Acquia Cloud Edge CDN

A Global Content Delivery Network with Unique Performance Optimization Capabilities

Introduction

(CDN) with unique performance optimization capabilities: We cache static content, accelerate dynamic content, and make it easy to optimize outbound content. Acquia Cloud Edge CDN goes beyond a traditional CDN because, in addition to bringing your content closer to your site's visitors, Acquia Cloud Edge CDN also optimizes content for device, browser, and bandwidth needs. We've built a best-in-class, global infrastructure from the ground up using only next-generation, high-performance equipment—no legacy software or hardware. The result is a CDN that's easier to set up, more affordable, and built to outperform any legacy CDN on the market.

Acquia Cloud Edge CDN makes websites run faster, and having a fast site is an important part of visitor satisfaction. Site speed is crucial to providing a positive experience for website visitors because slow load times result in higher bounce rates, shorter time spent on the site, and lower conversion rates. To put it simply, latency hurts your bottom line.
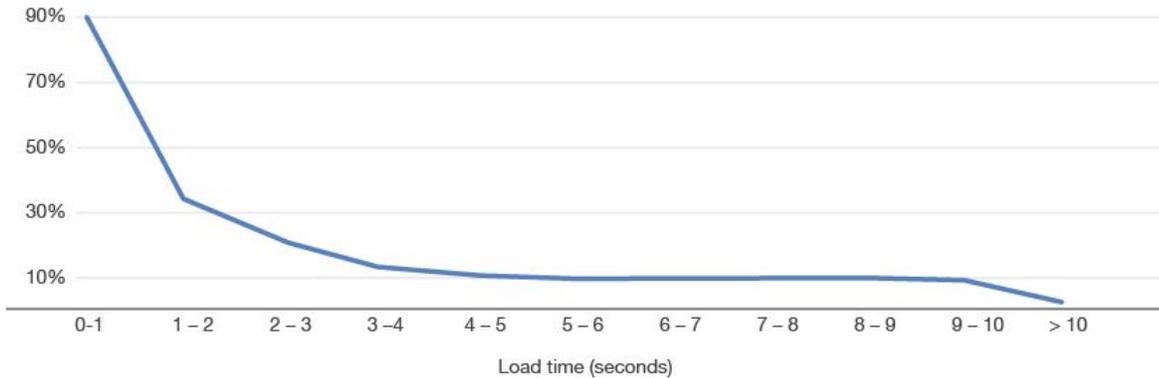
In February of 2012, the multinational retailer Walmart conducted an analysis to understand how website page performance affects ecommerce conversion rates. The study focused on Walmart's own ecommerce store: walmart.com. The webstore did $7.7 billion in sales, hit billions of page requests, and hosted millions of active product SKUs in 2012.

This study revealed a shocking relationship between page load times and conversion rates.

As the graph below shows, there is a sharp decline in conversion rates as load times increase from 1 to 4 seconds.

Conversion Rate vs. Load Time

Load time in seconds against conversion rate percentage

Acquia Cloud Edge CDN's performance features dramatically improve load times for users accessing your static and dynamic web content. This increases customer satisfaction and potentially drives up conversion rates. Because our CDN reduces hops and lowers latency, a request on Acquia Cloud Edge CDN's network takes less than 23 milliseconds to serve on average.

This white paper covers:

–   Global distributed network

–   Static content caching

–   Custom caching management

–   Edge side code

–   Dynamic content acceleration

–   Front-end optimization and client intelligence

–   Reporting

Global Distributed Network

Acquia Cloud Edge CDN has created a purpose-built network for today's web. Our global network—consisting of 30 points of presence (PoP)—stands out from legacy CDNs in both performance and security capabilities. Acquia Cloud Edge CDN inspects traffic by operating as a reverse proxy, and because we fully own and operate our network's equipment, we can ensure that security is built into every layer and every protocol.
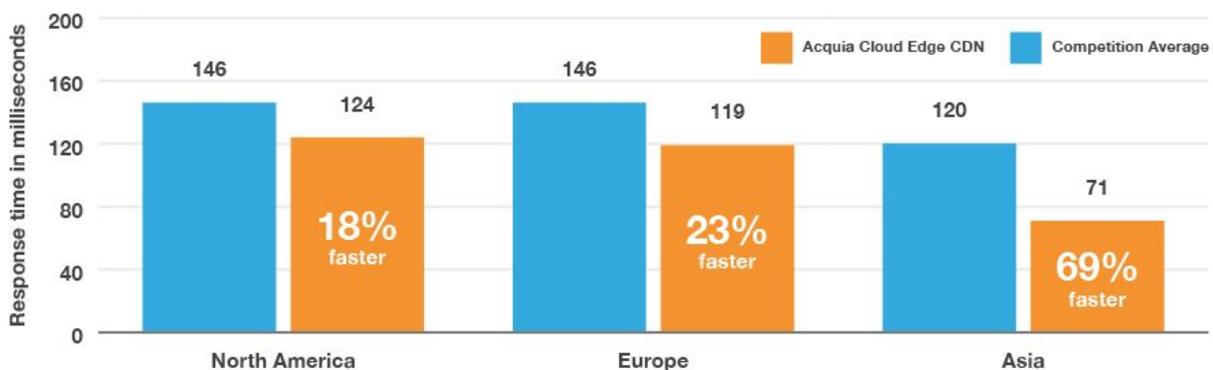
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Our CDN is unique because it is a massive horizontally scaled architecture in which every node can perform DNS requests, security checks, and performance transformations. Additionally, Acquia Cloud Edge CDN employs Anycast routing to ensure web users are automatically routed to their nearest data center and around any failures. The combination of this architecture and network produces a reliable, high-performance service.

Acquia Cloud Edge CDN makes any website, web app, and API faster and safer around the world. Third-party performance testing shows that Acquia Cloud Edge CDN outperforms competitors on average in major regions across the world. According to Cedexis, Acquia Cloud Edge CDN is the top performing CDN, delivering content faster than the competition by 18 percent in North America, 23 percent in Europe, and 69 percent in Asia.

Acquia Cloud Edge CDN Outperforms Competitors' Performance

Cedexis, 2014

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Static Content Caching

Acquia Cloud Edge CDN is a zero configuration CDN. As soon as you activate your site on Acquia Cloud Edge CDN, we cache your site's static content by default. Our CDN caches more than 35 file extensions automatically, and allows users to write page rules to extend the list of file extensions we cache.

Acquia Cloud Edge CDN serves site requests directly from cached content in whichever data center is physically closest to a site visitor, and because Acquia Cloud Edge CDN has data centers around the world, this means that whether you are in Chicago, Prague, Frankfurt, or Singapore, webpages are delivered quickly, even when the origin web server is thousands of miles away. For example, a website might be hosted in the US, but accessed mainly by web visitors in the UK. With Acquia Cloud Edge CDN, the site will be served from a UK data center eliminating costly delays. Acquia Cloud Edge CDN's ability to make a website appear to be hosted close to web surfers is key to accelerating web surfing.

In addition to faster load times, a website on Acquia Cloud Edge CDN sees 65 percent fewer requests to the origin, yielding a 60 percent reduction in bandwidth consumption on your origin web servers.

Custom Caching Management

In addition to caching static content, Acquia Cloud Edge CDN allows you to write page rules to cache HTML content for specific URLs directly in our administrative control panel. Use cases for page rules could be creating a directory for static content, appending a unique file extension to static pages, or adding a query parameter to mark HTML content as static. Here are some examples:

– *example.com/static/* [/static/ subdirectory for static HTML pages]
– *example.com/*.shtml [.shtml file extension to signify HTML that is static]
– *example.com/*?*static=true* [adding static=true query parameter]

You can also create custom cache keys allowing you to cache a different version of your page based on browser language, cookie, or any arbitrary HTTP request header. For example, a cache key rule can be implemented that would require Acquia Cloud Edge CDN to serve different content for users logged in, versus not logged in.

Caching settings, such as expiration time or time to live (TTL), can be customized for each page rule. Acquia Cloud Edge CDN's enterprise service plan offers a TTL as low as 30 seconds. The purge feature allows you to instantly purge content from Acquia Cloud Edge CDN's cache to ensure we are serving the latest version of your site's content. Custom page rules and caching settings are easily managed in both the Acquia Cloud Edge CDN administrative interface and the API. All configuration changes take effect immediately around the globe.

Edge Side Code

Acquia Cloud Edge CDN's system is built from the ground-up for performance and scalability. With Edge Side Code, Acquia Cloud Edge CDN deploys powerful logic for customers to alter HTTP requests and responses on the fly—without added latency. Any part of a request or response can be altered according to a customer's rules, enabling a range of options to tightly integrate Acquia Cloud Edge CDN into applications, which improves serving performance for users.

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This has been used to expand what can be cached for visitors according to user agent or geographic region. The result is improved performance for users. Here are some examples of what customers have implemented:

- Serving a different version of a cached page based on request headers (for example, logged-in cookie or browser user agent)
- Including or excluding page widgets based on the requestor's country
- Triggering "cache warming"—loading a page's images/assets into Acquia Cloud Edge CDN's cache
- Redirecting a visitor to a particular URL based on HTTP referrer (for example, go to a different part of a website if referred from Twitter)
- Adding, removing, or altering cookies
- Directing different URL paths to different origin servers
- Load-balancing logic—based on geographic region or automatic failover
- Sharding subdomains over a number of origin server to allow for more effective origin caching
- Sanitizing HTTP headers for requests (for example, removing the X-Powered-By header)

Reporting

Acquia Cloud Edge CDN provides insights to website traffic that cannot be obtained from other analytics programs. In addition to visitor analytics, customers can monitor threats and search engine crawlers. For most websites, these crawlers make up 20 percent to 50 percent of traffic. It's traffic every website should understand, but most analytics services ignore. We display the analytics report in a user friendly, easy-to-read interface. Traffic to a site can be sorted by time, visitor type, and traffic types. Acquia Cloud Edge CDN includes the geographic location of a site's visitors allowing businesses to see which countries their visitors come from. Our personalized analytics reports also include exact speed benefits and savings from when the site transitioned to Acquia Cloud Edge CDN.

All enterprise customers receive raw log access for every user request, and this is available via a secure SSH FTP connection.

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