

Akamai Helps Air Force Improve Geographic Data Delivery by 800% While Saving Hundreds of Thousands of Dollars Annually



The Situation

Nearly a decade ago, the United States Air Force established a program to help personnel visualize Air Force assets via the Web. The program—called GeoBase—delivers dynamic, high-quality maps as well as raw data for download. GeoBase is used around the world by commanders and managers who need to make informed decisions about their installations. For example, an airfield manager can use the data to develop snow plow removal patterns that minimize flight disruption. The program is even available to families who want to see where their family member is deployed. After 9/11, the importance of the program was escalated due to a growing requirement for imagery and mapping in the desert.

The Challenge

Previously, content was decentralized and each Air Force installation managed its own geographic information. In 2005, GeoBase was integrated into the Air Force portal. This meant that almost 1,000,000 Air Force personnel around the world could access classified content from a central repository. But the Air Force still needed to find a way to deliver large files through a Web browser. "Our library of images and data objects numbers in the thousands, with some files as large as 25 GB. And we were unable to reliably deliver those to users around the world from our centralized architecture," explains Dave Williams, contractor for Air Combat Command at GeoBase.

When someone sought a certain geographic image, they were forced to make lots of phone calls to understand what imagery was available, who owned it, and how to get copies of it. Every week, the Air Force was burning over 400 GB of data onto DVDs and hard drives and shipping them by courier around the world. Without a central way to find needed files—and control access to them—the Air Force wasn't making the most of its geographic information. The Air Force needed a way to reliably deliver large files to users around the world.

The Goal

The Air Force needed to meet four key requirements to support its objectives:

- **Overcome Centralized Architecture Issues** The Air Force did not want to be constrained by the limitations of a centralized architecture.
- **Ensure High Performance and Availability** Because many mission-critical initiatives rely upon fast access to geographic information, the Air Force needed to ensure fast, always available downloads, regardless of the location of the end user or Internet conditions.
- **Guarantee Instant Scalability** With plans to add a growing number of images—and knowing it could not predict demand—the Air Force needed a way to scale to meet growing requests for data.
- **Enable 24x7 Discovery and Delivery** The Air Force wanted to store all of its geographic information online and make it easy for its personnel to find and access needed information—at any time.

Why Akamai

Offloading Infrastructure Concerns

Williams and his colleagues considered a number of options to address their needs. They knew they could build out their local server environment, but that would require additional management. This choice would not allow them to burst when needed and would leave them with a single point of failure, making survivability difficult. Like all organizations, the Air Force wants its systems to function at all times, even in the event of a major disturbance. "Living through Hurricane Katrina demonstrated the perils of a client/server architecture. We were severely limited having all our files in a single location and only one pipe in and out," explains Williams.

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—Dave Williams, Contractor for Air Combat Command at GeoBase



COMPANY

United States Air Force
Washington, DC
www.airforce.com

INDUSTRY

Public Sector

SOLUTION

Akamai Electronic Software Delivery

KEY IMPACTS

- Increased delivery time of large files by 700-800%
- Improved application delivery time by 300%
- Realizes 100% availability
- Saves hundreds of thousands in shipping costs annually
- Removes single point of failure
- Provides instant scalability to support any level of demand
- Enables centralized access and control of geographic data



Why Akamai *(continued)*

Another program of the Air Force—Global Combat Support System (GCSS)—was successfully using Akamai for content delivery and storage of its portal content. This prompted the GeoBase program to evaluate Akamai.

Satisfying End User Requirements

"Because Akamai was delivering Air Force portal content, we knew it could handle large files. But the GeoBase program had a much larger number of files than the GCSS program. And our files were much bigger in size," says Williams.

Initial test results convinced Williams and his colleagues that Akamai was the right solution. "The results were amazing. It took Akamai mere minutes to deliver files that previously took hours or sometimes were never delivered," says Williams. On average files are delivered 7-8 times faster via Akamai.

On top of that, Akamai delivers without fail, allowing the Air Force to comply with survivability standards such as MIL-STD-188. "Prior to Akamai, our average delivery failure rate was 10% for any file over a few MB in size—that's unacceptable. With Akamai, we can guarantee the fast and reliable delivery of data. And even if our central server goes down, say in the event of a hurricane, our files are always available because they are globally distributed on NetStorage," continues Williams.

Delivering On-Demand Scalability

To date, Akamai has been delivering 350-400 GB of data per week for the GeoBase program. The Air Force cannot predict when its portal might get hit with a huge demand for content. "If there's another event like Hurricane Katrina, we need to be able to support Air Force personnel with the necessary information. Akamai provides the scalability we need to handle any surge in demand," says Williams.

Revolutionizing Data Delivery

In June 2006, the GeoBase program was unveiled on the Air Force portal. This means that any user with an access card can find and download any geographic data they need.

"The support Akamai provides for our GeoBase program has enabled us to revolutionize data delivery," says Williams.

In addition, Akamai helps the Air Force manage its content more efficiently. Air bases that do not have a database environment now use a sub-section of Akamai NetStorage. According to Williams, "Air Force personnel around the world use NetStorage on a daily basis to move content via FTP." Because it no longer has to distribute approximately 100 DVDs and hard drives per week via courier, the Air Force is saving hundreds of thousands of dollars per year.

Supporting Forward Thinking

The Air Force is now delivering applications via NetStorage. "We offer Javascript and HTML viewers that are pretty bloated, with lots of chattiness and roundtrips," explains Williams. Instead of delivering these applications from internal servers, the Air Force delivers them almost 3 times faster via NetStorage. "Akamai gives us the freedom to think differently about the information we deliver. Now we can provide war-fighting support that wasn't possible before," concludes Williams.

About GeoBase

The GeoBase program represents a major paradigm shift in how geospatial information resources are being acquired, implemented, exploited, and sustained on USAF installations around the world. GeoBase aims to deliver a comprehensive, integrated geospatial information infrastructure supporting "Blue Force" basing requirements. With the vision of "One Air Force...One Map", GeoBase will give commanders a decision support tool providing a common, georeferenced view of all their infrastructure assets to answer questions such as-what is it, where is it, and what's around each installation. For more information, visit www.airforce.com.

About Akamai

Akamai® is the leading global service provider for accelerating content and business processes online. Thousands of organizations have formed trusted relationships with Akamai, improving their revenue and reducing costs by maximizing the performance of their online businesses. Leveraging the Akamai EdgePlatform, these organizations gain business advantage today, and have the foundation for the emerging Web solutions of tomorrow. Akamai is "The Trusted Choice for Online Business." For more information, visit www.akamai.com.



Akamai Technologies, Inc.
 U.S. Headquarters
 8 Cambridge Center, Cambridge, MA 02142
 Tel 617.444.3000
 Fax 617.444.3001
 U.S. toll-free 877.4AKAMAI
 (877.425.2624)

Akamai Technologies GmbH
 Park Village, Betastrasse 10 b
 D-85774 Unterföhring, Germany
 Tel +49 89 94006-0

www.akamai.com

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AKAMCS-USAF-0407