Gemological Institute of America Improves Performance and Protects its Global Website Using Akamai's Solutions

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>
> **— Vivianne Del Signore,** Director of Digital Communications, GIA

The Situation

Established in 1931, Gemological Institute of America (GIA) is the world's foremost authority on diamonds, colored stones, and pearls. A nonprofit institute, GIA is the leading source of knowledge, standards, and education in gems and jewelry. To deliver on its mission of ensuring the public trust in gems and jewelry, GIA provides education, research, and independent unbiased assessment of gemstone quality through laboratory services. The organization's website is key to delivering these resources and information to consumers and professionals around the world, including the U.S., India, and a growing audience in China, and sees about 2 million page views per month.

The Challenge

GIA.edu is a content-rich site of more than 16,000 pages in four languages, including articles, 20,000+ images, and videos. Delivering this content is key to educating consumers and the jewelry trade as well as keeping the global gemological research community informed. As GIA worked to reach audiences in new areas, including Asia and Africa, it needed to optimize website performance.

In addition, GIA was very aware of the threat posed by potential Denial-of-Service (DoS) or other attacks. Maintaining seamless services is especially important for stakeholders who use the analysis and grading Report Check page, the most heavily visited page on the organization's site. According to Vivianne Del Signore, Director of Digital Communications for GIA, GIA reports are fundamental to the way diamonds are traded between manufacturers and dealers. If the Report Check page goes down, it could impact businesses around the world.

The Goals

GIA needed to meet two key requirements to support its objectives:

- **Improve optimal website performance worldwide.** GIA wanted to ensure markets around the globe could readily access its rich trove of assets and information online

- **Protect against web attacks and hackers.** The organization needed to strengthen its website defenses to avoid DoS attacks and unauthorized data mining

Why Akamai?

Akamai Makes the Grade

Interested in both web application protection and enhanced content delivery, GIA was pleased to find Akamai could address both requirements with its Kona Site Defender and Dynamic Site Accelerator Secure solutions. "We were impressed by Akamai's global presence – other vendors' networks didn't come close. We also liked the fact that the Akamai Web Application Firewall could be configured to track data mining and help us identify those consuming our bandwidth for these purposes. No other vendor supported this," recalls Faris Zuriekat, Global Web Technologies Manager for GIA.

COMPANY

Gemological Institute of America
Carlsbad, CA
www.gia.edu

INDUSTRY

Public Sector

SOLUTIONS

- Dynamic Site Accelerator Secure
- Kona Site Defender
- Professional Services

KEY IMPACTS

- Protected web assets and brand image
- Prevented data miners from consuming significant bandwidth
- Improved global site availability
- Improved global website performance by 130% on average
- Supported 4x the traffic to its website
- Avoided need to build out global site infrastructure

Gemological Institute of America

Performing a Cut Above the Rest

Since launching the Akamai solutions, GIA has enhanced both website performance and security. According to Akamai's web performance tests, the home page is delivered an average of over 330% faster in North America and 130% faster worldwide. Using the third-party Keynote measurement tool, GIA also saw an 89% performance improvement for its Chinese site (http://www.gia.edu/CN).

In addition, Akamai has offloaded 79% of the hits to GIA's site. At the same time, Akamai has reduced the number of error pages displayed to site visitors when pages are unavailable and put in place automatic site failover to ensure no visitors are served HTTP error pages.

With Akamai's solutions in place, GIA is also able to support much higher traffic volumes without significantly building out its infrastructure. "As we've expanded to deliver our site in four languages, we now support nearly four times the amount of traffic as before, yet we've only added one server," says Zuriekat.

Hardening its Defenses

Working closely with Akamai Professional Services and Security Architects, GIA learned about the behavior of its site visitors and resources they requested and how data miners, crawlers, and attackers operated. These insights enabled GIA to put highly effective Web Application Firewall rules in place within Kona Site Defender. Now GIA can proactively and automatically block malicious requests and gain real-time visibility into threats. Over the course of one month, the Web Application Firewall blocked over 214,000 malicious requests to GIA's domains from a variety of attack vectors, such as SQLi, RFi, PHPi, and XSS. It even blocked Distributed Denial-of-Service attempts. In addition, Kona Site Defender tracks attempted data-mining requests. "Before, we lacked the ability to gain this insight. Now we can ensure optimal security and prevent data miners from consuming significant bandwidth and hurting the experience of legitimate site visitors," explains Zuriekat.

Extending the Brand to New Markets

GIA's mission is to distribute information to any markets where diamonds and jewelry and gems are sold. The organization has developed about 12,000 web pages and assets it wants to share freely with the world. In fact, it spent a year and a half translating these for Asian markets. To ensure ready access and further improve performance in China, GIA is planning to use China CDN from Akamai, which extends the power of the Akamai Intelligent PlatformTM to address the unique content delivery challenges that China presents. In addition, to protect its brand image, GIA must prevent its images from being reused without permission. GIA intends to use Akamai Image Converter to watermark its 32,000 images on the fly. "Akamai provides the range of solutions we need to effectively reach our worldwide markets, address our brand requirements, and meet our nonprofit mission." concludes Del Signore.

About Gemological Institute of America

An independent nonprofit organization, GIA (Gemological Institute of America), established in 1931, is recognized as the world's foremost authority in gemology. GIA invented the famous 4Cs of Color, Clarity, Cut, and Carat Weight in the early 1950s and in 1953, created the International Diamond Grading System™, which today is recognized by virtually every professional jeweler in the world.

Through research, education, gemological laboratory services, and instrument development, the Institute is dedicated to ensuring the public trust in gems and jewelry by upholding the highest standards of integrity, academics, science, and professionalism.

Akamai *FASTER FORWARD*

As the global leader in Content Delivery Network (CDN) services, Akamai makes the Internet fast, reliable, and secure for its customers. The company's advanced web performance, mobile performance, cloud security, and media delivery solutions are revolutionizing how businesses optimize consumer, enterprise, and entertainment experiences for any device, anywhere. To learn how Akamai solutions and its team of Internet experts are helping businesses move faster forward, please visit www.akamai.com or blogs.akamai.com, and follow @Akamai on Twitter.

Akamai is headquartered in Cambridge, Massachusetts in the United States with operations in more than 57 offices around the world. Our services and renowned customer care are designed to enable businesses to provide an unparalleled Internet experience for their customers worldwide. Addresses, phone numbers, and contact information for all locations are listed on www.akamai.com/locations.