API Acceleration – Reliable API Performance at Scale

APIs play a critical role in today's fast-paced digital environment where connection speeds are measured in milliseconds. It's becoming increasingly challenging to meet user expectations as the number of API requests are growing at a relentless pace and with frequent and sudden spikes in demand. When public-facing APIs aren't delivered quickly, this can lead to poor user experiences, revenue loss, and downtime. Working with a partner that can take concerns about reliability, scalability, and performance out of the equation is a necessity.

Akamai API Acceleration

API Acceleration is optimized for API delivery and other small payload traffic to enable fast and engaging user experiences across apps and sites. The solution offloads requests from origin infrastructures and provides predictable high performance for large volumes of XML, JSON, and other small transactional and programmatic traffic types critical to application success.

Built on Akamai Connected Cloud

Designed to minimize the impact of network congestion for consistent digital experiences, API Acceleration leverages the power of Akamai Connected Cloud to deliver the lowest latency and highest performance. It gives you ultimate flexibility to design your API architectures for reliability and a cost-efficient approach to scale while maintaining great performance through greater control.

Deliver API Reliability and Performance from the Edge

API Acceleration is designed to maintain high levels of performance for API traffic, which requires high reliability and very low latency. API responses are cached at the edge and served from an edge server close to the client making the request to deliver quick responses and offload origin infrastructures. Dynamic content is intelligently routed from the origin via an optimal path to provide the fastest response across a broad variety of network types at varying connection speeds. Akamai Connected Cloud is also able to determine whether compressing responses will improve performance, and will apply compression to those API responses that use text formats.

BENEFITS FOR YOUR BUSINESS

Boost API Performance
Enhance user experiences by delivering fast and highly available API services that are powered by route optimization, API response caching, and scalable authentication.

Scale Rapidly for Spikes
Maintain consistent performance and offload origin infrastructures during spiky and/or high traffic periods.

Maintain High Reliability
Maximize availability of your business-critical API traffic, backed by a 100% uptime SLA.

Control Infrastructure Costs
Reduce load on your origin and maintain predictable cloud infrastructure costs.

Secure Your APIs
Protect your APIs with scalable origin protection and a singular onboarding workflow.

Handle Planned or Unplanned Traffic Spikes

API Acceleration utilizes Akamai's distributed architecture, high-capacity hardware, and efficient load balancing at the edge to maintain performance and reliability when faced with high volumes of requests. Whether a spike in API requests is planned or unplanned, Akamai maximizes the availability of your business-critical API traffic.

Bolster Security and Manage Access to API Endpoints

API endpoint security can often be overlooked or applied inconsistently across different applications, which leaves organizations susceptible to malicious attacks. API Acceleration provides a set of security controls that move authentication away from origin infrastructures to Akamai Connected Cloud. The solution also delivers encrypted API responses to requesting clients via TLS. The Origin IP ACL feature provides scalable origin security through IP-based access control lists that prevent unauthorized requests from reaching your origin infrastructure.

To ensure a comprehensive security posture for your organization's API endpoints, API Acceleration can be combined with Akamai APP and API Protector as well as API Gateway to provide scalable API governance at the edge.

Key Capabilities

Reliability and scale

- Akamai Connected Cloud — It has the most pervasive, highly distributed content delivery network (CDN) with 330,000+ servers in 130+ countries and 1,300+ networks around the world

- 100% Uptime SLA — Achieve maximum API availability through even the highest traffic spikes

- Origin Failover — Ensure uptime by switching from one origin to another if a failure occurs, including configurable policies, recovery methods, and failure reporting for a variety of scenarios

Performance

- Routing Optimization — The Akamai edge server determines which of the routes to the origin is best at any given time by performing races, and the information is then used to choose the primary route for future requests

- Advanced Cache Control — Intelligently caches API responses and content close to end users while offloading traffic on the origin infrastructure; includes GraphQL caching

- Advanced Protocol Support — Supports the latest protocols including HTTP2, HTTP/3 and IPv6

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

- Device Characterization — Allows companies to make real-time decisions regarding key capabilities of a particular device requesting a page to make key decisions regarding the specific web experience delivered to a site visitor

- LMA/GZIP — GZIP compression to speed transfer time; the behavior applies best to text content such as HTML, CSS, and JavaScript

Security

- Standard and Enhanced TLS — HTTPS delivery over custom certs using SNI and added security measures and provided for HTTP delivery

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

- Token Authentication — Secures content from unauthorized access at the edge

- Content Targeting — Restricts access to content based on geographic location

- Origin IP ACLs — Add an additional layer of defense for critical websites and web applications by cloaking your origin from the public internet, effectively removing them from internet-accessible IP address space, preventing attackers from directly targeting the application origin

Customer UI and reporting

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

- Traffic Reports — Insights into API hits, volume, errors, and more

Services and Support

As industry experts and trusted advisors, we can enhance your experience with the API Acceleration solution by providing expert assistance, ongoing maintenance, and preventive support through solutions management with Akamai Plus, Advanced, or Premium 3.0 services.

Benefits of Edge Compute
1. Low latency
2. Real-time applications
3. Minimum data transfers
4. Enables coders to "just code"

To learn more, visit www.akamai.com or contact your Akamai sales team.