

## **Government Search Engine Services Deliver Value— Without the Commercials**

### **FirstGov: The Web Portal of The US Government**

#### **Background**

[WWW.FirstGov.gov](http://WWW.FirstGov.gov) is frequently referred to as “The U.S. Government’s Official Web Portal.” It’s an apt description: FirstGov.gov links to the web pages of every federal agency, as well as those of many state, local, tribal, and territorial governments. FirstGov is the most comprehensive site in and about the U.S. government, providing ready access to information on a vast spectrum of government programs.

FirstGov facilitates the public’s ability to interact with government by quickly directing citizens to the services or information they are seeking. Since the FirstGov website was established in September 2000, it has grown to average more than 500,000 page views per day and more than 85 million visitors per year. It links citizens, businesses, federal employees, and other governments and institutions seeking information and services to some 24 million pages of web content provided by more than 22,000 government websites.

When FirstGov was launched, it required browsing functionality with a search engine for government information. This was provided initially through a gift of a fully operational Search Engine index from the Search Foundation and Inktomi. This index supported FirstGov’s visitors and was also shared with other federal agencies. After Inktomi withdrew, the service was outsourced to a hosting provider and supported by an Enterprise Search Engine company.

#### **FirstGov Search Engine Problems Emerged**

However, it soon became apparent that the FirstGov operation lacked the human and technical resources needed to grow, scale, and deliver relevant information as effectively as the commercial search engine companies. These companies were expanding dramatically. They had the ability to generate huge amounts of advertising revenue, which they then invested in advanced technologies.

At the same time, the amount of information available to search engines through the Internet grew at an unchecked pace, making it more and more difficult for FirstGov and its partner agencies to crawl and index the appropriate documents. FirstGov’s inability to scale as well as commercial providers created several key problems:

1. Crawling and indexing operations were not completed properly. This led to:
  - a. a frequently outdated index,
  - b. an inability to capture new documents
  - c. an inability to delete old or substituted documents in an appropriate timeframe.
  - d. a huge buildup of duplicate pages that clogged the index storage mechanisms and compounded the delay in crawling updated information.
2. Older equipment used by the government could not be upgraded or replaced, began to fail, and further compounded FirstGov’s resource constraints. FirstGov had to deal with a number of problems:
  - a. The limited infrastructure could index only a very small fraction of federal documents (8 million documents over 4,000 domains) and had no capacity to include state, local, tribal, and territorial documents. At the same time, commercial search engines such

as Google, Yahoo, and MSN were including documents from all levels of government and providing indexes five times larger than FirstGov.

- b. Site visitors received poor search results for their inquiries and said so in written complaints to the FirstGov staff.
- c. Complaints from partner agencies using FirstGov's index grew exponentially. They expected FirstGov search to function as well as Google and other commercial search engines, and it did not.
- d. Agencies that had partnered with FirstGov in their use of the FirstGov index realized that:
  - They really needed an Enterprise Search Engine service, and
  - Prices for Enterprise Search of any variety (internally run, outsourced) had fallen dramatically due to intense competition.

Partner agencies began to move away from FirstGov.

FirstGov search was unable to provide service comparable to the major commercial search engines. At the same time, however, the cost to FirstGov for its search function had risen to over \$3.2 million per year. All of these costs went into running just the technical operations, with limited resources left to improve citizen services overall.

#### **The FirstGov Solution Unfolded Over Time**

In 2003, GSA management engaged consultants with deep search expertise to assess the FirstGov situation and recommend a plan to improve the FirstGov search. The outcome was expansion of the FirstGov staff to include individuals skilled at search engine strategies and operations. Initial work focused on cleaning up the existing index. While search results improved somewhat, continuing resource constraints still left FirstGov far behind in meeting citizen search expectations in comparison to commercial services.

Conquering this challenge required an innovative solution that had never been tried before in addressing a government-wide program—using the web as a platform for providing citizen services. This approach for providing FirstGov search meant leveraging the features, functionality, and infrastructure of an existing commercial search engine. Major commercial search engines were already crawling and indexing federal, state, local, tribal, and territorial governments. These companies were already leaders and innovators in developing citizen-centric search technologies. Directly leveraging their technologies would allow FirstGov to continuously offer state of the art services to citizens.

FirstGov's next step was to begin a competition to obtain expert search engine services from an outside, commercial party actively involved in crawling the Internet and providing search services on a wide scale. FirstGov required that the provider:

- Be actively engaged in providing Internet search services,
- Have an established minimum index size,
- Be willing to work with FirstGov to build value-added services and deliver FirstGov search results pages from its search engine infrastructure.

All requirements were established to create a first-class, up-to-date service for FirstGov visitors that would also mitigate FirstGov's problem of resource constraints.

### **The New Search Solution Was Launched**

In January 2006, FirstGov launched a new government-wide search solution based on this innovative web-based paradigm. As of this date, the new search solution has successfully overcome all previous challenges. Instead of running its own operations, FirstGov utilizes the content, features, and functionality of major commercial web search engines. In concert with private sector partners Vivisimo, Inc. and Microsoft Corp., the government's most powerful search engine has the following benefits:

- Vastly expands search to include a comprehensive database of federal, state, local, tribal, and territorial documents.
- Increases the universe of government documents from eight million to over 50 million.
- Searches more effectively by leveraging MSN Search, which returns relevant results using state-of-the-art algorithms.
- Leverages Vivisimo's meta-searching technology, which is unique to the government, and provides citizens access to information that they cannot find on commercial search engines.
- Uses clustering technology to organize thousands of search results into categories to help citizens zero in on topics of interest.
- Gives citizens search results they can trust by providing only official government information.
- Costs taxpayers \$1.8 million annually, about half the cost of previous search services, generating savings that can be reinvested into further enhancements.
- Has a preview function that allows users to determine the relevancy of an individual result before leaving the search page.
- Provides enhanced search on Kids.gov, Consumer.gov, and Espanol.gov and over 150 federal agency websites.
- Creates a more citizen-centric government by facilitating citizen access to government information—one of the President's E-Government pledges.

### **Summary**

The new generation of search services at FirstGov:

- Leverages the features, functionality, and infrastructure of two major commercial search engines: Vivisimo's award-winning Clusty.com meta-search engine and Microsoft's MSN Search.
- Provides comprehensive access to all official federal, state, local, tribal, and territorial websites. A search service that focuses on accessing official government web resources is unprecedented in the public and private sectors.
- Saves the taxpayer nearly \$1.4 million per year, while providing substantially more features and functions, including new government-wide News and Images search services—to be launched in summer 2006. The savings will be reinvested in new and unique government-wide search services covering different content types (e.g. video, auctions/shopping, FAQs).
- Is having a broad, positive impact on all levels of government. Not only is FirstGov making content published on federal, state, local, tribal, and territorial websites more accessible, it is also making new types of content available that were previously difficult to access from a single source. Citizens can find official news from the government (press releases, podcasts, feature stories, etc.) without wading through an ocean of partisan third-party sources. Secondly, citizens soon will be able to access image libraries and archives of government institutions responsible for recording the nation's cultural history and scientific discoveries.

The most important benefits to citizens are.

1. FirstGov search provides citizens access to information that has been previously difficult or impossible to find. Vivisimo's clustering technology provides multiple paths that accommodate the different ways citizens look for information.
2. Using a major search company's platform for service guarantees that FirstGov search will always provide citizens with the latest features, functions, and technology. FirstGov search's contract vehicle ensures rapid acquisition and deployment so the service is always in step with the web search and portal industry.
3. The FirstGov search solution costs taxpayers less money than alternatives, while providing substantially more features and services to help citizens easily find information, programs, and services important to their daily lives.

### **The Future**

FirstGov search will continue to keep pace with the latest technology and functionality. Search engine operational savings mean FirstGov has the resources to continuously offer more and better features. That means more visitors can count on finding the information or support they need from their government online easily and successfully—making FirstGov a cornerstone of a citizen-centric government.