



# What's New at Cloudflare


## Starts at 10:00am pacific

### **Please connect to the audio bridge**

Please click the settings button  on the left hand side of the screen

### **"Join Audio"**

### **For questions**

Use the chat feature  in the bottom left side of your screen



# What's New at Cloudflare?

## June 2019



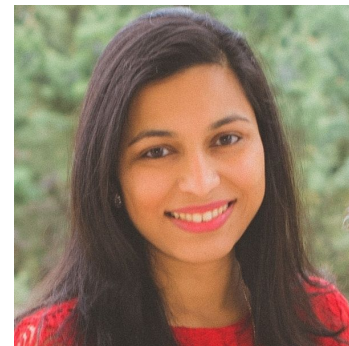
Halley Kish

Customer Success



Adam Shea

Account Management



Shweta Shanbhag

Solutions Engineering

# Today's Agenda

## RELIABILITY



Anycast  
network

## PERFORMANCE



Argo &  
Argo Tunnel



Speed Week  
Updates

## SECURITY



Bot  
Management



Access

## PLATFORM

- 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



# Solving the problems of Internet - 4 key areas

## PERFORMANCE



CDN



Web  
optimization



Mobile  
optimization



WAN  
optimization

## SECURITY



DDoS



IoT  
security



WAF



Perimeter  
security

## RELIABILITY



DNS



Anycast  
network



Load  
balancing



Always  
online

## INSIGHTS



Threat  
analytics



Enterprise  
logs



Traffic  
monitoring

## PLATFORM



Edge  
compute



Apps  
platform

# Cloudflare's Global Anycast Network is the heart of our mission

**1B+**

Unique IP addresses  
pass through our  
network every day

**25 Tbps**

Network capacity

**175+**

Data centers globally

**16M+**

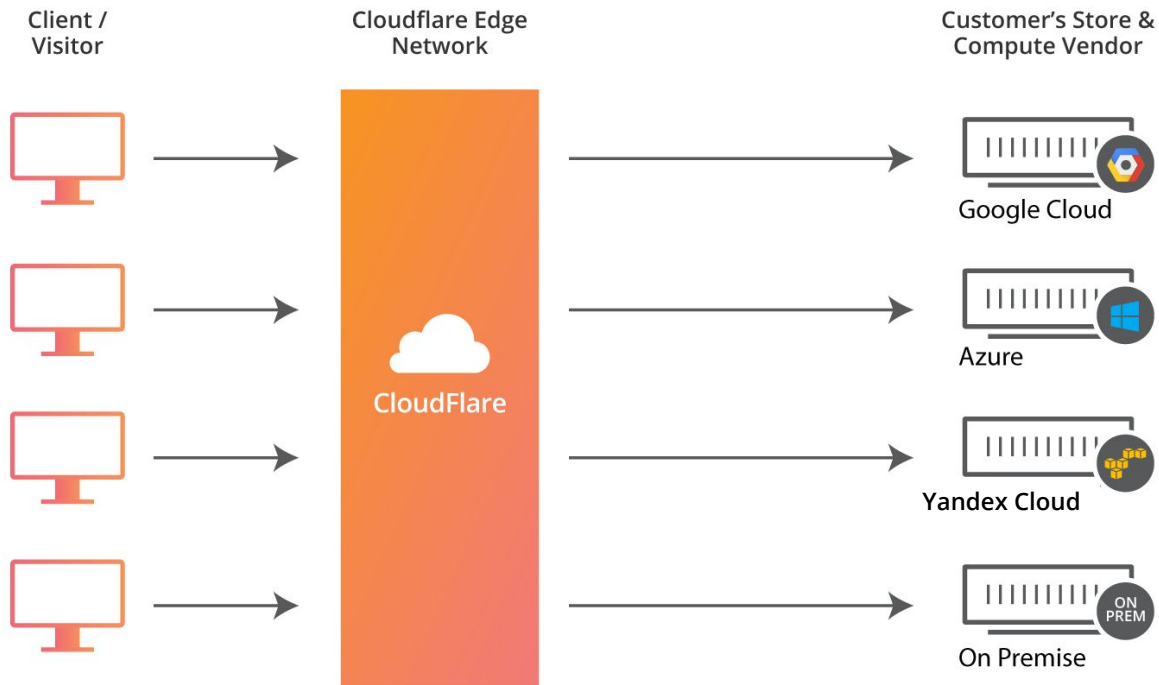
websites, apps & APIs  
in 150+ countries

**12M**

Requests/second



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





# 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



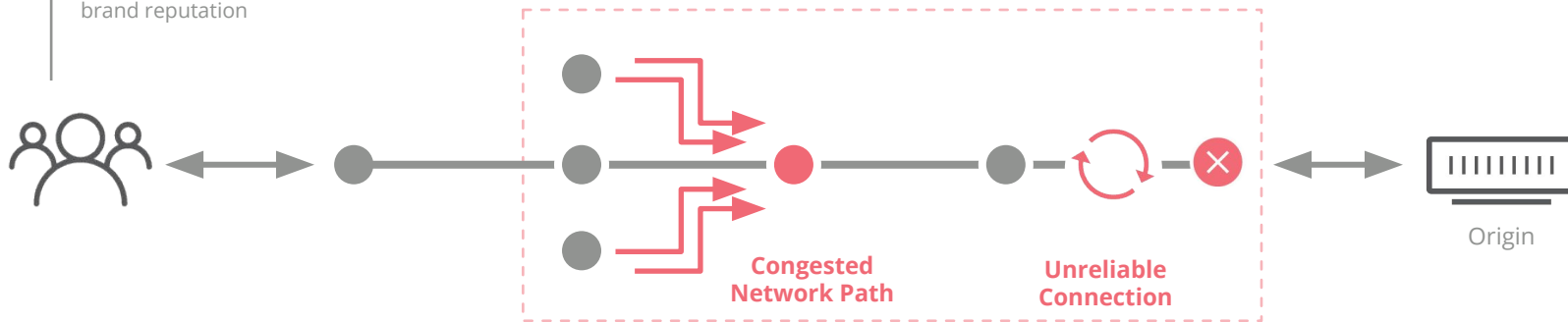
# Performance: Improvements to Argo



# Customer Challenges

## Poor User Experience

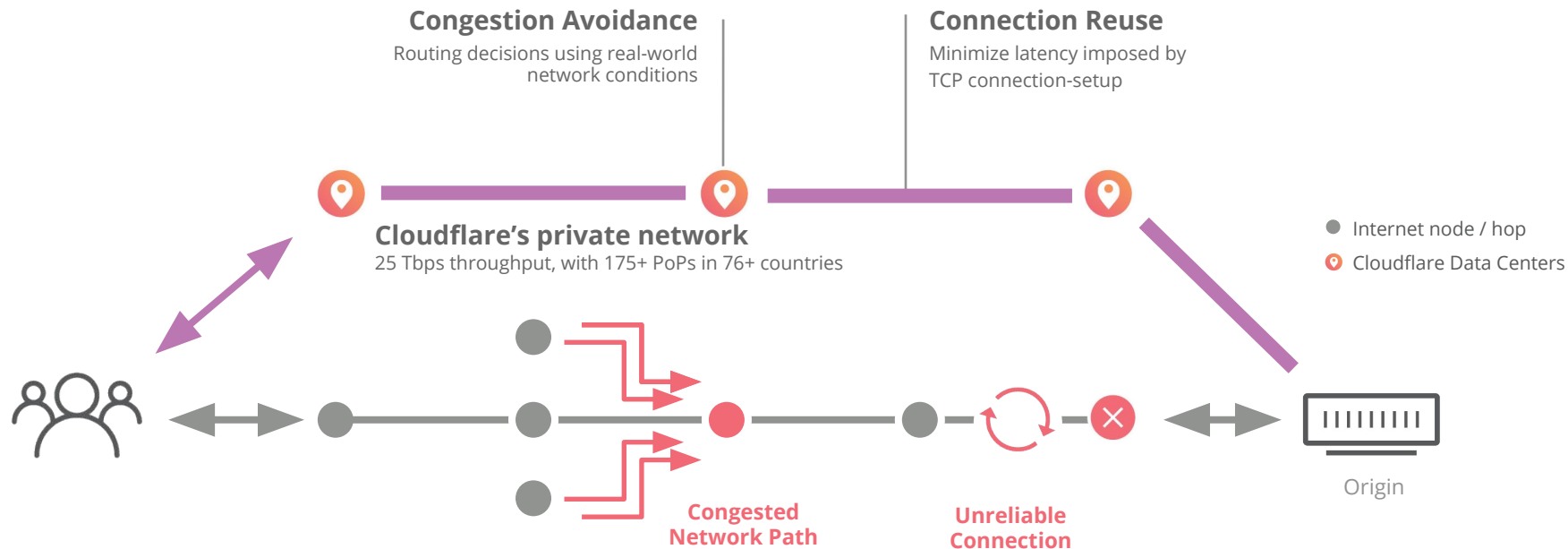
Slow loading times and connection timeouts increase the likelihood of a poor user experience that can result in reduced revenue or damaged brand reputation



## Slow Loading Times

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

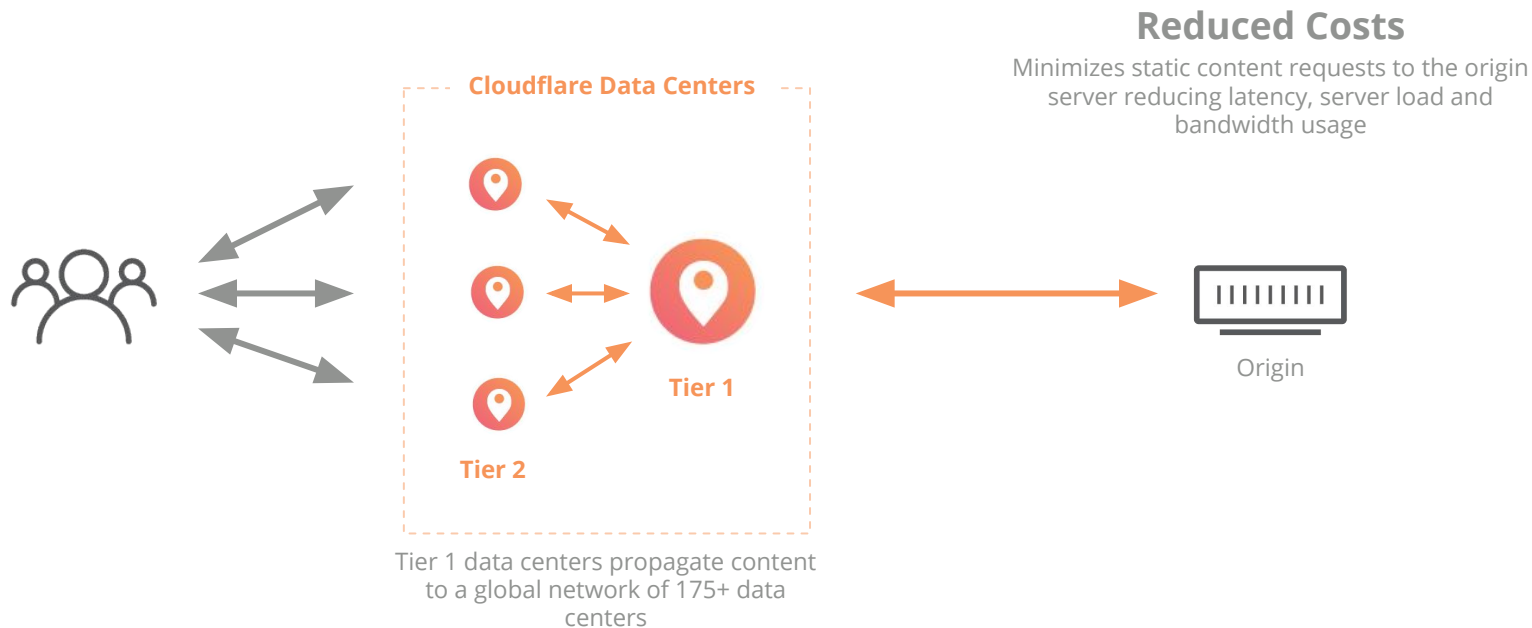
# Argo Smart Routing + Transit Selection



## 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

# Cloudflare Argo Tiered Caching



Performance:  
Speed Week



# BINARY AST

**30-50%**

IMPROVEMENT IN  
JAVASCRIPT PARSING  
PERFORMANCE ON  
THE MOST COMMON  
FRAMEWORKS

# HTTP/2

PRIORITIZATION

**50%**

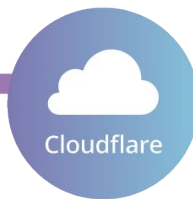
FASTER BROWSER  
RENDERING USING  
SAMPLED SITES

# CONCURRENT STREAMING

ACCELERATION

**2 SECOND**

POTENTIAL LATENCY  
REDUCTION  
FOR LIVE VIDEO



# IMAGE

RESIZING

**219<sub>KB</sub>**

POTENTIAL  
SAVINGS IN IMAGE  
FILE SIZES\*

FASTER, BETTER

**ARGO**

**16%**

IMPROVEMENT  
IN TIME TO FIRST  
BYTE (TTFB)

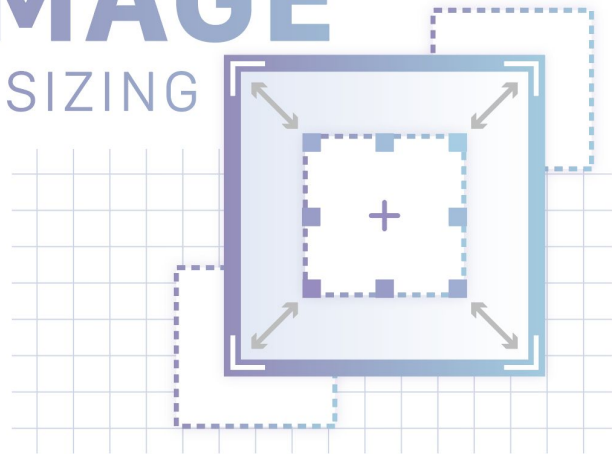
# Speed Week: Image Resizing

**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

## IMAGE RESIZING



<https://blog.cloudflare.com/announcing-cloudflare-image-resizing-simplifying-optimal-image-delivery/>

\* 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.

<https://blog.cloudflare.com/better-http-2-prioritization-for-a-faster-web/>



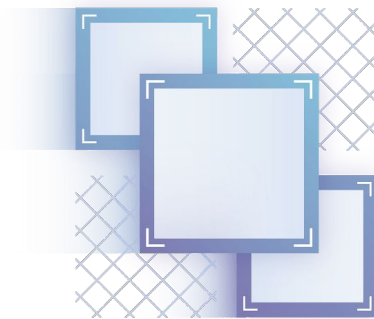
# Speed Week: Parallel Streaming

**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.

<https://blog.cloudflare.com/parallel-streaming-of-progressive-images/>



PARALLEL STREAMING OF  
**PROGRESSIVE  
IMAGES**



# Speed Week: Concurrent Streaming Acceleration

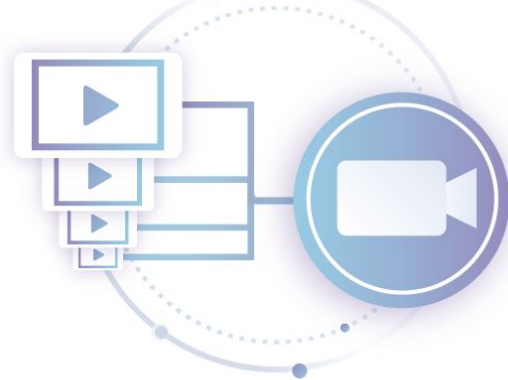
**What:** Stream live video to multiple viewers with reduced latency

**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

CONCURRENT  
**STREAMING**  
ACCELERATION



<https://blog.cloudflare.com/introducing-concurrent-streaming-acceleration/>

2 second

Potential latency reduction for live video

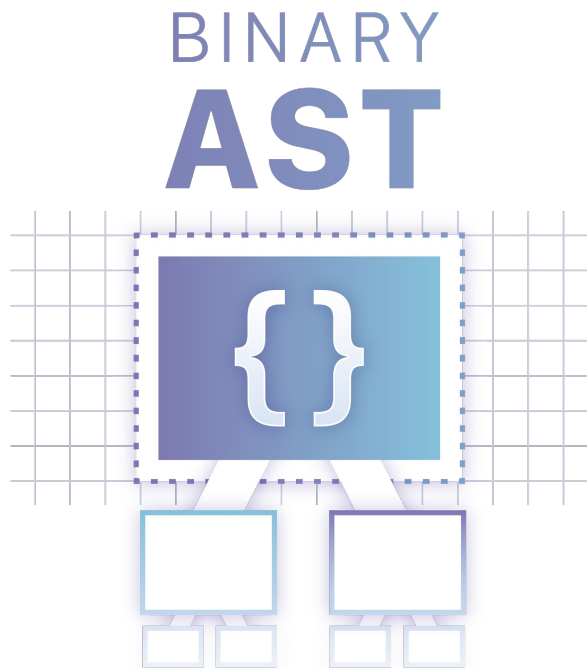
# Speed Week: Binary AST

**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.

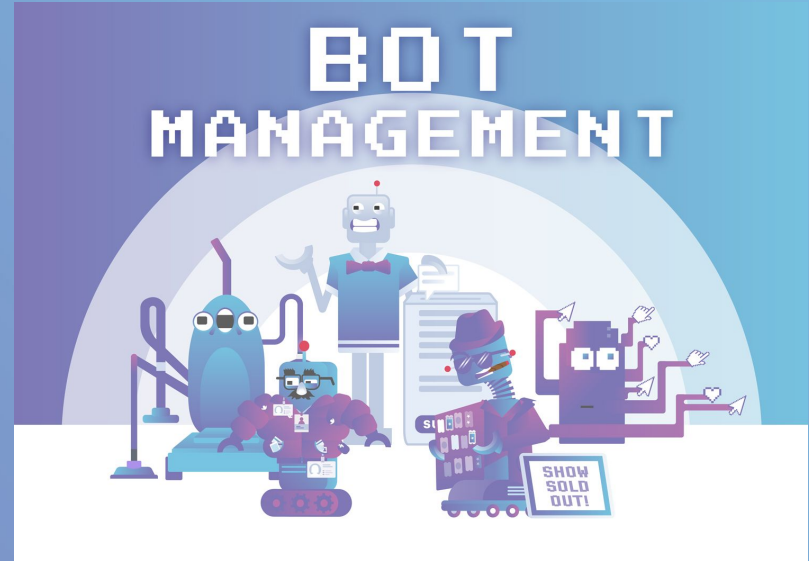
**Who:** Web developers that are building complex JavaScript heavy web pages and applications.

**When:** May 17th, 2019



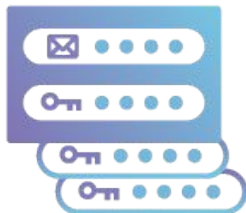
<https://blog.cloudflare.com/binary-ast/>

# Security: Bot Management



# 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

# 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

# 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.

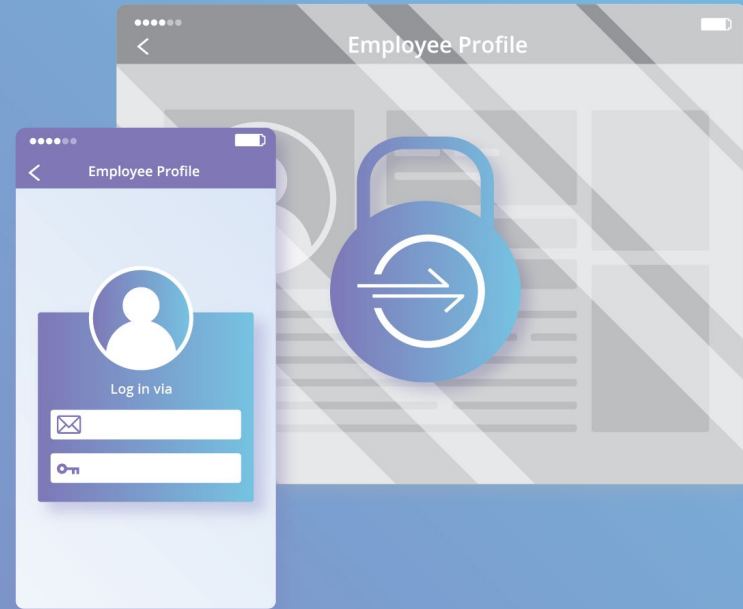


**Reduce the complexity** of threat detection and intervention by leveraging automation that uses data from one of the largest networks in the world.



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

# Security: Access

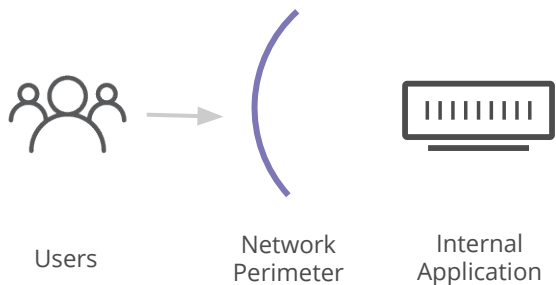


# User Access Customer Challenges

## Data Theft

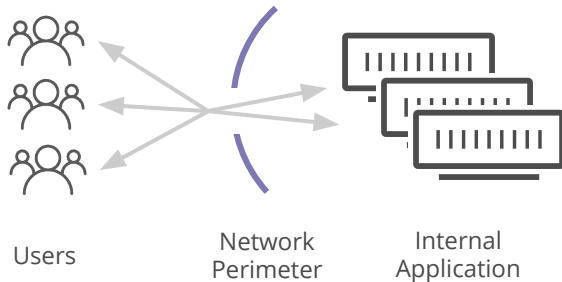
### Remote Workers Denied Access

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



### Weak, Overly Broad Authentication

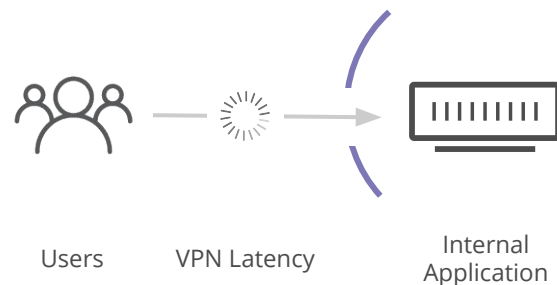
Users who are given access through a shared password or even a VPN have access not enforced by application or authenticated by identity.



## Slow Mobile Access

### Slow and Cumbersome VPN Access

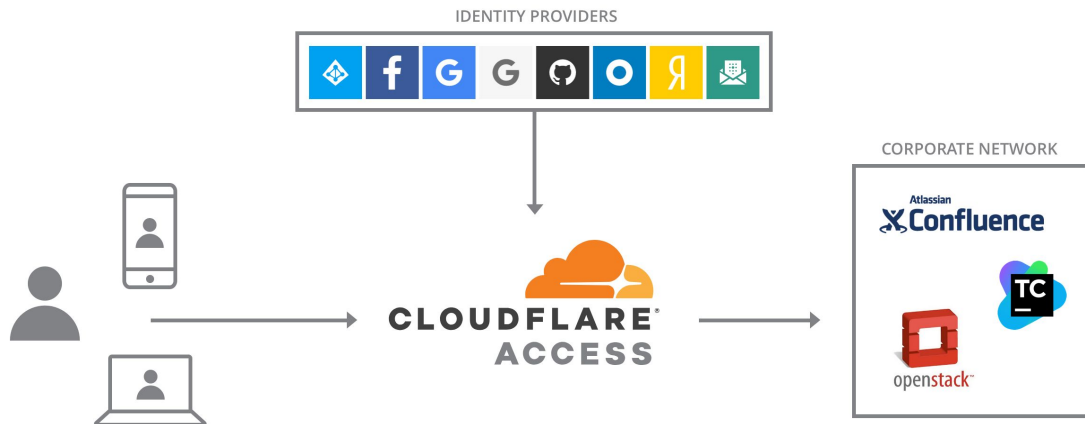
Traditional VPN solutions add latency, especially for users on mobile devices with spottier connections.



# Cloudflare Access

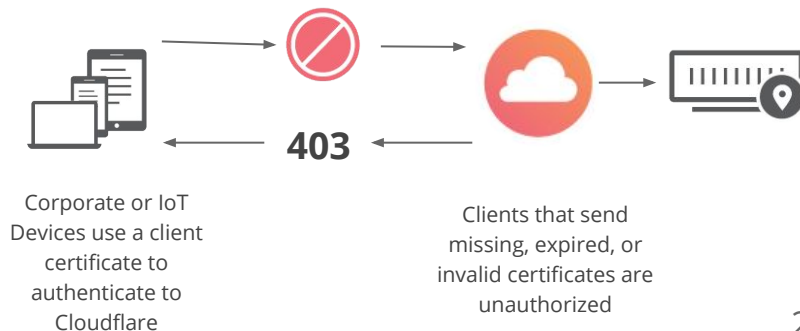
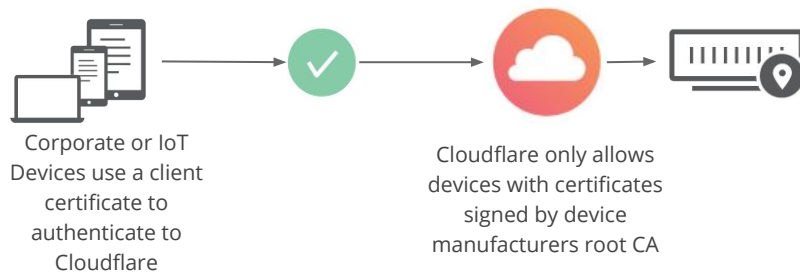
## Secure application access without a VPN

- 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



# 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



# Want to learn more?

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

Email **[success@cloudflare.com](mailto:success@cloudflare.com)**