Optimize your multi-CDN deployment while cutting costs

The concept of using multiple CDNs to distribute your streaming content is common practice for most large-scale media and entertainment companies. Benefits of multi-CDN environments include increased cost control over delivery expenditure, resiliency against provider outages, and the ability to select optimized routes based on latency or geography.

However, a multi-CDN strategy can also result in duplicate requests flooding your origin. For example, if traffic is randomly routed across three different CDNs, you can have points of presence (POPs) from each of these networks requesting the same content for viewers in the same location. In this scenario, your origin is processing double or triple the number of requests it normally would with a single CDN. Now imagine this happening across dozens or hundreds of regions around the world simultaneously. It’s easy to see how the cost to process extra requests adds up, not to mention the egress charges you’ll incur from those. Additionally, as more requests fetch content from origin, latency also increases, resulting in a subpar viewer experience.
How can Fastly help

Fastly’s Media Shield for VOD with Nearline Cache streamlines existing multi-CDN deployments while reducing the total cost of ownership (TCO) of your streaming services. Media Shield cuts costs by significantly decreasing the traffic hitting your origin, thereby reducing the amount of infrastructure required to support your video services. Fastly Nearline Cache offers longer term storage without egress charges near the origin shield node. When coupled together, Media Shield plus Nearline Cache builds on our existing origin shielding and request collapsing functionality to extend these concepts to multi-CDN deployments even outside of the Fastly network.

With minimal changes to your existing workflows you can drastically reduce your origin footprint by inserting Fastly Media Shield in front of your origins and adding Nearline Cache for longer term cache storage. Simply configure your CDNs to use Media Shield as the origin, then configure Media Shield to point to your infrastructure. Continue using your existing CDNs as you normally would, but benefit from drastically reduced origin traffic, allowing you freedom to potentially scale down or repurpose your origin infrastructure. And since the amount of traffic going through each CDN remains unchanged, you don’t have to re-evaluate any existing contractual commitments.

Cost reduction

Managing infrastructure costs associated with video on demand is no small feat. Fastly Media Shield and Nearline Cache eliminate extraneous requests and egress charges to cut costs and increase efficiency.

Nearline Cache is a complementary product that stores content close to the origin shield for an extended period of time. Delivery services are able to control what content is placed in Nearline Cache as well as the retention period. Once enabled, Nearline Cache can automatically populate itself with content once the first cache miss of a particular piece of content occurs. Requests that would normally require a trip back to origin are served from Nearline Cache without incurring additional egress cost. Additionally, Nearline Cache acts as an extra layer of redundancy against origin outages so that your end users can continue to enjoy desired content even if the origin fails.
**Request collapsing** consolidates multiple requests for the same content down to a single origin request. This decreases the number of requests your infrastructure needs to process by several orders of magnitude and helps optimize egress costs.

**Origin shielding** lets you designate a public or managed Fastly POP as the Media Shield in front of your infrastructure. Any cache-misses are sent to the Media Shield rather than your origin, thereby cutting infrastructure costs. 

Learn more about how A+E Networks cuts video delivery costs →

**Superior performance**

When requests for content need to go all the way back to origin, user experience suffers. Media Shield with Nearline Cache can cache more of your content at the edge, closer to your users, helping to maximize the quality of experience (QoE).

Media Shield is **built on powerful SSDs** allowing us to store more content for longer and effectively turn cache misses into cache hits. With Fastly, both popular and long-tail content have a higher likelihood of being served from cache. This reduces startup times and playback interruptions, leading to a frustration-free viewing experience for your audience.

**Cache clustering** allows POP cache nodes to access content from each other’s storage, keeping more long-tail content in cache for longer durations. Being able to serve more content, including infrequently accessed content, from cache significantly reduces latency, further enhancing the viewer experience.

Learn more about using a multi-CDN strategy for your QoE goals →

**Flexible deployment**

Every organization has unique technical and business requirements; deploy Media Shield in the way that makes the most sense for your business and your team.

With our load balancing techniques you can designate Media Shields for each origin location, allowing you to create an architecture that is best suited for your audience.
Media Shield also enables you to simplify origin configuration. Instead of maintaining separate origin configuration files for each of your CDNs, Media Shield lets you consolidate changes in one place. Quickly migrate traffic between origins without needing to reconfigure your settings multiple times.

Learn more about how Fastly supports video on demand →

**Getting started**

For more information or to start a free trial of Fastly Media Shield with Nearline Cache, contact [sales@fastly.com](mailto:sales@fastly.com).