

Cloudflare Seamless IPv6 Gateway

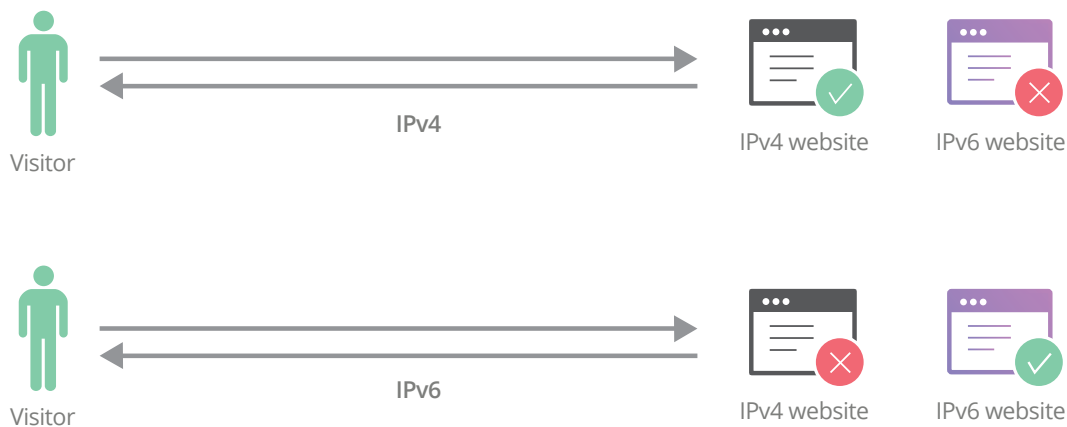
Overview of Internet Protocols

Internet Protocol Version 4 (IPv4) is at the core of internet operations. It routes internet traffic by creating unique addresses for devices online. IPv4 was built to handle about 4 billion devices connecting to the Internet in the 1970's. While 4 billion seemed like a lot at the time, we are fast approaching that limit. As part of the Internet's growing pains, a new protocol has been created: Internet Protocol Version 6 (IPv6). However, IPv4 and IPv6 are incompatible making this a difficult situation for businesses who rely on the Internet for sales and communication. Until the full transition takes place, it will be crucial for businesses to support both IPv4 and IPv6.

The problem with the IPv4 addresses was predicted years ago as popularity of the Internet grew. With more devices being put on the Internet daily, a critical resource is being depleted: unique Internet Protocol address (IP addresses).

The switch to IPv6 is an effort to gain more addresses—34 Undecillion to be exact (that's 34 with 13 zero's behind it). This change has been in progress for the last decade; however, progress has been slow because only a small fraction of the web has switched over to the new protocol. What makes the problem more difficult is that IPv4 and IPv6 essentially run as parallel networks making them incompatible, and exchanging data between these protocols requires special gateways.

IPv4/IPv6 without Cloudflare



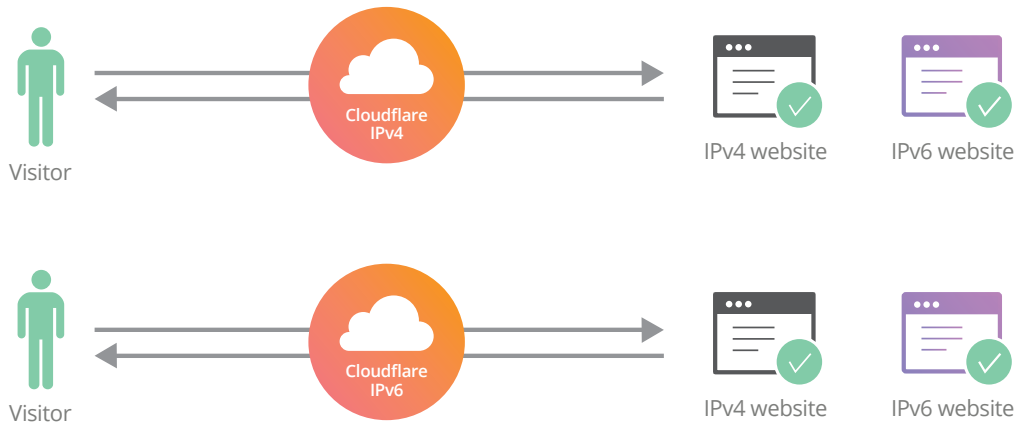
To make the full transition from IPv4 to IPv6, software and routers will have to be changed to support the more advanced network. This will take time and money. A temporary solution to this incompatibility is a hardware-based gateway that cost tens of thousands of dollars per website to deploy. Many businesses would like to avoid this option.

Cloudflare IPv6 Gateway

For the last six years Cloudflare has set out to solve the Internet's biggest challenges. We've build a robust global network with 116 data centers around the world allowing us to deliver web content across the planet quickly, reliably, and with high levels of security.

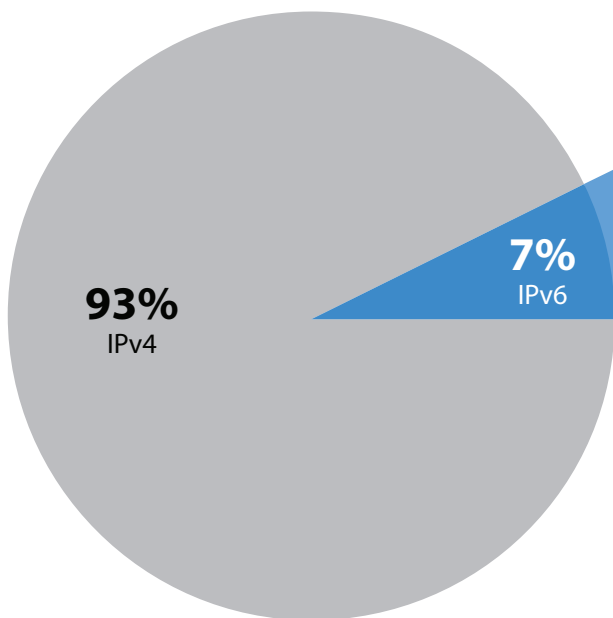
We've been providing a free IPv6 gateway since 2011 that allows any website to be available over IPv6 even if a site's origin network doesn't yet support the protocol. As a result, Cloudflare has become one of the largest providers of the IPv6 web.

Cloudflare IPv4 and IPv6

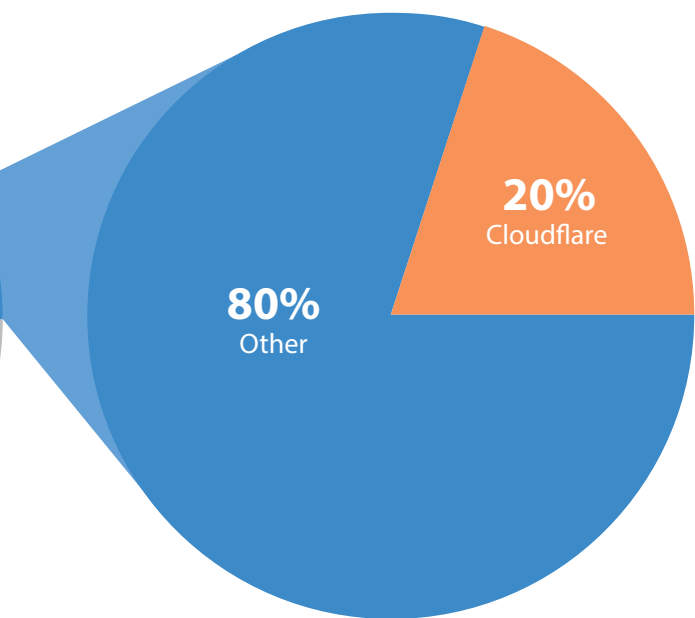


Currently, 20% of the IPv6 web uses Cloudflare IPv6. Looking at the top one million web sites tracked by Alexa we see that around 7% are accessible using IPv6. Of that 7% a full 20% are accessible using IPv6 because they are Cloudflare customers with IPv6 enabled.

IPv4 vs. IPv6 in the Alexa Top 1 Million



IPv6 sites powered by Cloudflare



Cloudflare enables IPv6 for customers on Cloudflare by default, making it seamless and easy.

Automatic IPv6

Enable IPv6 support. [Learn more...](#)

Full ▼

If your backend supports IPv6 then visitors arriving on an IPv6 connection will be transported via the protocol end-to-end. If your backend only supports IPv4, Cloudflare will accept a visitor over IPv6, and then seamlessly make a request to your server over IPv4.

To date, Cloudflare has helped more than 5 million websites join the modern web, making us one of the fastest growing providers of IPv6 web connectivity on the Internet.

Cloudflare's Automatic IPv6 Gateway allows IPv4-only websites to support IPv6-only clients with one click. No hardware. No software. No code changes. And no need to change your hosting provider.

For information about using Cloudflare's IPv6 Gateway go to: www.Cloudflare.com/ipv6



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