What's New at Cloudflare

Starts at 14:00

Monday, June 24

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What's New at Cloudflare?

June 2019

Andrew Schafer
Customer Success

Anand Guruprasad
Solutions Engineer

Today's Agenda

PERFORMANCE

Argo

Speed Week Updates

SECURITY

Bot Management

Access

RELIABILITY

Anycast network

PLATFORM

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- **Overview and Network Update**
- **Performance**: Improvements to Argo
- **Performance**: Speed Week
- **Security**: Bot Management
- **Security**: Access
- Q&A

Overview and Network Updates

We are helping build a better Internet

Cloudflare is an Edge Service Provider that provides performance and security services to anything connected to the Internet

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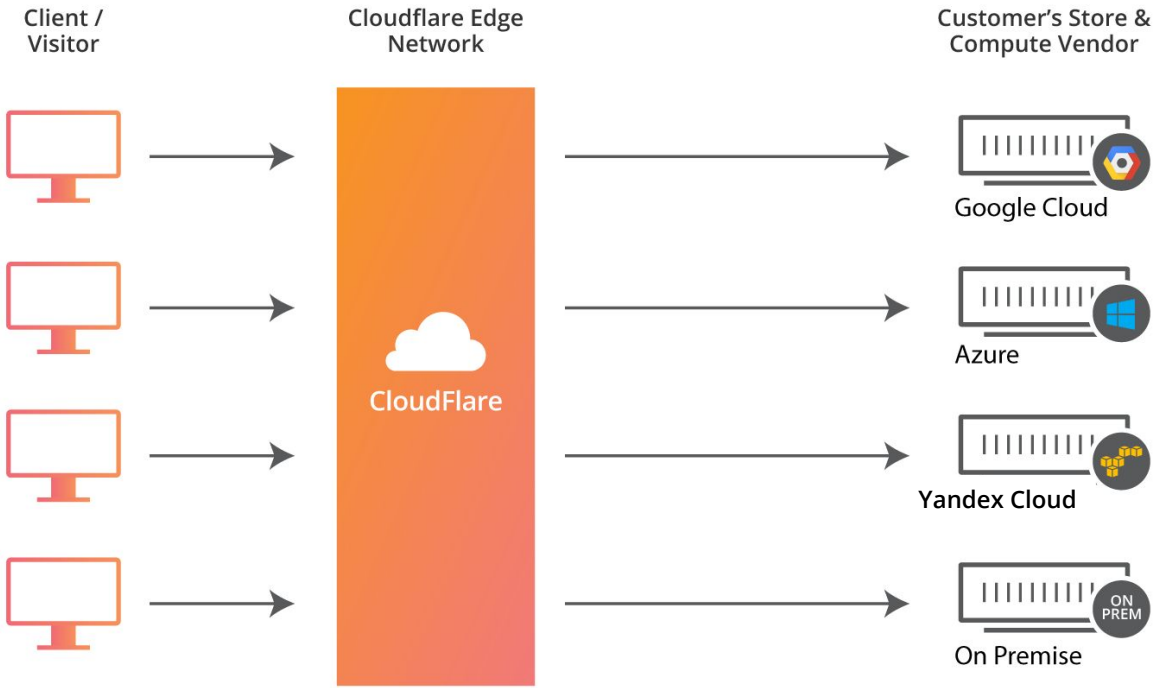
Cloudflare sits between our customers' traffic and their web servers, APIs, and IoT devices



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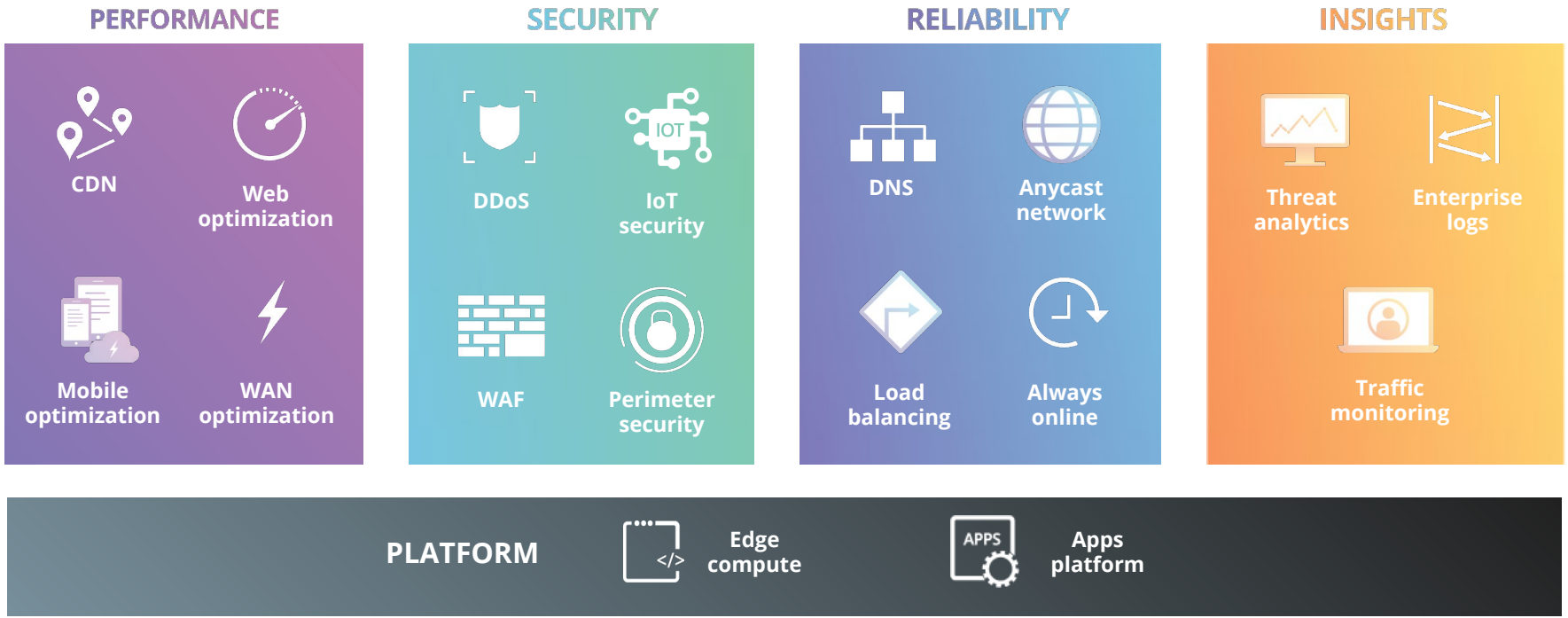
Solving the problems of Internet



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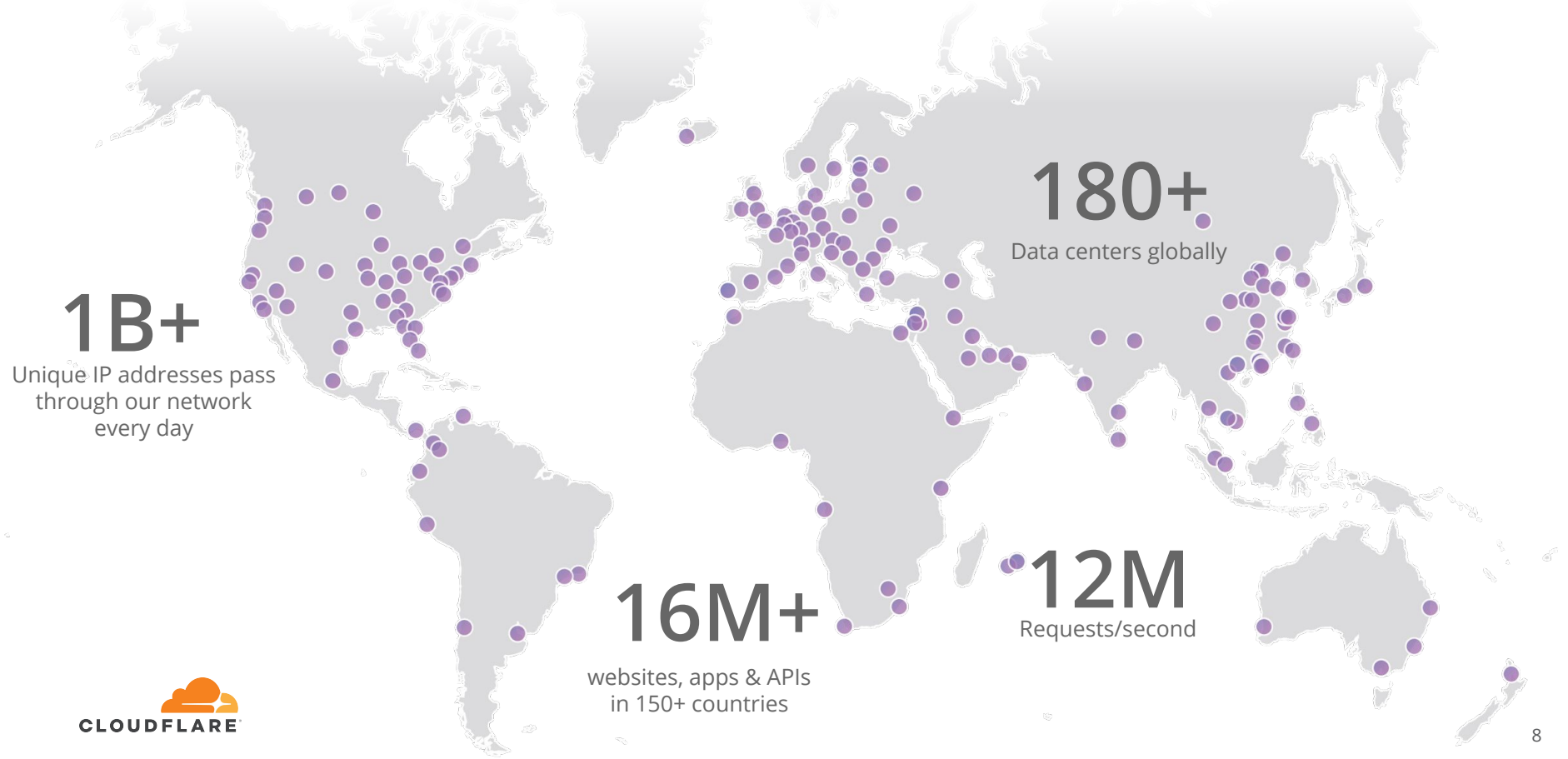
Scalable • Modern, unified architecture • Easy onboarding, fine-grained control

Cloudflare's Global Anycast Network



180+
Data centers globally

1B+
Unique IP addresses pass through our network every day

12M
Requests/second

16M+
websites, apps & APIs in 150+ countries

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An integrated end to end solution with lower TCO

Each of Cloudflare's 180+ Points of Presence runs an **integrated stack** of easy-to-use security, performance and reliability services

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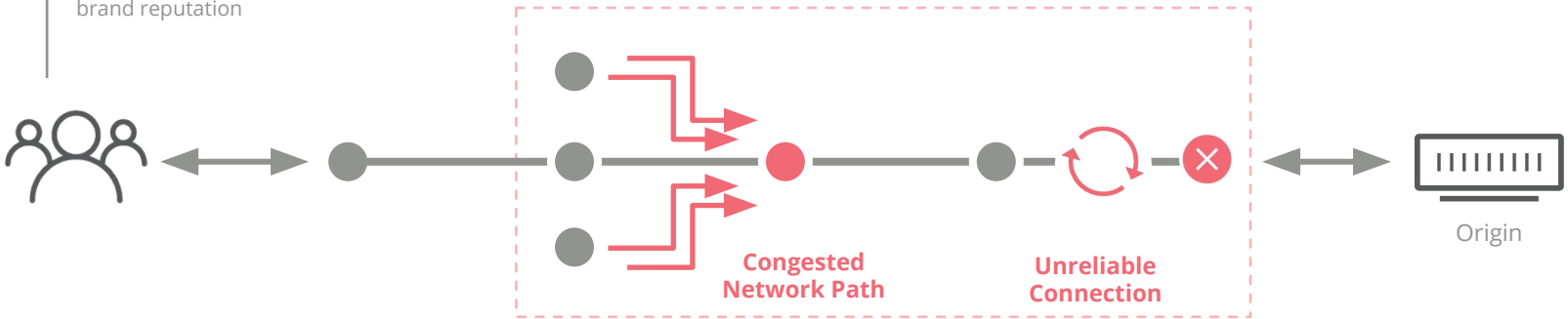
Performance: Improvements to Argo

Customer Challenges

Poor User Experience
Slow loading times and connection timeouts increase the likelihood of a poor user experience that can result in reduced revenue or damaged brand reputation



Slow Loading Times
Static routes can't avoid congested network paths or unreliable connections

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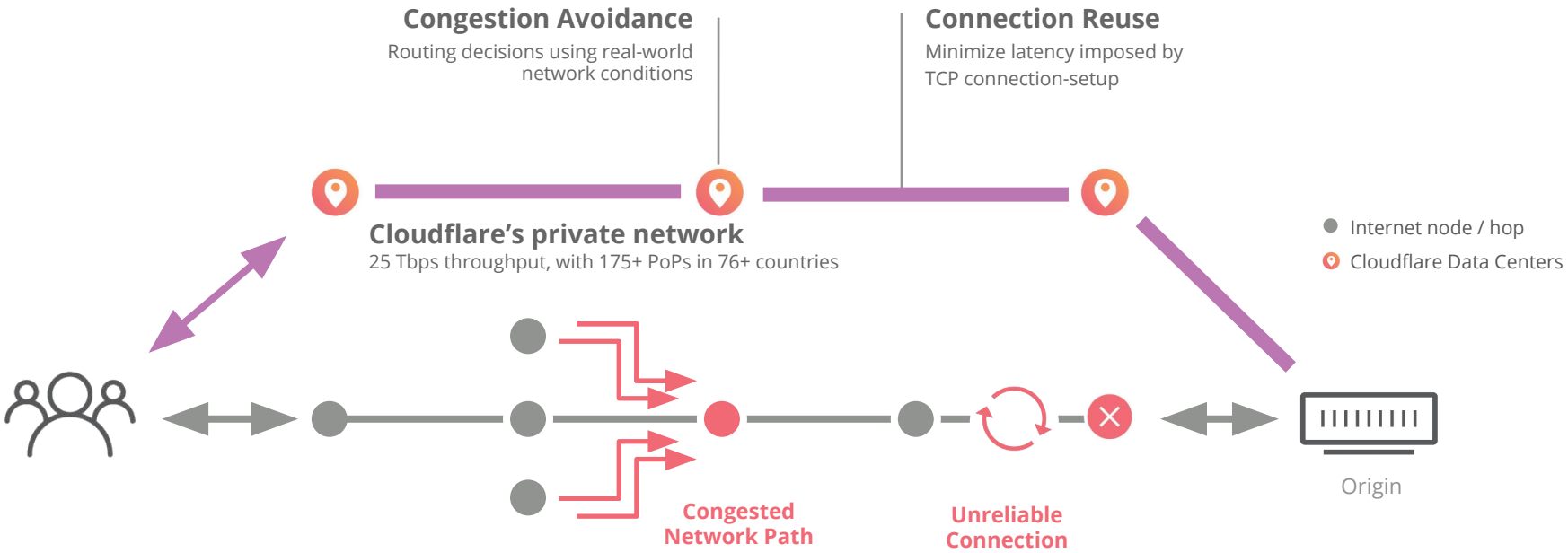
Cloudflare Argo Smart Routing



30% Faster

Over 10 trillion Internet requests transit the Cloudflare network per month, providing Argo with real-world intelligence on the fastest network paths.
On average, our customers see a 30% improvement in performance

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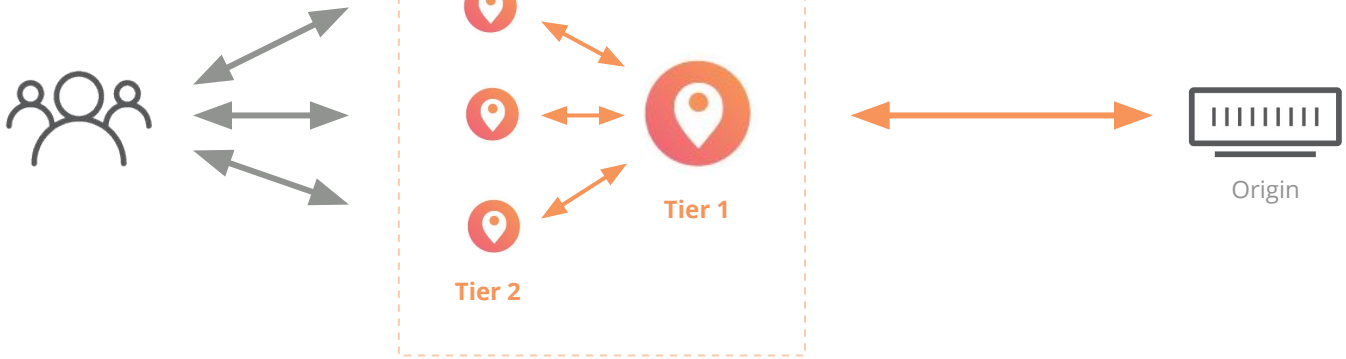
Cloudflare Argo Tiered Caching



Reduced Costs

Minimizes static content requests to the origin server reducing latency, server load and bandwidth usage

Tier 1 data centers propagate content to a global network of 150+ data centers

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Performance: Speed Week

BINARY AST

30-50%

IMPROVEMENT IN JAVASCRIPT PARSING PERFORMANCE ON THE MOST COMMON FRAMEWORKS

HTTP/2

PRIORITIZATION

50%

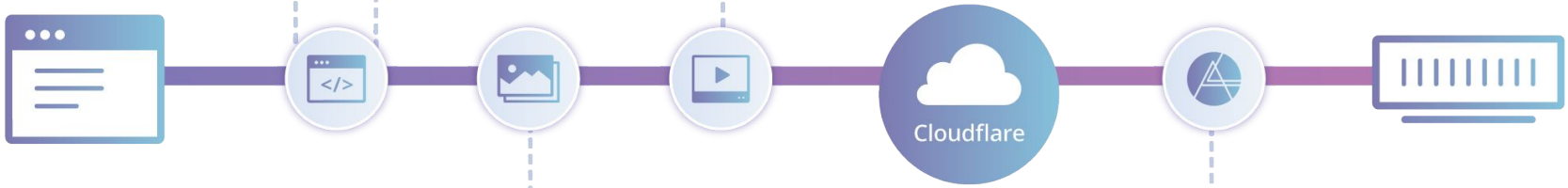
FASTER BROWSER RENDERING USING SAMPLED SITES

CONCURRENT STREAMING

ACCELERATION

2 SECOND

POTENTIAL LATENCY REDUCTION FOR LIVE VIDEO



IMAGE

RESIZING

219 KB

POTENTIAL SAVINGS IN IMAGE FILE SIZES*

FASTER, BETTER

ARGO

16%

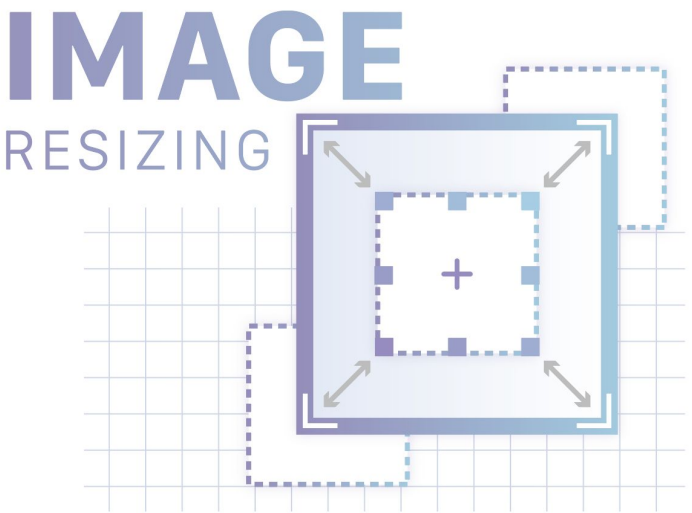
IMPROVEMENT IN TIME TO FIRST BYTE (TTFB)

Speed Week: Image Resizing

What: Cache resized images from a single master.

Why: Customers need to ensure the right sized image is being delivered to a user based on their type of device. Having to store and catalog multiple versions of a single image impacts storage, and becomes difficult to manage over time.

Who: Ecommerce, media and publishers with websites that have large image catalogs



* Based on the 20% of Internet pages with improperly sized images according to HTTP Archive

219kb Potential savings in image file sizes*

Speed Week: HTTP/2 Prioritization

What: Prioritize HTTP/2 requests from the origin/server instead of relying on client side browsers.

Why: Every browser handles prioritization differently, which leads to inconsistent page performance. Cloudflare will provide built in support for prioritization, and will allow customers to build advanced configuration rulesets to further control page load times.

Who: iOS users on Safari will see the biggest benefits. eCommerce and WordPress sites will also benefit from this.

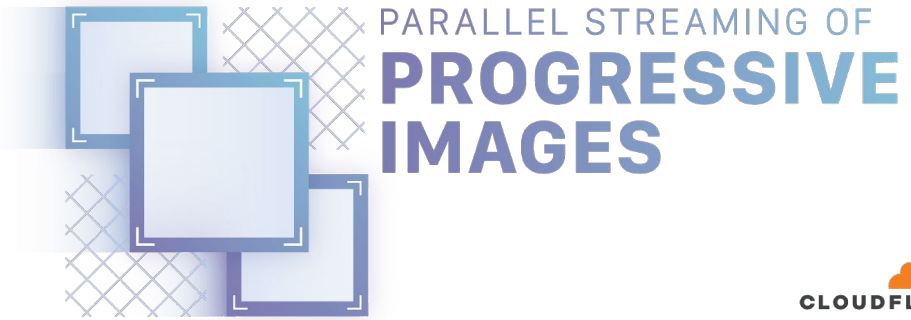
50% faster Browser rendering using sampled sites

Speed Week: Parallel Streaming

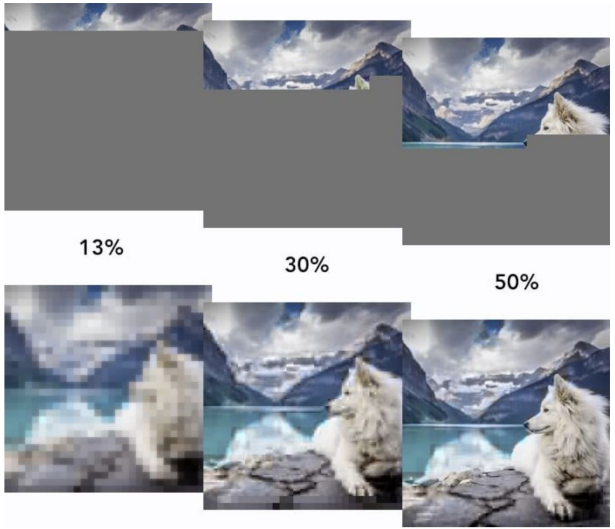
What: Faster image loads

Why: Parallel streaming of progressive images leverages the HTTP/2 prioritization schema we released to improve the load times for images on a page.

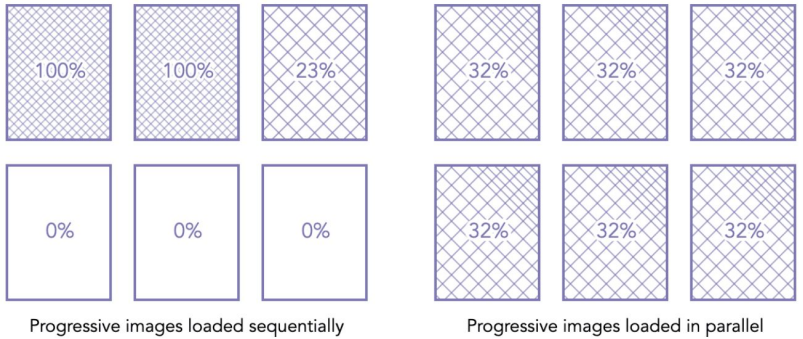
Who: Image heavy sites using progressive JPEG images.



Speed Week: Parallel Streaming

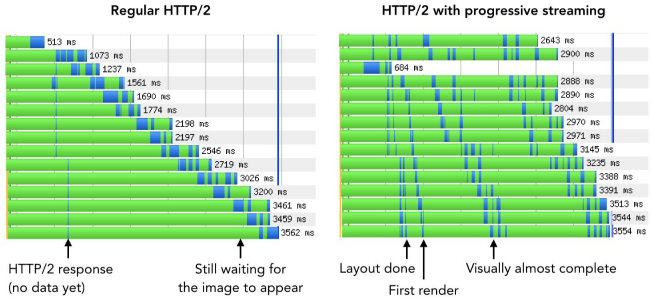


Example 1



Example 2

Speed Week: Parallel Streaming



Speed Week: Concurrent Streaming Acceleration

What: Stream live video to multiple viewers with reduced latency

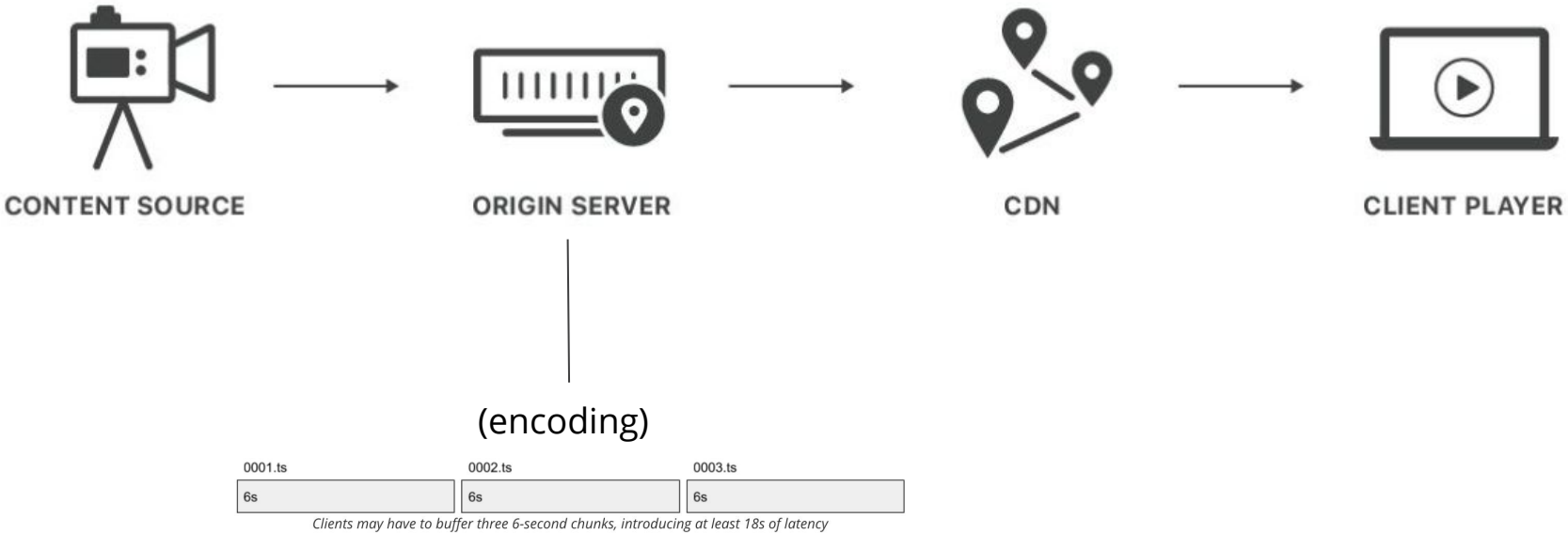
Why: Live video is becoming increasingly prevalent with customers. Ensuring that all viewers have a consistent, timely viewing experience is important.

Who: OTT providers and video publishers that serve live video streaming content

When: May 16th, 2019

2 second Potential latency reduction for live video

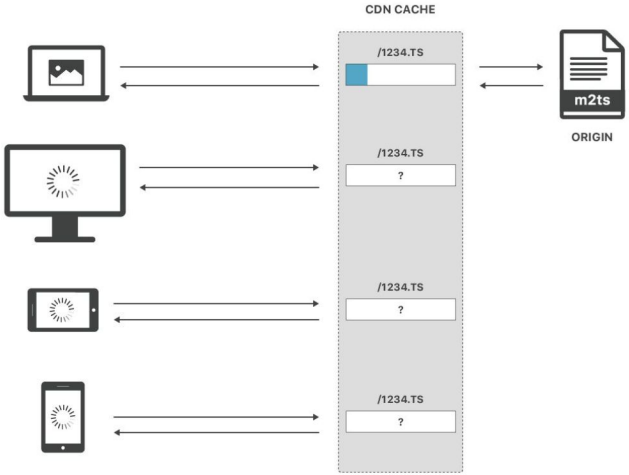
Speed Week: Concurrent Streaming Acceleration



Speed Week: Concurrent Streaming Acceleration

Traditional segmented encoding delivery

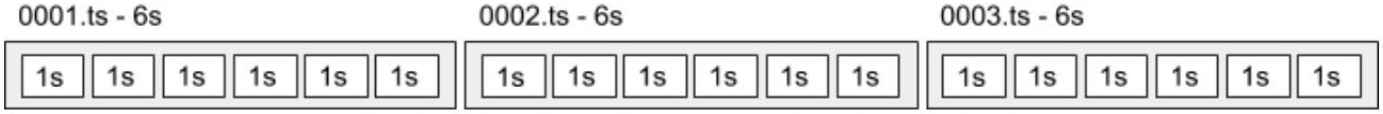
Clients may have to buffer three 6-second chunks, introducing at least 18s of latency



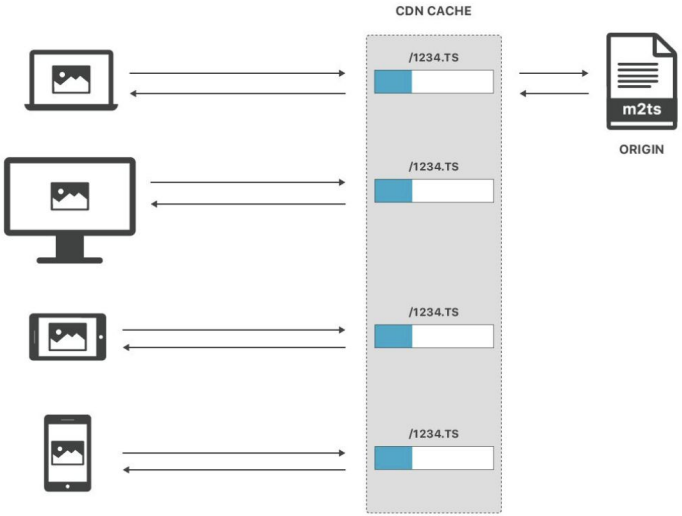
Only one viewer can stream video, while other clients wait for the segment to buffer at the CDN

Speed Week: Concurrent Streaming Acceleration

New “chunked” transfer encoding



Chunked Encoding splits segments into shorter chunks



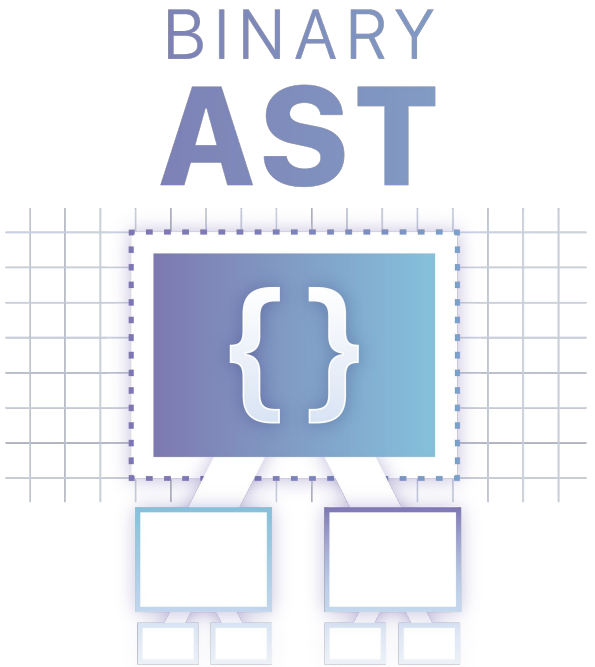
Speed Week: Binary AST

What: Support for Binary AST, a lightweight JavaScript format that reduces the time it takes for browsers to parse JavaScript.

Why: Large JavaScript files can take a long time to parse, resulting in slow page startups and a poor user experience. In collaboration with Mozilla, we are helping them test their proposed standard for Binary AST.

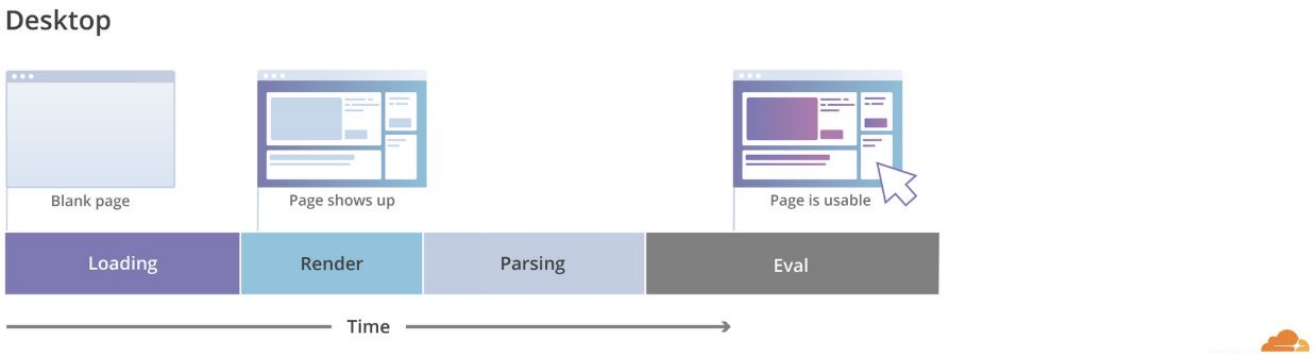
Who: Web developers that are building complex JavaScript heavy web pages and applications.

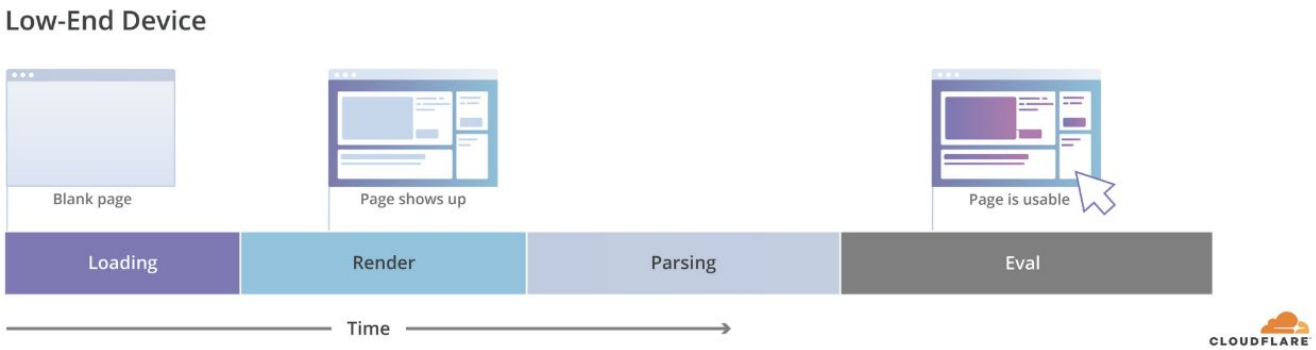
When: May 17th, 2019



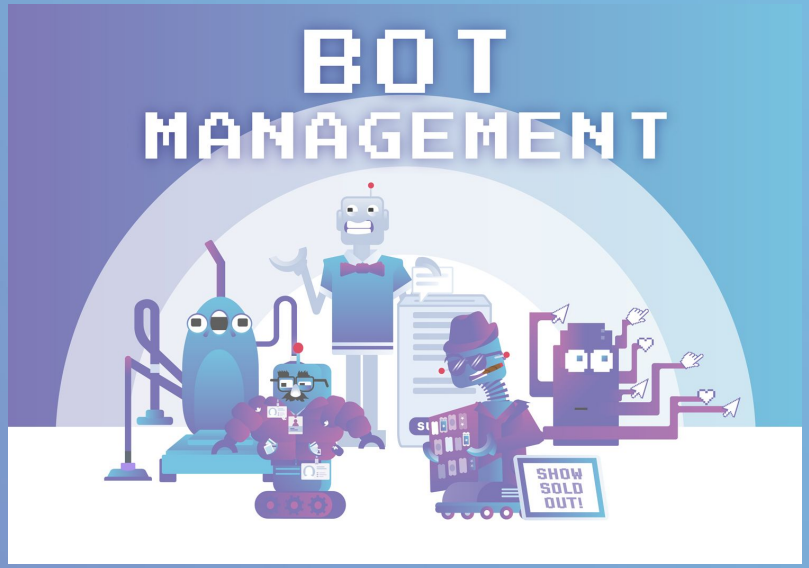
30 - 50% Improvement in JavaScript parsing performance on the most common frameworks

Speed Week: Binary AST

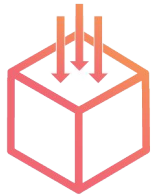




Security:
Bot Management



Factors increasing exposure to bots



Greater attack surface area from more public APIs, moving to the cloud, and increasing third-party integrations

Stronger and more sophisticated attackers

Greater scrutiny by government and media around data, privacy and security

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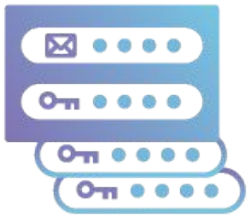
Common Use Cases

Credential Stuffing



Attempts to log into and take-over a user's account by applying previously stolen account credentials.

Content Scraping

Steals public information from a website

Content Spam

Adds malicious content to web properties such as forums and registration forms

Inventory Hoarding

Fraudulently purchases goods to deprive legitimate customers or resell for a higher price

Credit Card Stuffing

Attempts to validate stolen credit cards to then make fraudulent purchases

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Costs to the business

Lost customer trust
Degraded brand value

Lost revenue
Increased costs

Business Impact

- **Lost Revenue due to:**
  - Competition
  - Stolen content
  - Lowered SEO
  - Downtime or sluggish service
- **Damaged Brand**
  - Data breach
  - Content spam
- **Wasted Expenses**
  - Staff costs for remediation
  - IT costs from malicious traffic

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Cloudflare Bot Management Methods

Detection

Machine Learning

Cloudflare's ML trains on a curated subset of more than **475 billion** requests per day across **13M+** Internet properties to create a reliable "bot score" for every request.

Behavioral Analysis

Behavioral analysis detects anomalies in site-specific traffic, scoring every request on how different it is from the baseline.

Protection

Automatic Whitelist

Because not all bots are bad, the solution automatically maintains and updates a white list of "good" bots, such as those belonging to search engines.

Mobile App

We protect your mobile App from impersonation and emulation attacks without using a mobile SDK.

Benefits

Protect revenue and customer trust by preventing bots from disrupting your business model.

Keep applications fast and available by mitigating resource-draining malicious traffic.

Reduce the complexity of threat detection and intervention by leveraging automation that uses data from one of the largest networks in the world.

Improve data integrity for teams that rely on accurate traffic metrics to run the business.

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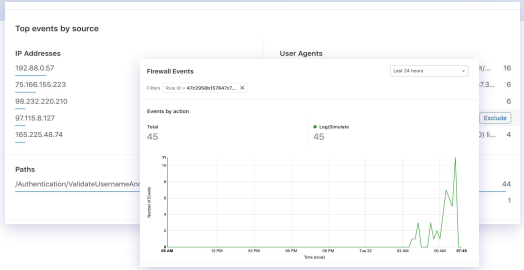
Cloudflare Bot Management

Detect and mitigate bad bots by leveraging intelligence from over **16 million Internet properties**
All with one click.

One-Click Deployment

- With a single click, deploy rules with Cloudflare recommended bot score thresholds
- No instrumentation with third-party JavaScript required



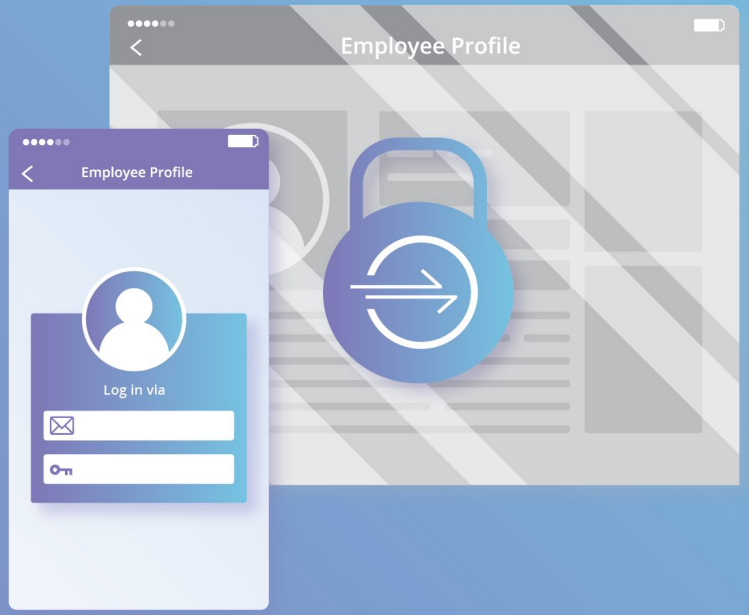
Rich Analytics and Logs

- Time-series graphs with drill-down tables
- Logs bot management rule, action, and rich request meta-data for every request

Control and Configurability

- Scope rules by path or URI pattern, request method, and bot score thresholds
- Select mitigation methods, such as log, CAPTCHA, or block

Security: Access



User Access Customer Challenges

Data Theft

Remote Workers Denied Access

Outside of the firewall, users no longer have secure access to Internet-facing internal applications.

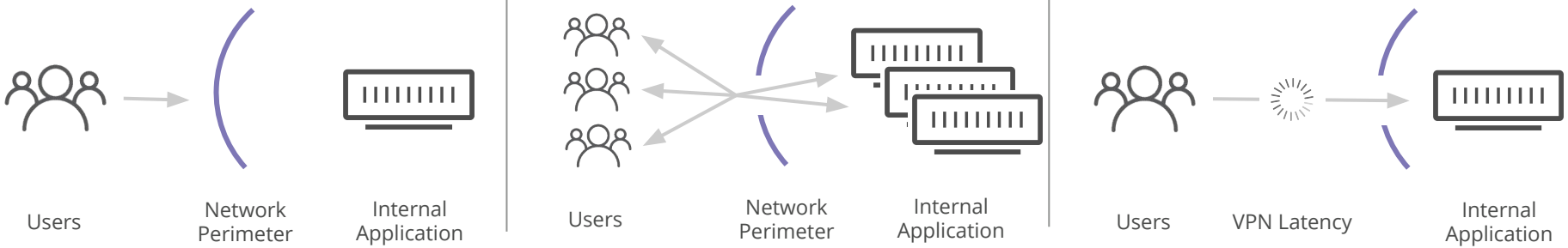
Weak, Overly Broad Authentication

Users who are given access through a shared password or even a VPN have access not enforced by application or authenticated by identity.

Slow Mobile Access

Slow and Cumbersome VPN Access

Traditional VPN solutions add latency, especially for users on mobile devices with spottier connections.



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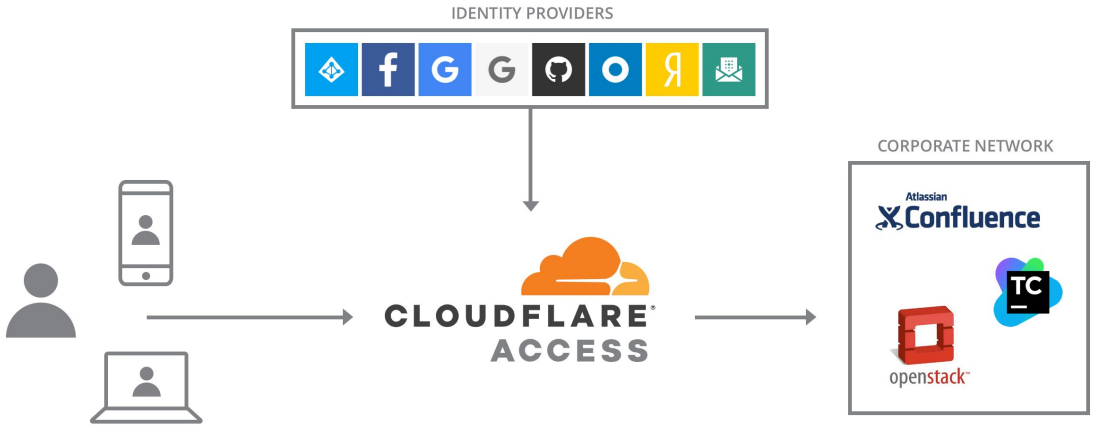
Cloudflare Access

Secure application access without a VPN

- Control user access at Applications level (domain, application or path)
- Monitor and log user access and changes
- Deploy and manage Access Control quickly
- Deliver fast applications to devices Anywhere



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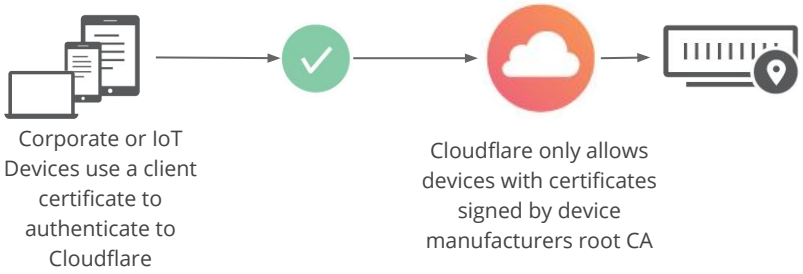
Available identity providers: Azure, Centrify, Facebook, GSuite, Generic OIDC, Github, Google, Okta, Onelogin, **SAML 2.0**, Yandex

Complement Access with client authentication (Mutual TLS)

- Ensure that the **traffic is secure and trusted** in both directions between a client and server.
- Allow **requests that do not login with an identity provider** (like IoT devices) demonstrate that they should be able to reach a given resource
- **Second layer of security** for team members who both login with an identity provider and present a valid client certificate



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Want to learn more?

For any questions or to arrange trials of these products, please contact:

Email **success@cloudflare.com**