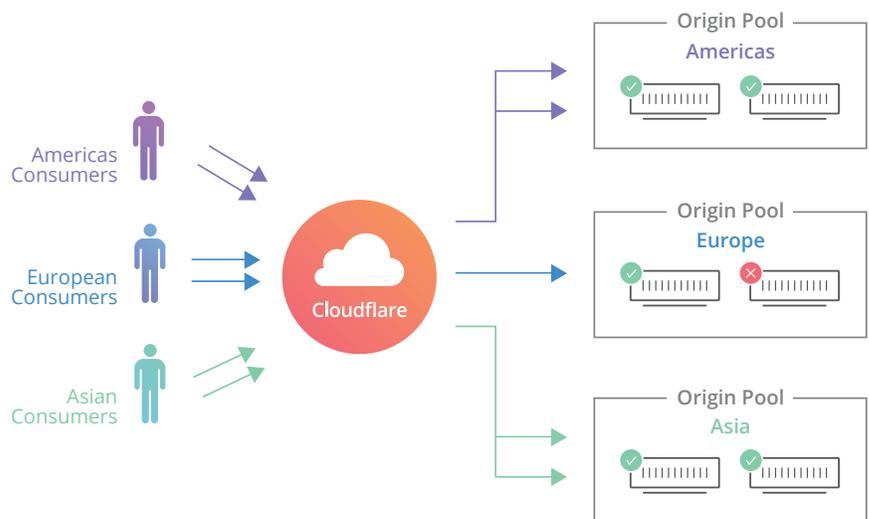# Load Balancing with Cloudflare

Consumers expect fast and reliable access to their online experiences. Google reported that site latency of only 100 to 400 milliseconds has a measurable impact on consumer behavior. For example, Amazon found that every 100 milliseconds of extra latency resulted in a loss of 1% in sales.

The visitor experience can become heavily degraded and traffic completely dropped when reaching servers that are unreliable or misconfigured. Additionally, over-utilized or geographically distant servers can result in added latency. Poor visitor experiences have a direct impact on revenue, reputation, and customer loyalty.

Cloudflare Load Balancing

Safeguard your website, web app, or API from service disruptions with local and global traffic load balancing, geographic routing, server health checks, and failover, ensuring the continuous availability of critical resources.

LOAD BALANCING WITH CLOUDFLARE

- **Health checks with fast failover:** Gain visibility into the availability of services and rapidly route traffic to only the healthy ones

- **Local and global load balancing:** Reduce latency by load balancing traffic across multiple servers or by routing traffic to the closest geolocation region

- **Dynamic steering:** Automate traffic steering across multiple origins and regions. Round trip times (RTT) based on health checks used to identify the fastest, most responsive server pools.

- **Configurable weighting:** Apply user-defined policies that determines how much traffic servers receive across multiple origins.

- **Layer 4 support:** Load balance non-HTTP/S traffic delivered with Cloudflare Spectrum.

HEALTH CHECKS WITH FAST FAILOVER

Cloudflare helps customers gain visibility into the availability of services and to rapidly route traffic to only the healthy ones. Active availability monitoring checks the health of your servers from Cloudflare's data centers around the globe. Through periodic HTTP/HTTPS requests, monitoring can be configured for specific URLs with customizable intervals,

Key Capabilities

Administration & configuration. Manage all policies and configurations using the dashboard or via API.

Fast failover. Requests proxied through Cloudflare's DNS infrastructure get re-routed within seconds to healthy servers and are load balanced across server pools.

Health checks. Granular monitoring of individual servers across Cloudflare's network for availability.

Global load balancing. Identify origin locations with the lowest network latency, ensuring that dynamic content is fetched from the closest geographic locations.

Latency-based steering. Identify the fastest pools, and direct user requests to the most responsive origins leveraging round trip time analysis.

Configurable weighting. Define custom policies that determine how much traffic specific origin servers receive.

Layer 4 support. Load balance non-HTTP/S traffic across multiple origins for increased availability and performance when deployed with Spectrum.

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timeouts, and status codes. Availability monitoring can check the health of origin servers as often as every 15 seconds, with reporting via email notifications and a REST API. As soon as a server is marked as unhealthy, multi-region failover happens within seconds to intelligently route traffic to an available server.

Cloudflare Load Balancing is powered by Cloudflare's DNS, which is the fastest DNS provider globally. Cloudflare DNS changes propagate orders of magnitude faster than public DNS since Cloudflare can avoid waiting for public time-to-lives (TTLs) to expire. This means migrating web hosts or switching over to a disaster recovery server happens almost instantaneously.

12ms
Average DNS lookup speed

<5 seconds
Worldwide DNS record propagation

GLOBAL AND LOCAL LOAD BALANCING

Cloudflare's Load Balancing automatically reduces latency by directing visitors to infrastructure closest to them: send European customers to the London data center, Australian customers to the Sydney data center, and anywhere in-between. Load Balancing builds on top of Cloudflare's Anycast network, allowing for quick delivery of static assets through Cloudflare's CDN, and reducing latency for dynamic requests by keeping visitors close to your infrastructure.

Cloudflare's global Load balancing operates at the DNS-level and supports any protocol: from HTTP(S) through to TCP and UDP -based services. This allows for usage with existing services or in conjunction with other cloud providers, be it compute, storage, or any combination thereof.

Configuration made simple
Easy configuration through Cloudflare's dashboard, or automation through a powerful API

DDoS Resilient Service
Anycast network that is 10X bigger than the largest DDoS attack ever recorded ensures traffic continues to be routed even under stress

Global DNS Network
Health checks from all of Cloudflare's datacenters enables fast failover unbound by DNS propagation delays.

Sign up for Cloudflare Load Balancing to improve the performance and availability of your website, web app, or API. The configuration is easy and it only takes a few minutes to get Load Balancing up and running. Check out the plans and the Load Balancer add-on at www.cloudflare.com/dashboard.