Adaptive Media Delivery

High-quality and secure streaming media delivery from Akamai's globally distributed content delivery network (CDN)

Global online audiences demand instant, uninterrupted access to video on any device, anywhere. With numerous options for video consumption at their disposal, they have no qualms about turning to other providers to get the high-quality experience they demand. Meanwhile, the challenges of online content delivery are growing relentlessly, making it increasingly difficult to deliver consistent high-quality experiences to growing audience sizes amidst frequent spikes in demand.

Working with a partner that can take concerns about reliability, scalability, and security out of the equation, especially when there are sudden spikes in global viewership, is a necessity. Any misstep can have a long-lasting effect on audience perceptions and brand reputation.

Akamai's Adaptive Media Delivery

Akamai's Adaptive Media Delivery is optimized for adaptive bitrate (ABR) streaming to provide a high-quality viewing experience across the broad variety of network types — fixed or mobile — at varying connection speeds. Built on the Akamai Intelligent Edge Platform™, Adaptive Media Delivery provides superior scalability, reliability, availability, and reach.

The solution securely delivers prepared, pre-segmented HTTP-based live and on-demand streaming media, including support for the following video and music formats:

- HTTP live streaming (HLS)
- HTTP dynamic streaming (HDS)
- Microsoft smooth streaming (MSS)
- Dynamic adaptive streaming over HTTP (MPEG-DASH)
- Common media application format (CMAF)

While Adaptive Media Delivery is both workflow- and origin storage-agnostic, Akamai's complementary Media Services Live and NetStorage or Cloud Wrapper can be combined with Adaptive Media Delivery for an efficient, high-quality streaming media solution.

BENEFITS TO YOUR BUSINESS

Maintain superior video quality and reliability via Akamai's unique, globally distributed network architecture, which is backed by a 100% uptime SLA

Scale rapidly for large audiences — planned or unexpected — by leveraging the distributed network's ability to dynamically and intelligently distribute load

Optimize online video playback quality and performance through Akamai application-aware software intelligence, uniquely tuned to optimize ABR streaming

Reach audiences on any device with support for a wide range of standard video streaming protocols

Get actionable insights into streaming performance and quality of experience

Protect premium content and secure revenue streams

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Our experience with Akamai is that they are a smart, passionate team that's about delivering results — the same parallel goals that we have at NBCSports.com and NBCSports Digital."

— Rick Cordella,
   SVP Digital Media, NBC Sports Group

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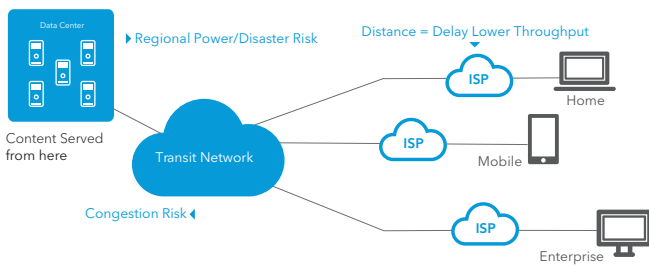
Key Product Differentiators

Reliability, Capacity, and Scale: Deliver high-quality streams globally with a trusted partner that has set benchmarks for performance and reliability at scale. When a streaming event or over-the-top (OTT) service must succeed, the world's most successful brands turn to Akamai's Adaptive Media Delivery.
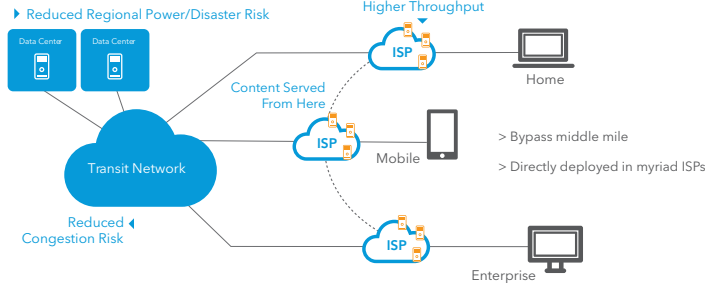
Quality Through Technology, Innovation, and Experience: Since 1998, Akamai's CDN market success has supported continuous investment in network capacity and technology innovations, to stay ahead of online audience demand.

Proximity — Closeness Counts: Even the highest-quality networks are subject to the Internet's realities of latency, congestion, and packet loss, which can significantly limit online video quality. Akamai has the most pervasive CDN, which minimizes the impact of network congestion for consistent viewing experiences. With approximately 253,000 servers in 137 countries and nearly 1,600 networks around the world, Akamai remains closer to the audience, for the lowest latency and highest quality.

Data-Center Based Architecture

Data Center

Content Served from here

Regional Power/Disaster Risk

Transit Network

Congestion Risk

Distance = Delay Lower Throughput

ISP — Home

ISP — Mobile

ISP — Enterprise

Akamai Distributed Architecture

Data Center   Data Center

Reduced Regional Power/Disaster Risk

Transit Network

Reduced Congestion Risk

Content Served From Here

Closer = Faster Higher Throughput

ISP — Home

ISP — Mobile

ISP — Enterprise

> Bypass middle mile
> Directly deployed in myriad ISPs

Akamai's distributed architecture and ISP partnerships place the servers — and your content — closer to the viewer for better reliability, availability, and performance. This approach offers the high-quality experience that online audiences increasingly expect.

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Standard and Optional Features

RELIABILITY AND SCALE

Akamai Intelligent Edge Platform
Delivers on average 50 Tbps of Internet traffic daily, with a record of more than 80 Tbps

100% Uptime SLA
Will serve content 100% of the time

Site Failover
Provides continued delivery in the event of an origin failover

PERFORMANCE

Advanced Cache Control
Intelligently caches content close to end users while offloading traffic on the origin infrastructure

Tiered Distribution
Additional caching layer further optimizes origin offload and improves performance for end users

ABR Streaming
Adjusts content dynamically for changing network conditions to ensure a high-quality experience

Segment Prefetch
Optimizes video playback quality by utilizing origin assistance to pre-position anticipated video segment at the edge during playback

Quick Retry
Enhances delivery performance through detection of Internet bottlenecks, and attempts alternate paths to avoid slower connections

HTTP/3 QUIC Support
A new UDP-based transport protocol that can improve video performance and provide a consistent quality of experience

HTTP/2
New protocol provides many improvements over previous versions in terms of efficiency, performance, and security

IPv6
Support for the latest communication protocol, including dual stack IPv4/IPv6

Purge & Fast Metadata Activation
Activate property configuration changes and update content rapidly

SECURITY

Standard TLS
HTTPS delivery over custom certs using SNI

TLS: Shared Cert
HTTPS delivery using a SAN certificate from Akamai and a shared domain

Access Control
Manages security controls that govern end-user access to content

Token Authentication
Secures premium content from unauthorized access by preventing link sharing

Cloud Authentication
Delivers content from various cloud origins using simple authentication configurations

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CUSTOMER UI AND SELF-SERVICEABILITY

Property Manager
A guided, self-service configuration tool within the Luna Control Center that enables customers to control and manage their products and services

Log Delivery
Access to logs generated from traffic on the Akamai Intelligent Edge Platform

Media Reports
Insights into delivery performance and usage

Akamai Control Center
Provides customers a portal to manage all Akamai products and services

Event Center
Provides insight into live events by streamlining planning, management, and reporting

APIS AND OTHER FEATURES

Open APIs
Operate and integrate with the Akamai Intelligent Edge Platform via https://developer.akamai.com

Beta Channel
An opt-in program allowing customers to quickly and easily adopt and evaluate new Akamai beta capabilities

Third-Party Origin Support
Leverage any origin storage of your choice

OPTIONS

Security

Enhanced Proxy Detection
Prevents content piracy through use of an integrated VPN and DNS proxy detection service

Enhanced TLS
Offers added security measures and provides HTTPS delivery using a custom certificate

Edge IP Binding
Enables whitelisting of a limited number of IP addresses for:
- Monitoring traffic usage associated with zero-rated billing agreements
- Granting access behind a network firewall

Content Targeting
Restricts access to content based on geographic location

Media Encryption
Protects content against unauthorized viewing using scalable session-level encryption

Protocol Downgrade
Deliver content using the secure HTTPS protocol even when it is not supported by an origin infrastructure

Watermarking Support
Scalable session-based forensic watermarking support from the Akamai Edge, pre-integrated with several leading third-party providers, which enables content providers to protect premium video assets by tracing piracy back to the source

Access Revocation
An API that can be used to shut down access to a video stream in near real time to protect premium content against unauthorized viewing and piracy

Other Features

Manifest Personalization
Personalize video quality for each viewer based on device type, network conditions, or geography to ensure optimal playback

Dynamic Ad Insertion
Customers are able to serve highly relevant, targeted ads to individual viewers

China CDN
Delivery of content into China while ensuring full compliance with all Chinese government licensing requirements

Cloud Interconnects
Provides optimal connections with public cloud providers to ensure high-performance data transfer, and in some instances reduces cloud egress costs

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Akamai Ecosystem

Akamai makes the Internet fast, reliable, and secure. Our comprehensive solutions are built on the globally distributed Akamai Intelligent Edge Platform; managed through the unified, customizable Luna Control Center for visibility and control; and supported by professional services experts who get you up and running easily and inspire innovation as your strategies evolve.