



MTCSC GOOGLE SEARCH APPLIANCE DEPLOYMENT

C A S E S T U D Y

OVERVIEW

One of MTCSC's most valued customers was faced with reducing or eliminating the threat of Improvised Explosive Devices (IEDs).

This type of weapon when used in asymmetric warfare has become the weapon of choice of hostile combatants and poses a serious threat to the safety of America's armed service members deployed in combat zones or areas of civil unrest. Our customer works aggressively to deliver counteractive measures to support the War Fighter as rapidly as possible. Our customer is tailored to the urgent needs of the combatant Commanders to bring them quick reaction capabilities (QRCs).

In support of the urgent need, MTCSC was solicited for and delivered a set of capabilities that would easily enable collaboration, enterprise search and content discovery. Due to past performance successes, the customer faced with the IED threat reduction mission asked MTCSC to support the initiative. To date, MTCSC has deployed over 25 Google Search Appliances© world wide in support of the project, which are currently crawling 2500+ data sources in support of five combatant Commands. Within the next six months over 56 appliances will be employed in the project. The program provides America's leaders with a previously impossible global search capability that enables immediate access to information.



SYNOPSIS

Challenge

A MTCSC customer required rapid access to relevant data from 2500+ of data sources in a highly distributed and complex network environment. The network spans multiple countries and continents which are all interlinked in the global war on terrorism.

Solution

The customer reached out to MTCSC to provide a robust enterprise search solution that was capable of evolving with the ever changing data environment used to attack the IED threat. MTCSC deployed the Google Search Appliance© to simplify search for the organization's analysts. The solution provides an enterprise search mechanism across a complex data sharing environment that can quickly be adapted to the emerging and asymmetric threat.

Product

Google Search Appliance (GB-1001)

Benefit

MTCSC took the Google Search Appliance© and plugged in the relevant and complex data sources related to the IED threat ranging from websites and custom feeds to relational database platforms and internal file systems. It immediately provided an enterprise search platform providing relevant results that could be viewed contextually as well as geospatially.



ENGINEERING EXCELLENCE, PROFESSIONAL INTEGRITY

In preparation for the future, MTCSC was asked by Google to evaluate the Google Search Appliance 6.0 beta release. MTCSC worked with Google to identify a couple of different case studies that were based on actual customer requirements to test and validate the Dynamic Scalability features of the 6.0 release. MTCSC engineers were very excited about integrating this new Google Search capability which provides a way to share and mash up different geographically located Google Search Appliances. Over the last couple of years MTCSC has helped one of our customers field over 52 Google Search Appliances globally. The 6.0 release introduces a new Dynamic Scalability feature that provides a turnkey mechanism to share data in an unprecedented fashion without requiring additional maintenance burdens.

The new Dynamic Scalability capability provides a truly unique net-centric, out-of-the-box, capability that dynamically enhances the operational effectiveness of the Google Search Appliance. It truly addresses the issues with operating within DoD networks and Net-Centric Warfare. It provides an easy to use out-of-the-box capability to dynamically query multiple Google Search Appliance indexes that are geographically dispersed and still achieve the same performance outcomes expected by Google.

THE CHALLENGE

IED relevant data is comprised of a mixture of data types from unstructured documents to structured relational data sets and data sets which contain detailed geo-spatial relevant information. Most of these data sets are contained within separate data stores which provide no linkages. The customer previously had no adequate way to provide a single user interface that could seamlessly search these various IED related data holdings and other assets within the

Department of Defense (DoD) Intelligence Community (IC). Users were forced to use alternative search technologies and location to find information that was not focused purely on the Counter IED Concept of Operations (CONOPS) and thus proved to be unsuccessful. Additionally, changes to the data sources being indexed required development changes, testing then release. This has a time delay that severely impacted our customer.

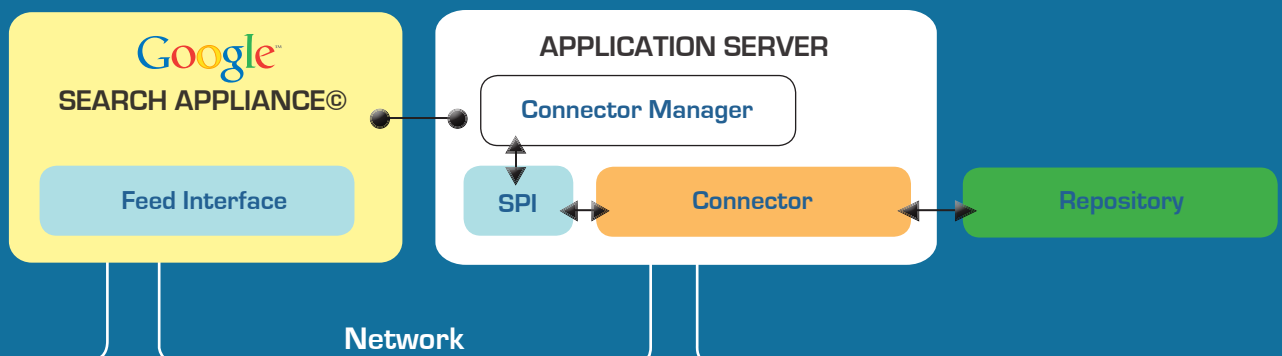
THE SOLUTION

MTCSC was familiar with enterprise search tools and understood the issues related to integrated and federated enterprise solutions. Simple, ease of administration, and ease of integration were the keys to selecting a technology. MTCSC's research identified Google's advancements in refined hardware, cable placement, API's, a Connector Framework, and Map Integration which made them a possible vendor in support of our solution. Analysis revealed lower operating costs and added flexibility for MTCSC with the ability to scale as demand for computing resources increased.

MTCSC integrated the Google search capability into the portal interface to provide the user with a single point of entry. With the single user interface challenge resolved, Google's innovations gave a competitive advantage few of it's rivals could equal, and was subsequently chosen as the backbone for our implementation. The Google Search Appliance© was a clear choice to solve the ever changing data needs and requirements for our customer.

The Google Search Appliance© infrastructure offers the following capabilities:

- ▶ Open, flexible framework
- ▶ Index documents and other object types
- ▶ Register and manage connectors
- ▶ Security SPI for authentication and authorization
- ▶ Rapidly add or remove data sources
- ▶ Dynamic Scalability, a feature in Google Search Appliance 6.0, enables users to integrate multiple search appliances to obtain a unified set of results





ENGINEERING EXCELLENCE, PROFESSIONAL INTEGRITY

THE BENEFITS

Providing comprehensive search of all enterprise content creates enormous benefits for analysts and the intelligence community, including:

- ▶ **Relevant results** - Obtain the right document within the first few results. Work has been leveraged and the Google Map algorithms are optimized.
- ▶ **Unified search** - Save time by having one search box for all of your intranets, content management systems, and business applications regardless of physical location.
- ▶ **Scalable** - The Google Search Appliance© can grow with your organization over time to handle all of your content.
- ▶ **Secure** - Integrate with your access control systems so users only see what they are authorized to see.
- ▶ **Familiar user interface** - Provide your users with the same ease of use and intuitiveness as Google.com.

THE END RESULT

Within 72 hours of implementation, the Google Search Appliance© provided an immediate capability to search websites, file shares, relational database platforms and content management systems such as Microsoft Office SharePoint Server (MOSS) and provided a unified view of relevant information. Upon going live, the successful crawling of 3 million documents spanning 100+ data sources was validated. The following week, a second device was added to crawl an additional 3 million documents. Currently, the enterprise solution indexes in excess of 40+ million documents worldwide. Indexes are expected to be over 90+ million within the next six months. Installation of the appliance was as simple as racking the equipment, making a few minor network configuration tweaks and configuring the crawl patterns. The end result was an index of relevant IED related information that had not existed previously.

The process has led to MTCSC supporting over 54 installations of the Google Search Appliance© across the globe spanning three continents. Integration has been performed with Google Earth Enterprise and Google Maps to provide a geospatial representation of information directly obtained from the Google Search Appliance©. The integration provides a unique way to view the intelligence information that was more meaningful for the Analyst. Users can filter information geospatially as well as view the search results in a 2D and 3D geospatial representation.

MTCSC has also integrated the capability to query multiple Google Search Appliances©. MTCSC was asked by Google to evaluate the Google Search Appliance 6.0 beta release. MTCSC engineers were very excited about applying the new 'dynamic scalability' feature of this release, which provides a way to share and mash up different geographically located Google Search Appliances.

Within the customers organization, there are entities which specialize in key sets of information. Project information, when linked with additional information can provide linchpins in the intelligence process. Users have to be supplied with intelligent tools that can seek out this information pro actively without the end user specifically asking for it. With dynamic scalability, authorized users can spawns queries automatically to additional Google Search Appliance© in the enterprise and return results based on the end users' query criteria. The mechanism provides a proactive measure against the end users' request to provide the most relevant, up-to-date intelligence information possible. This feature would provide a turnkey mechanism for our customer in an unprecedented fashion, without requiring an additional maintenance burden.

With the variety of data holdings, complex networking environments and rigid deployment logistics, the Google Search Appliance©

provides a fault tolerant, easy to manage and maintain system that greatly increases the operational effectiveness of the Analyst in the field. Analysts now have the ability to query thousands of data sources at the click of a button. These capabilities ensure the overall mission to deliver relevant information to a counteractive measure to the armed forces as rapidly as possible with efficiency and success.

THE GOOGLE SEARCH APPLIANCE©

The Google Search Appliance© is an integrated hardware and software search solution that extends Google's award-winning search technology to websites of all kinds, including corporate sites and intranets. Organizations can use Google Search Appliance to make data on servers, content management systems, databases and business applications instantly and securely available from a single familiar search box. The latest Google Search Appliance© can search billions of documents, and provides dynamic scalability to unify search across multiple search appliances separated by department or geography. More than 25,000 companies worldwide use Google Enterprise search solutions.

For more information, visit:
<http://www.google.com/gsa/>

MTCSC specializes in applying integrated logistics support, enterprise solution development, engineering, technical and managerial expertise to solve the unique and complex challenges associated with Department of Defense (DoD) and Department of Homeland Security (DHS) operations.

MTCSC
(703) 221-7400
BD@mtcsc.com
<http://www.mtcsc.com>