# The National Geospatial-Intelligence Agency

June 2013

## The Problem: Data Not Found

The National Geospatial-Intelligence Agency is the primary source of geospatial intelligence for the Department of Defense and the U.S. Intelligence Community, with some 16,000 civilian employees, contractors and military personnel. Making this data available and accessible, while keeping it secure is a big challenge! NGA director Letitia A. Long has made it one of her top priorities to make the right information available at the right time to the right people. At the 2012 the GEOINT Symposium she said that the agency was committed to making its content discoverable, accessible and usable across multiple domains.

Her challenge is not unlike the one faced by CEOs everywhere.

IDC's report "The High Cost of Not Finding Information" states that enterprise content is growing by 80 percent every year, and this content explosion is overloading knowledge workers. What IDC also found was that while executives believe that information discovery should be easy and they call sharing between workers "mission critical", most employees were unable to unlock these resources and ended up duplicating resources or worse, making bad decisions without all of the information.

The second problem is that even when search is implemented, some of the data is tucked away on a "shadow" intranet — the desktop computer, someone's

laptop, or an old hard drive. IDC estimates that 35 percent to 50 percent of information is locked away in some offline repository that is unavailable to the rest of the organization. GIS managers call this “data hoarding.” No matter the reason, the problem with inaccessible data is that no one else can leverage the information. Enterprises need to accept that there will always be little pockets of data here and there, and figure out how to provide that in a unified search.

Analysts, like the ones that NGA supports, are fighting these challenges, along with one unique to their field: The information they need is often specialized geospatial data, and therefore not optimized for search in traditional enterprise search engines.

In this context, Ms. Long outlined two strategic goals for NGA in the coming year:

1. Provide online access to GEOINT data
2. Broaden and deepen the analytical expertise of the organization to extract more value from the data.

## The Solution: Spatially Enabled Enterprise Search

Voyager fits this need by providing an easy-use, out-of-the-box search solution that can support a wide variety of users around the globe. It is open and scalable, but with advanced security. Voyager can index a wide variety of content. But most importantly it is the only spatially enabled, enterprise search solution.

Voyager can index:

- A vast array of geospatial datasets and document types

- Web mapping services
- Web portals (OGC, Inspire, Esri ArcGIS Online)
- Non-spatial formats (as is done in the Google Search Appliance)
- Document management systems (Sharepoint, Documentum etc.)
- Database tables (allowing discovery of individual rows / features)
- FTP and Web server content
- Other search engine content whether it's from Sharepoint, GSA, Vivisimo, etc.
- Geotag non-spatial documents

This allows organizations like NGA to find content regardless of what type it is or where it is stored.

Voyager's federated search links indexes together to enrich results and simplify the user experience. Users can investigate multiple Voyager indexes with a single query, and gain access to more data, more efficiently than ever before. By installing Voyager at each location and then linking the indexes together, NGA could achieve the one-search vision.

Another advantage of Voyager is that it fits with existing workflows. Organizations simply install Voyager, point it to their content and then build an index automatically. Metadata is not required, but leveraged if it exists. Then Voyager's catalog references the location of data, but does not copy it. This allows organizations to deliver content through existing data dissemination and security infrastructure. When needed, Voyager adds additional value by securely delivering content via it's own HTTP download or via spatial-ETL processes.

## Voyager for End Users

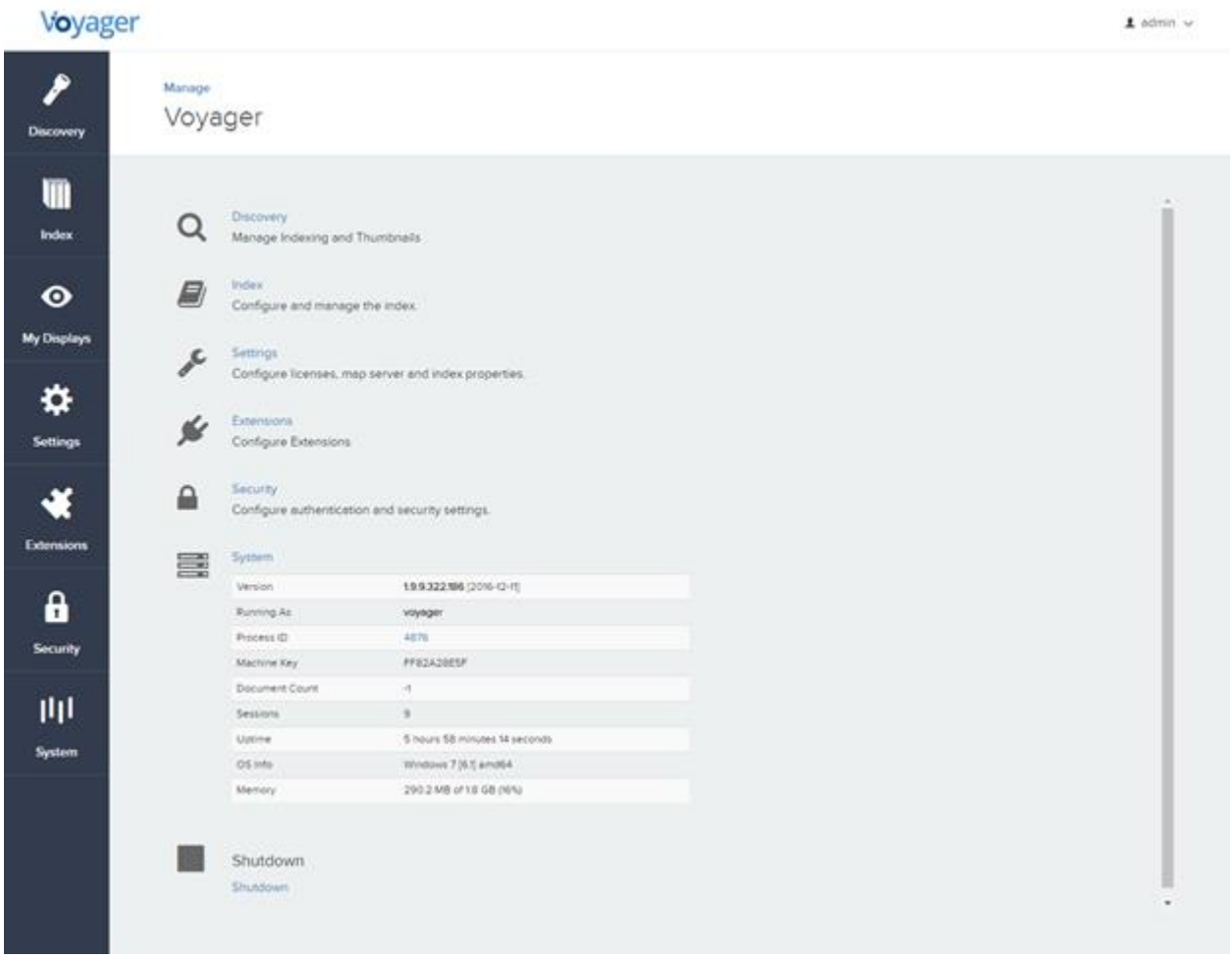
Once the index is built, workers can start to extract the true value of the system! Voyager allows workers to to easily find, use and share data so that they can improve decision-making, be more productive, reduce duplication of effort and even allow their information to be discoverable by anyone in their organization without specialized software.


Voyager's web UI and ArcMap integration help analysts easily find, use and share content. They can find the content by drawing a spatial extent, entering a keyword search, using filters, or all of the above. The results are visualized almost instantly as thumbnails with contextual information determined by the data manager and the results are also shown in geographic content on an interactive map. The thumbnails and overview map make it easy to preview items and provide the relevant geographic context. Further, Voyager's new database connector allows users to search content stored in database tables as easily as they search the web. This

frees them of having to understand database schemas and complex query languages.

## Voyager for Data Managers

Data managers can clean and harmonize the content their collection by finding and removing duplicate data. They can save money by avoiding the purchase of duplicate data licenses. They can improve an analyst’s ability to make decisions in a timely manner by promoting authoritative content. They can understand what types of content is most used so that they spend money on what is needed most. To avoid costly errors, they can inventory maps and analytical models ensuring they leverage the most authoritative resources. And finally, they can efficiently deliver data to users in a modern search experience.




## Voyager Enterprise Architecture

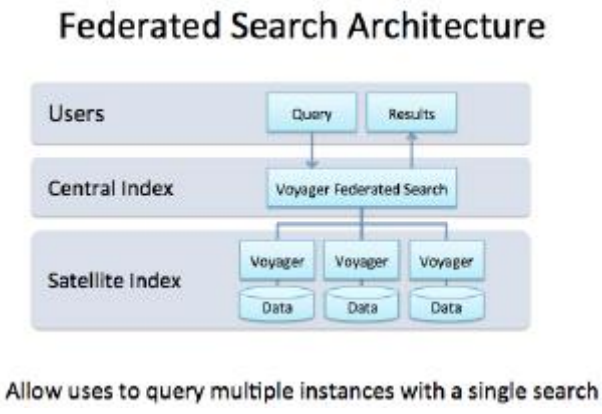
In order to provide online, on-demand access to every piece of data, a global organization must not only manage accumulating information but also make it discoverable across that enterprise. With information in so many different places, locating individual repositories through multiple interfaces can make this nearly impossible. That’s where Voyager’s federated search comes in.

Voyager’s federated search provides an easy-to-deploy solution that allows a large organization, like NGA, to simultaneously search across multiple Voyager indices. The user would make a single request that would provide unified results from multiple Voyager instances.

This allows organizations to create a single view of all of their available data without storing all of the data in one place or even storing it in one way.

Voyager can be pointed to wherever the data exists. Once content is indexed, data owners can use Voyager to search remote data as easily as searching their own hard drive. Each Voyager instance can also be linked together to see other content all while honoring existing data dissemination and security infrastructure.

By acting as a catalog rather than a storage system, content can stay wherever it is and existing systems will continue to work. This eliminates costly data migration and system re-engineering. At the same time, Voyager can be used to find and promote authoritative content along with delivering processes to migrate data from tucked away systems.




Allow uses to query multiple instances with a single search

## Conclusion

Voyager Search delivers a complete and open enterprise search solution that provides value to the GIS professional and data manager alike. The solution helps organizations save money and spares teams inefficiency and frustration by reducing rework and aiding better decision-making. There's no change in your existing

workflow as Voyager software works within existing systems and infrastructure. Organizations that rely on and utilize geospatial information deserve a search solution developed to understand it.