Officials in national security may only require specific senior personnel to have access to certain data. With **WES Portal**, data can be restricted for different users with its fine-grained permissioning, and it allows administrators to easily manage users, organizations, locations and roles through an advanced portal framework interface. End users can belong to secure, managed "Groups" or "Communities", ensuring confidential data is contained within appropriate groups.

WES IoT Platform

Store, Manage and Deliver High Volume Imagery & Video from Body-Cams, Dash-Cams, City-Cams, UAVs, and Mobile Devices



Store, Access and Manage Big Data from the Internet of Things (IoT), Sensors and Mobile Devices

6. High Volume Data Management

The **WES IoT Platform** is used to access, store, control and interact with data from IoT, mobile devices and sensors of all types. It provides easy information access in support of missions, events, incidents, surveys, environment monitoring and disaster management. Users in the field can now connect with components needed to prepare, respond, recover and mitigate any issues as and when they occur.

WES is the collaborative backbone to the IoT platform. It manages, stores, tracks and collects all geospatial and non-geospatial information and content as and when it becomes available using the key components of **WES IoT Platform; WES SensorHub, ImageSTOR, and GO Mobile**.

WES Sensor Hub

Sensor Hub is a combination of software and hardware allowing users access to proprietary sensors that would otherwise be difficult to access. It uses configurable drivers to access sensor data and make it available via OGC standards such as WMS, SOS and SensorThings. Users have access to both real-time and historical data because the **Sensor Hub** can store data that would typically be lost. Large datasets, such as UAV or body camera data, can be stored and accessed using the **ImageSTOR** component. **Sensor Hub** can also be used to define rules for alerting users via a configurable variety of methods such as email, text, MQTT, etc. or even task a device. **WES Sensor Hubs** allow for standardized access to current and historical sensor data as well as alerting and tasking capabilities.

ImageSTOR

Specifically designed and developed to support capture, storage and cataloging of photos and videos generated using body worn cameras or other media capture device.

By using **ImageSTOR**, **WES** is a logical solution for the storage and cataloging of the huge amounts of data generated by body

worn and other types of cameras, mobile devices and sensors. **WES** has a long history for being used in support of satellite imagery archives, some of the largest data archives in the world, for defense, government and commercial customers.

GO Mobile

The **WES** mobile App for devices such as Android or Windows phones and tablets, to easily discover, access, share and manage geospatial content and other data and services through secure wireless communications, even in **disconnected** environments. It also provides a complete platform of sensors that can be accessed and exposed through the **Sensor Hub**.



Other Capabilities and Standards

Other Benefits

WES makes it easier, faster and less cost government agencies and the public to other location-based information. In addition, individuals can now access location bas anywhere, even in disconnected envi

WES provides a complete framework d

- rapidly discover and access informati
- easily publish/reference information, **WES** infrastructure.
- integrate new functionality;
- provide connectivity to legacy/herita
- enable visualization of information in presentation environment and temp
- provide new standards-based connec stores and systems; and,
- work within the desktop or Mobile environment.

A Spatial Data Infrastructure

WES is an integrated suite, composed of open source, standards-based, applications and proprietary components enabling the efficient construction of spatial data infrastructures.

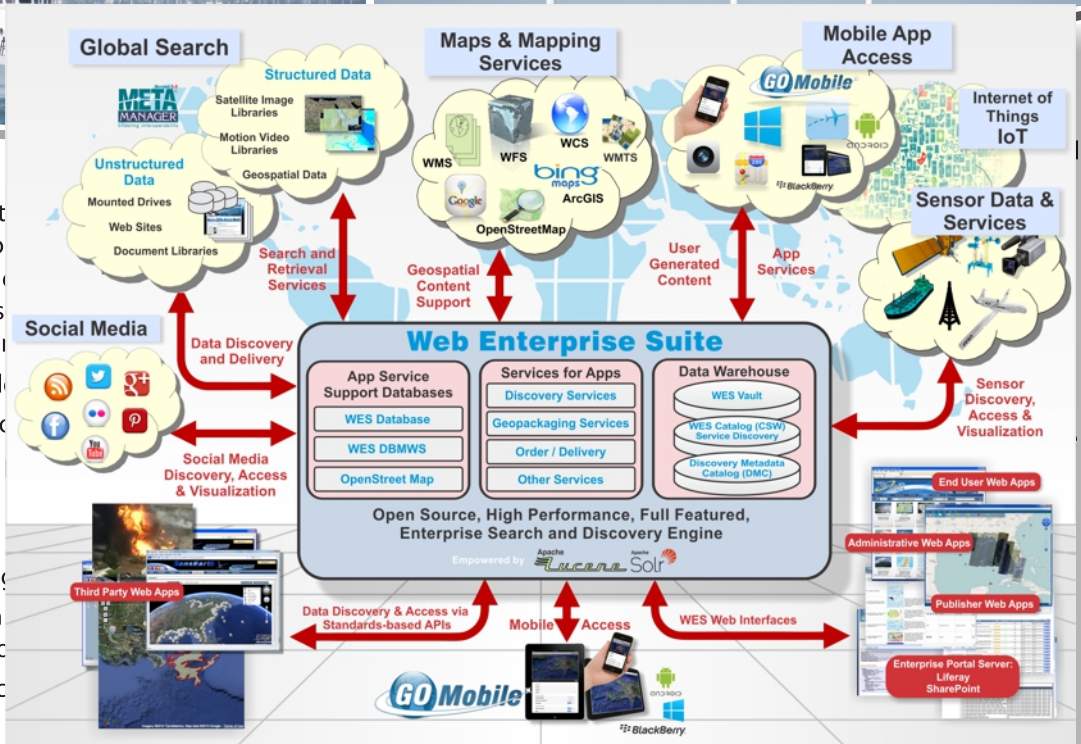
Disparate data sources can be transparently integrated into a coherent data publishing, analysis and retrieval portal, without having to reformat or restructure the data.

WES is comprised of over a twenty main components, many of which are stand alone applications, and have been specifically designed to be integrated with each other, other third party applications (clients/servers) and a wide variety of open source software.

Integrated Security

WES includes security components that can be integrated with standard Internet/Defense security policy decision services through Net-Centric Enterprise Services (NCES).

Scalable



Web Enterprise suite

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Clients of Web Enterprise Suite

- The U.S. National Geospatial-Intelligence Agency (NGA)
- The Canadian Department of National Defence (DND)
- Natural Resources Canada (NRCan)
- The Department of Homeland Security (DHS)
- The Canada Centre for Remote Sensing (CCRS)
- The Earth Observation Data Management System (EODMS)
- The U.S. Geological Survey (USGS)
- National Aeronautics and Space Administration (NASA)
- Urthecast
- National Air Photo Library (NAPL)
- Public Safety (Canada)

About Compusult

Compusult is a privately held information technology company incorporated in 1985 and in continuous operation for over 30 years. We provide world leading, interoperable, data search, discovery and management solutions. We also offer many other value-added products and services including custom software, systems integration and consulting. These products and services are marketed to government, business, technical and scientific sectors with great success, ensuring a well established client base. Compusult currently operates out of its head office in Mount Pearl, Newfoundland and Labrador, Canada.

Compusult has over 20 years experience in the design, development and implementation of Web-based, geospatial data management and decision support solutions including many projects deploying Web-based tools for the search, discovery, visualizing, retrieving and publishing geospatial data from GIS databases, air photos, or satellite imagery libraries.

Compusult holds GSA Schedule Contract No. GS-35F-0373P. This provides best value and facilitates acquisition of our products and services by U.S. Government departments and agencies.



To learn more about **Web Enterprise Suite** visit our WES Site at webenterprisesuite.com or email: info@compusult.net

Mount Pearl, Halifax, Ottawa, Chantilly, VA
40 Bannister Street Mount Pearl, Newfoundland, Canada
(709) 745-7914 Fax: (709)745-7927
Internet: www.compusult.net
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