

# Cloudflare for Mobile

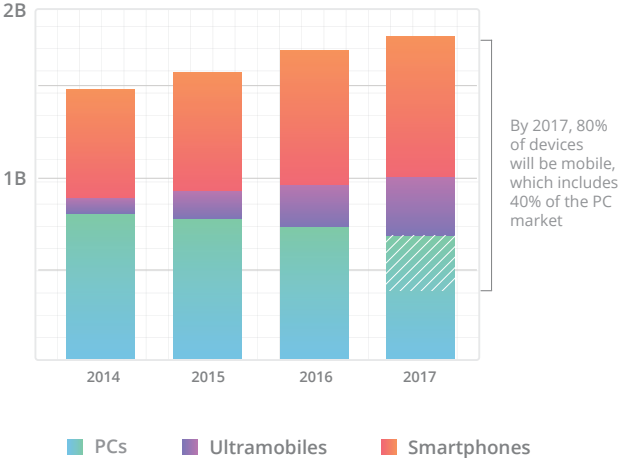
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Delivering unique performance and security capabilities for mobile users

The mobile device market is huge and continues to expand. As we look toward 2017, the number of active mobile devices will grow to over 5 billion.

**Enterprise**

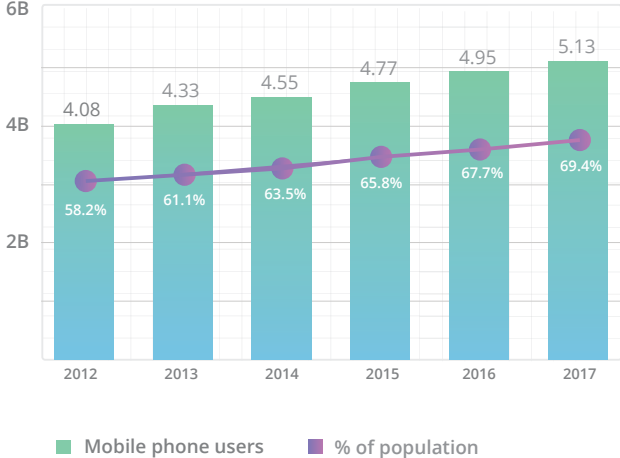
80% of devices will be mobile by 2017



Source: Gartner

**Consumer**

Over 5B mobile users by 2017



Source: Emarketer

To successfully capture this section of the market, businesses need to meet consumers’ increasing expectations for mobile content speed. Mobile consumers demand instant gratification. According to a Gomez study, **75% of mobile users give up within 4 seconds of waiting for a mobile page to load.**

In addition to consumers, companies themselves are rapidly adopting mobile. Organizations look at mobile not simply as a device that serves emails and calendars, but also as a mobile app ecosystem that transforms the way people live and work. Gartner estimates that by 2017, employees will operate almost 2 billion devices, over 80% of which will be mobile.

Cloudflare empowers web businesses to deliver fast, secure, and device-specific content to enhance the experience of mobile users.

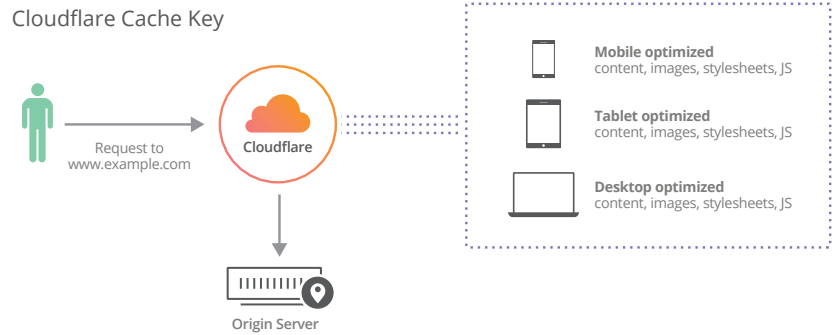
**Support and Optimize Device-Specific Content**

To deliver content that is designed for a rapidly growing ecosystem of mobile devices, Cloudflare developed a custom cache key to identify device types. In this way, Cloudflare is able to cache and deliver web resources specifically tailored to each device type. This technology allows businesses to deliver mobile content as fast as possible without sacrificing quality.

Cloudflare’s cache key allows businesses to cache as many or as few variations of their applications as needed.

## Acceleration of Native Mobile Applications

After establishing an initial connection using TCP or HTTP/S between Cloudflare's edge and the API that supports a native mobile app, Cloudflare keeps the connection alive to avoid performance degradation caused by cold starts. By reusing connections, Cloudflare reduces the concurrent connections an API needs and eliminates the need for TCP to restart. As a result, each subsequent user benefits from lightning-fast API response time.



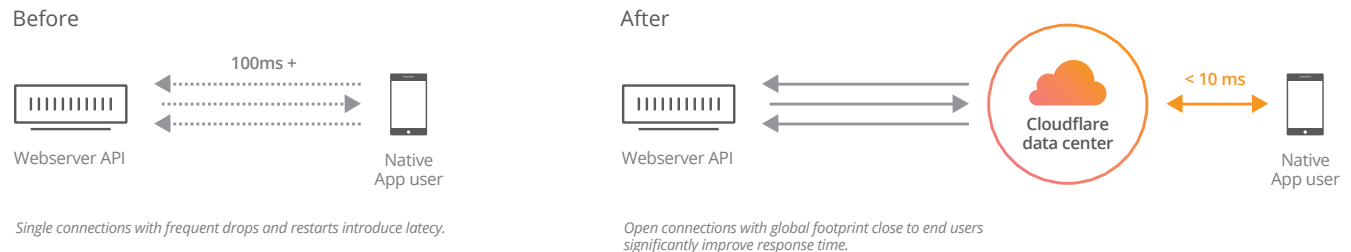
## Dynamic Content Acceleration for Mobile

**Railgun™** accelerates connections between each Cloudflare data center and your origin server(s) so that requests that cannot be served from Cloudflare's cache are still served very fast. Railgun achieves up to a 99.6% compression ratio for previously uncacheable objects (taking, for example, a 50KB mobile page down to 200 bytes) and can improve performance time by over 700%. No matter where the origin server is relative to your users, Railgun ensures that pages are delivered at light speed.

## Mobile Image Optimization

By optimizing the image size and resolution, Mirage and Polish deliver faster page load times on mobile devices.

## Acceleration of native mobile applications



*A leading online dating site improved API response times by 70% on the US West Coast once API traffic leveraged session reuse (origin server - on the US East Coast).*

**Mirage** quickly produces a fast, usable page for mobile devices. Mirage creates the appearance of a full page allowing the user to start interacting with the site immediately, then quietly fills in the rest of the page without disrupting the user experience.

It does so by:

- Streamlining image requests into a single connection
- Progressive image loading
- Lazy-loading below the fold
- Sending reduced-size images first and full resolutions images later.
- Asynchronously loading images

**Polish** automatically applies both “lossless” and “lossy” image optimization to remove unnecessary bytes from images (such as: metadata and geolocation). On average, image sizes are reduced by 35%.

### **Security For Native Mobile Apps**

Cloudflare protects mobile APIs from large volumetric Layer 3 and 4 DDoS attacks. Our extensive IP reputation database — with over 1 billion IPs — provides us with effective security intelligence. By employing a data-driven security layer with real-time feedback and a dynamic reputation scoring, Cloudflare protects native mobile apps and sites from a variety of security threats including: comment spam, excessive bot crawling, SQL injections, and complex DDoS attacks.

### **Mobile Redirect**

*By utilizing Polish and Mirage, the major online media publication, Parade.com, decreased mobile page size by 50%.*

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For businesses that require a separate mobile webpage, Cloudflare’s mobile redirect service automatically redirects mobile device visitors to a mobile-optimized subdomain. The redirect is done at the edge of Cloudflare’s network, improving load time by eliminating a roundtrip to the origin server — this is especially valuable on mobile networks, which serve content much slower than wifi does.

## **Lightning-Fast Mobile Experience with Cloudflare**

Cloudflare recognizes the high expectations of mobile users. This is why we’ve custom-built a technology that provides seamless mobile experience. With Cloudflare, businesses can provide as fast and secure as possible service to their mobile users.



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