

Cloud Wrapper

Boost Origin Offload, Protection, and Performance



Many organizations that distribute online media content are migrating to the cloud. They may be moving at different rates and for different reasons, but all have a common need to lower costs and deliver amazing user experiences to their online audiences.

When audiences request content in large and sometimes unpredictable volumes, retrieving it from origin can raise costs, and performance often suffers. Cloud Wrapper protects origin infrastructures from these overloads to improve performance and control egress costs.

Cloud Wrapper at a Glance

Cloud Wrapper optimizes connectivity between cloud infrastructures and the Akamai Intelligent Edge Platform. It consists of a highly efficient custom caching layer that wraps around centralized cloud infrastructures. This reduces the frequency of user origin requests and the costs to distribute content from the cloud.





A high-availability solution, Cloud Wrapper provides consistently high offload levels, even in the event of a traffic spike. As a result, public and private cloud origin infrastructures maintain a high level of service predictability and performance. Additionally, end users receive more consistent, high-quality experiences delivered from the edge.

Use cases include live and on-demand streaming, as well as the distribution of online games, software, and other downloads. Cloud Wrapper combines with Akamai content delivery services like Adaptive Media Delivery, Download Delivery, or Object Delivery to deliver high-performance media at scale.

"We've already seen that Cloud Wrapper improves offload numbers, and of course that means egress costs go down. We're getting the benefits out of Cloud Wrapper now."

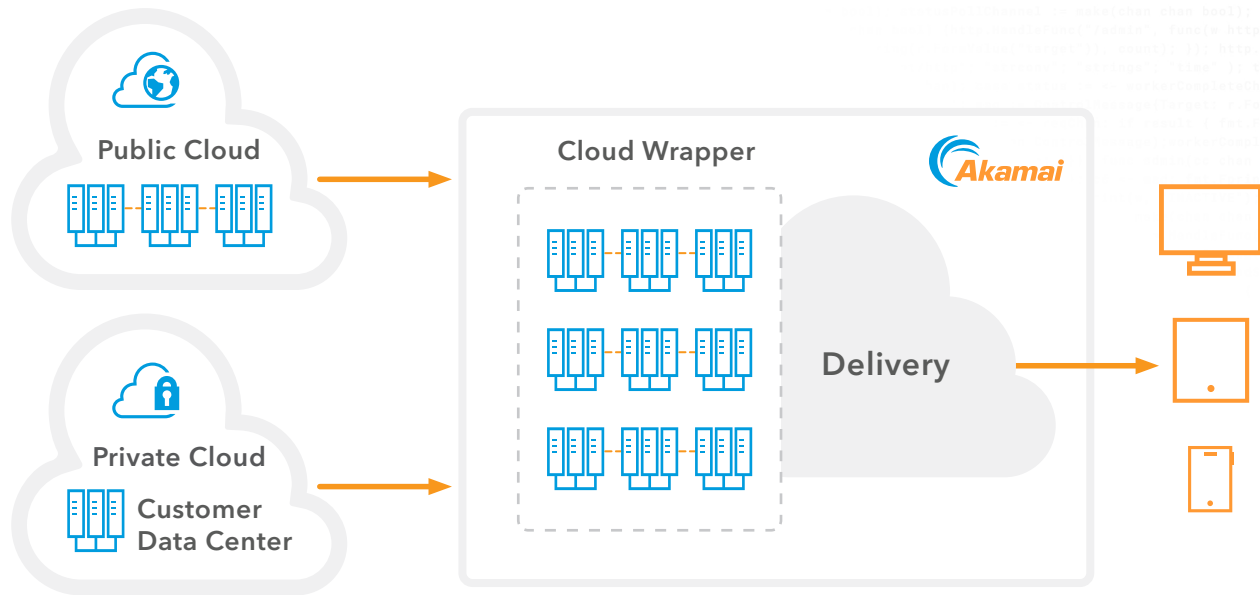
– Tomas Perovuo, Head of OTT, MTV Oy

BENEFITS TO YOUR BUSINESS

-  **Minimized costs:** reduce calls to origin, cloud infrastructure requirements, and egress fees
-  **Consistent quality of experience:** more requests served from the Akamai Intelligent Edge Platform results in happier audiences
-  **Consistent service predictability:** maintain high origin offload even during spiky or high traffic volumes
-  **Flexible deployment options:** meet unique end-user requirements globally

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Maximizing Origin Offload

The high-performance Akamai Intelligent Edge Platform is one key to delivering great online media experiences. The health and performance of the origin infrastructure is another.

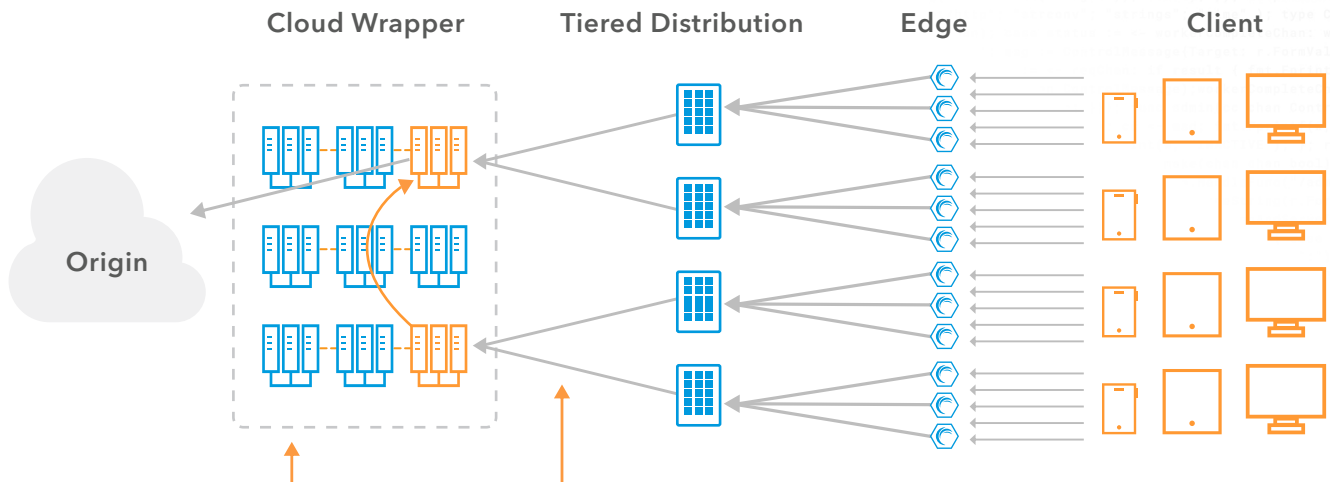
When an edge server receives an end-user request for content that's not in cache, the result is a cache miss, and the request may be sent to origin. As traffic volumes on the origin infrastructure increase, performance can begin to suffer. Moreover, when the origin resides in a public cloud, high volumes of requests can mean more cloud infrastructure requirements, and egress costs can rise rapidly.

Akamai Cloud Wrapper boosts cache efficiency for massive libraries consisting of both popular and infrequently accessed content. It routes cache misses at the edge to the Cloud Wrapper caching layer. Ultimately, this increases the likelihood that content will be served without a request from origin.

To further reduce trips to origin, especially during popular livestreaming events, Cloud Wrapper provides request collapsing. This combines multiple end-user requests when retrieving from origin. The result is fewer, more efficient origin requests.

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High resiliency: utilizes multiple distinct regions, where each piece of content is stored across a minimum of two regions

- Consistent hash identifies responsible machines across diverse regions for each unique asset
- Content striped evenly across regions to balance load and minimize hot spots

Protecting the Origin from Spikes

Maximizing origin offload levels, and consistently maintaining those levels, is imperative. If a flood of requests makes its way directly to origin, the requests could act like a distributed denial-of-service event and cause the origin to fail. For that reason, Cloud Wrapper includes highly available, consistent-origin spike protection.

Designed for high availability, the solution incorporates built-in redundancy with several independent regions that balance and store content evenly. Each piece of content resides in a minimum of two locations.

Moreover, this architectural design doesn't rely on any single physical location. If one region goes down, Cloud Wrapper rehashes stored content and spreads it evenly across the available regions. Any time a content request hits an unavailable region, the request goes to at least one backup region before being routed to origin.

Because this spike protection provides added assurance for consistently high offload levels, it makes sure you're prepared for the next livestreaming event, game launch, or unplanned increase in end-user requests.

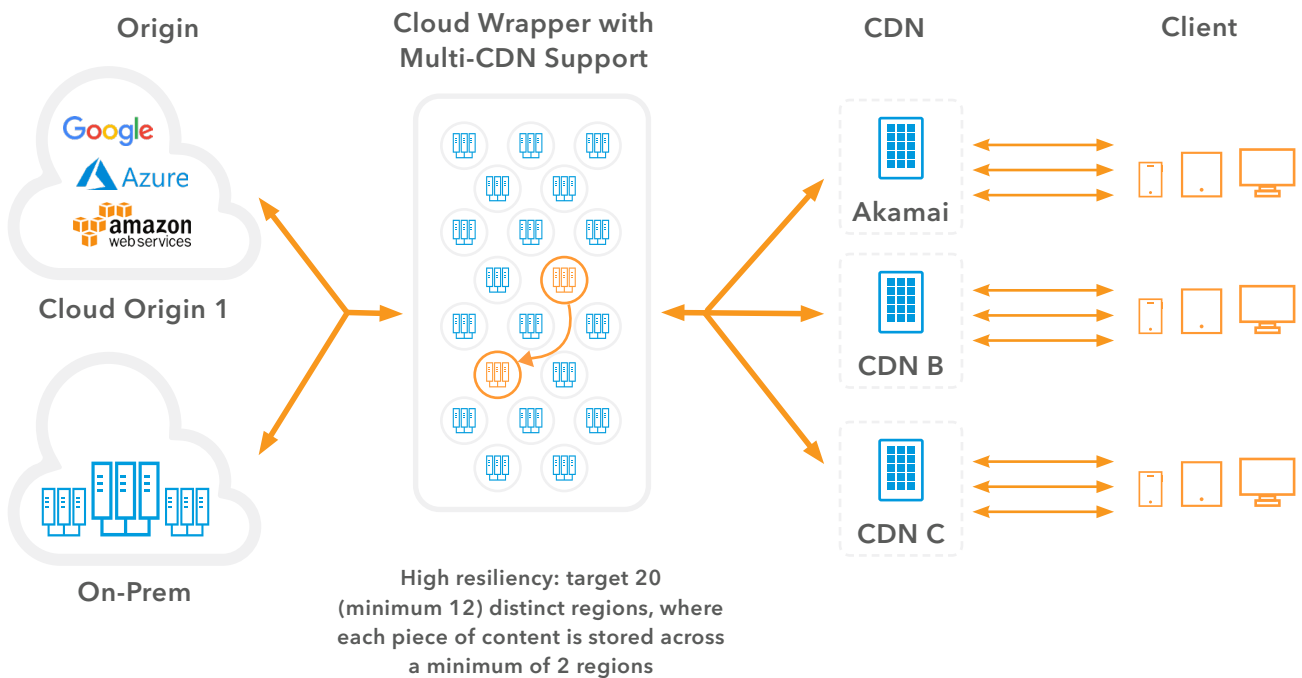
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Consistent Quality of Experience

The best user experiences are delivered at the edge; i.e., locations that are closest to end users. However, as more organizations embrace public cloud infrastructures, they move their content farther away. Every time you retrieve content from origin, user experience suffers.

Cloud Wrapper keeps more content closer to the edge. As a result, more requests are served from the Akamai Intelligent Edge Platform, leading to better, more consistent user experiences and more satisfied audiences.



Support for Multi-CDN Architectures

Managing multi-CDN architectures introduces additional complexities in maintaining high offload numbers due to increased origin requests and infrastructure costs. Whether using single or multiple origins to support your multi-CDN architecture, Cloud Wrapper can help reduce complexity. By acting as the central hub for the delivery architecture, Cloud Wrapper maintains shared cacheability providing predictable offload and cost savings for your origin as your multi-CDN architecture scales. Akamai Cloud Wrapper reduces the traffic sent to origin by centrally caching across CDNs, improving cache hits and collapsing requests from multiple CDNs before going forward to origin.

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Flexible Deployments and Ease of Use

Akamai offers flexible options to meet your requirements. Cloud Wrapper provides reserved cache space within the Akamai Intelligent Edge Platform for content libraries.

Moreover, you can choose your preferred geography from many available locations worldwide. There are also simple origin integration settings that don't force you to change your workflow.

With live and on-demand video streaming, game downloads, and other online content becoming more popular, traffic patterns can become more unpredictable, and spikes can be expensive. Cloud Wrapper lets you maintain high performance while controlling costs. So you're always ready for business growth.



Akamai secures and delivers digital experiences for the world's largest companies. Akamai's intelligent edge platform surrounds everything, from the enterprise to the cloud, so customers and their businesses can be fast, smart, and secure. Top brands globally rely on Akamai to help them realize competitive advantage through agile solutions that extend the power of their multicloud architectures. Akamai keeps decisions, apps, and experiences closer to users than anyone – and attacks and threats far away. Akamai's portfolio of edge security, web and mobile performance, enterprise access, and video delivery solutions is supported by unmatched customer service, analytics, and 24/7/365 monitoring. To learn why the world's top brands trust Akamai, visit akamai.com, blogs.akamai.com, or [@Akamai](https://twitter.com/Akamai) on Twitter. You can find our global contact information at akamai.com/locations. Published 08/20.