

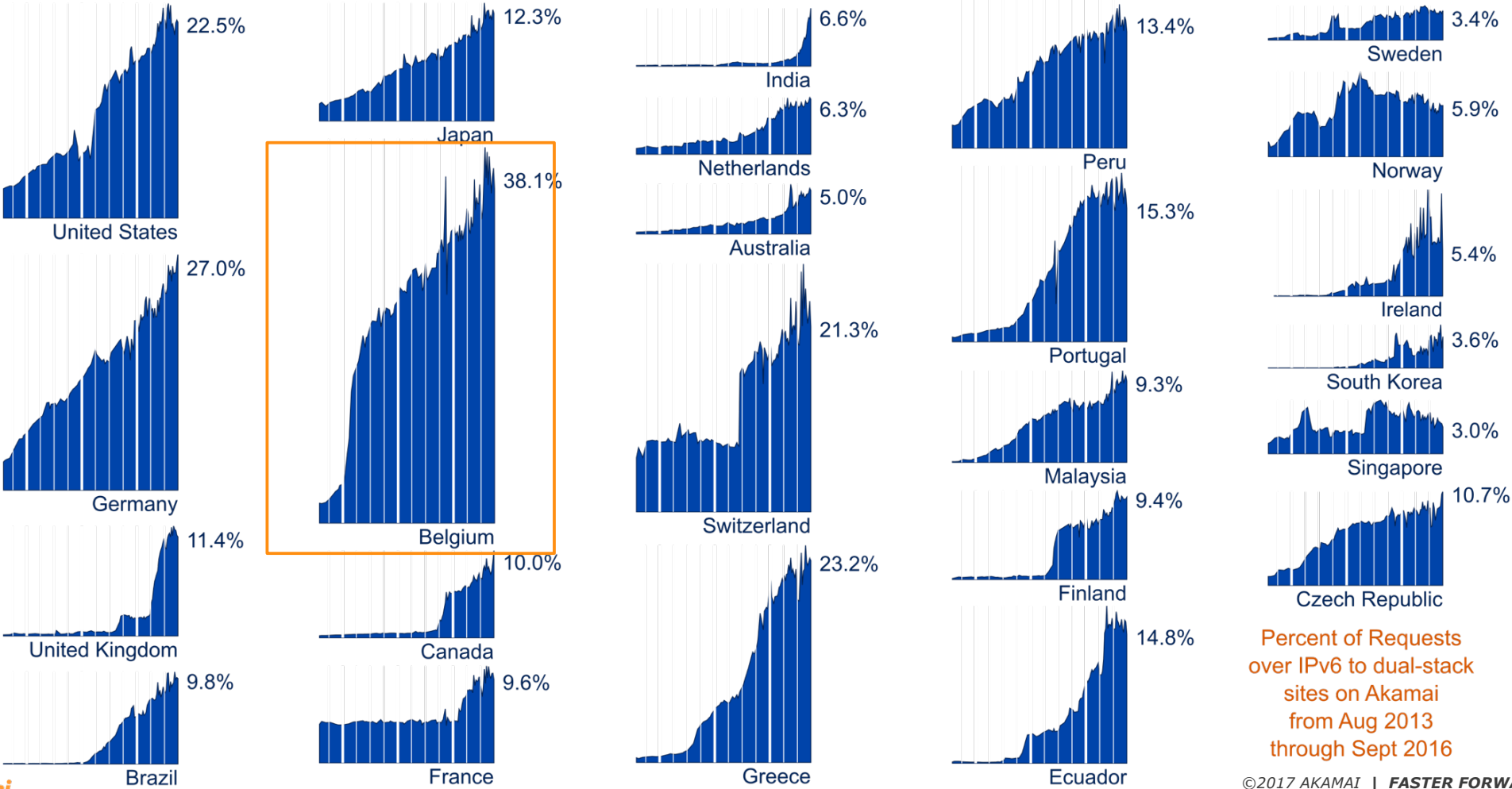


IPv6 Council – (Belgian) Content provider view

Tim Vereecke, Senior Solutions Engineer

IPv6 Trends

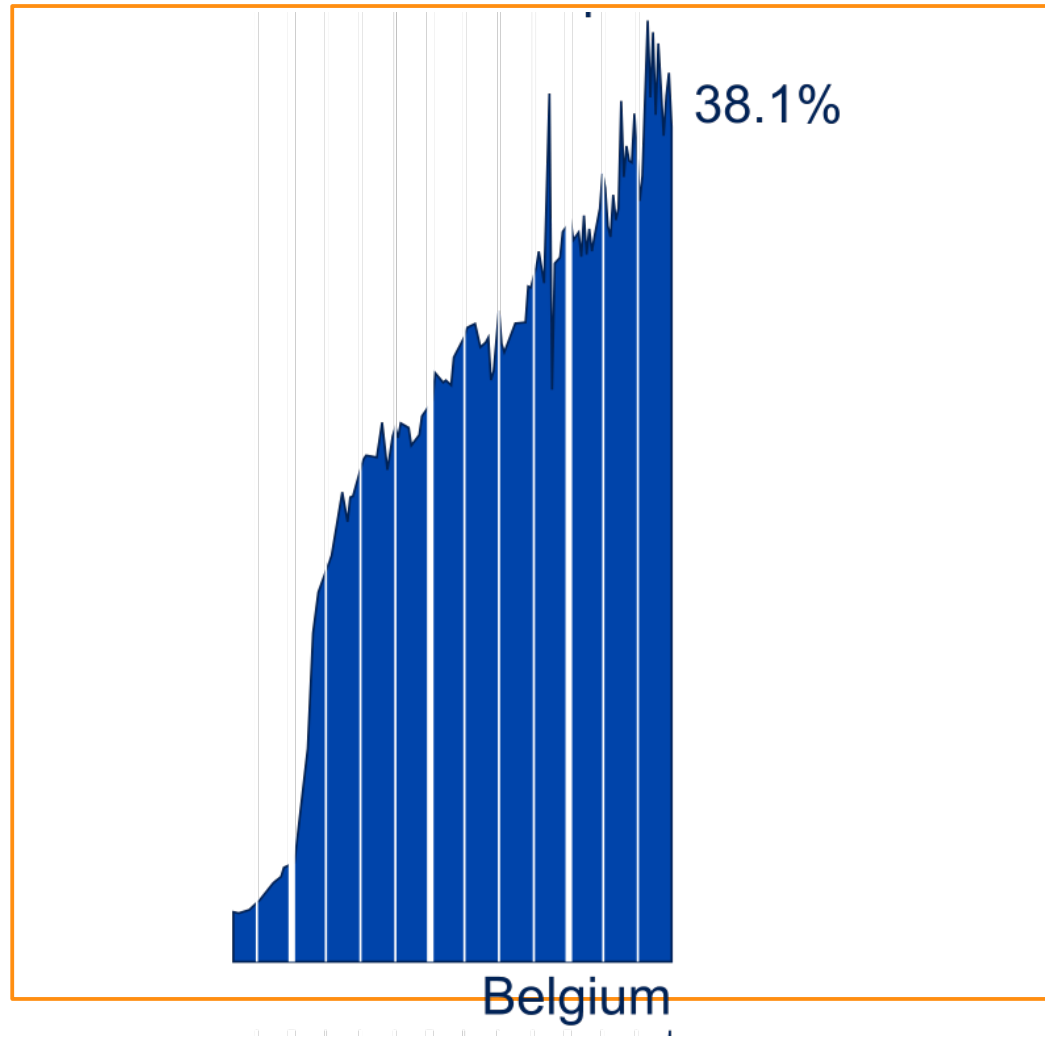
Leading Countries: three years of IPv6 growth



Percent of Requests over IPv6 to dual-stack sites on Akamai from Aug 2013 through Sept 2016

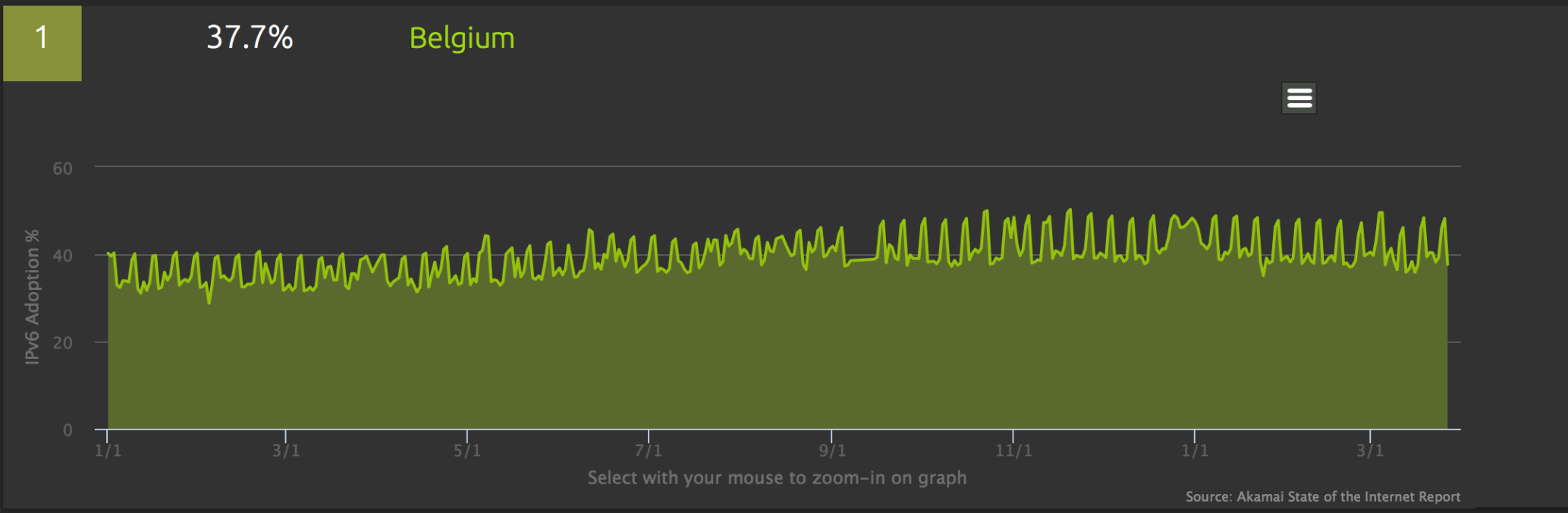


Leading Countries: three years of IPv6 growth



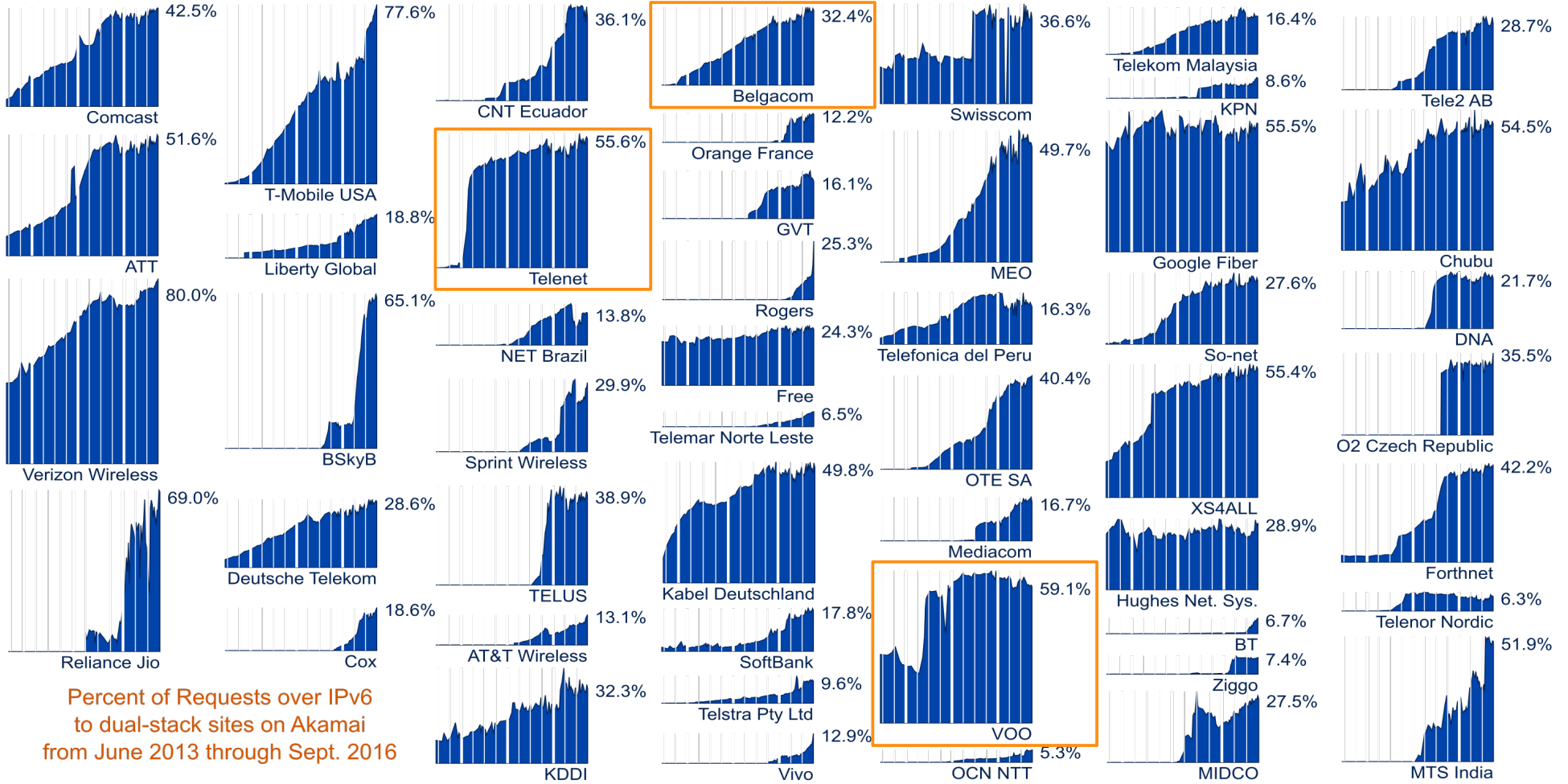
or X

RANK IPV6 % COUNTRY



2 26.9% Greece

Leading global networks: 3 years of IPv6 growth

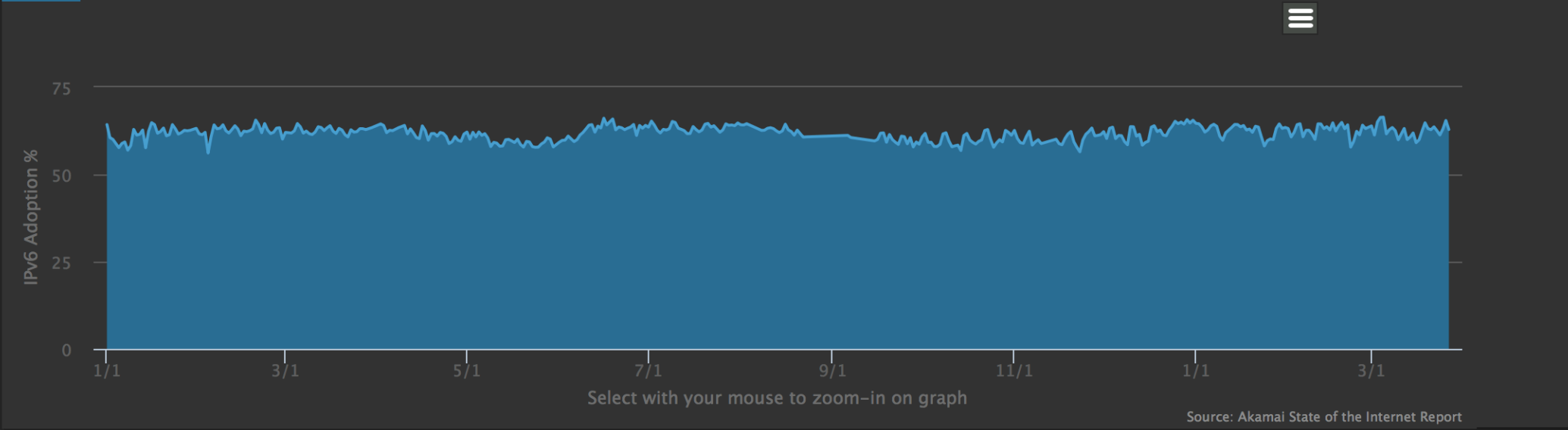


Percent of Requests over IPv6 to dual-stack sites on Akamai from June 2013 through Sept. 2016

brut X

RANK ▲ IPV6 % NETWORK

40 62.9% BRUTELE SC



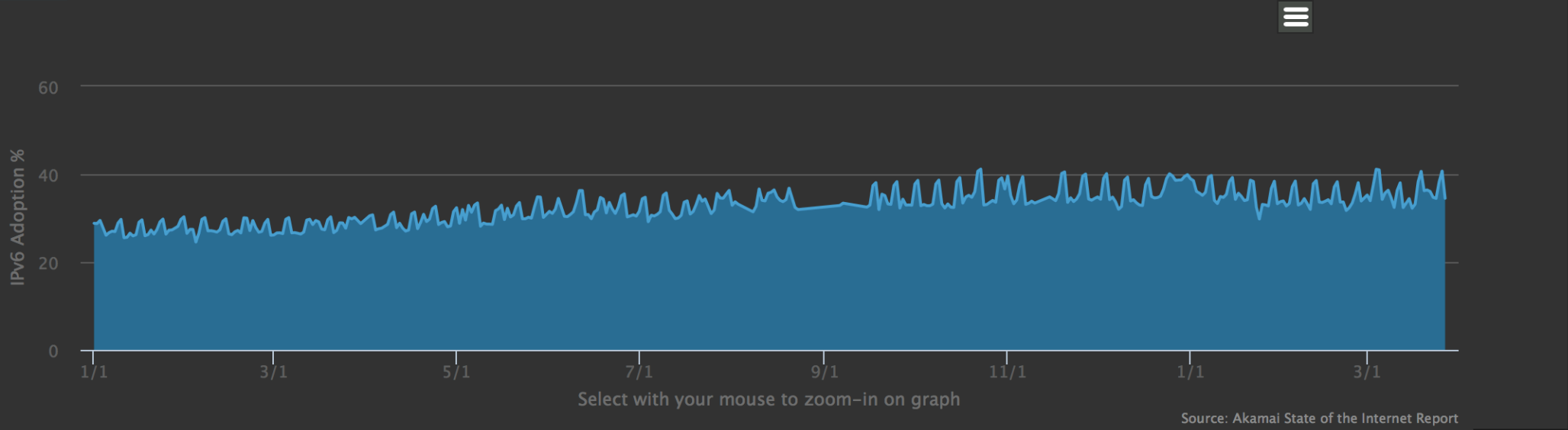
Data last updated: 3/27/2017

[Download network data](#) | [Download country data](#)

belg X

RANK ▲ IPV6 % NETWORK

22 34.5% Belgacom Skynet NV/SA



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telenet



RANK ▲

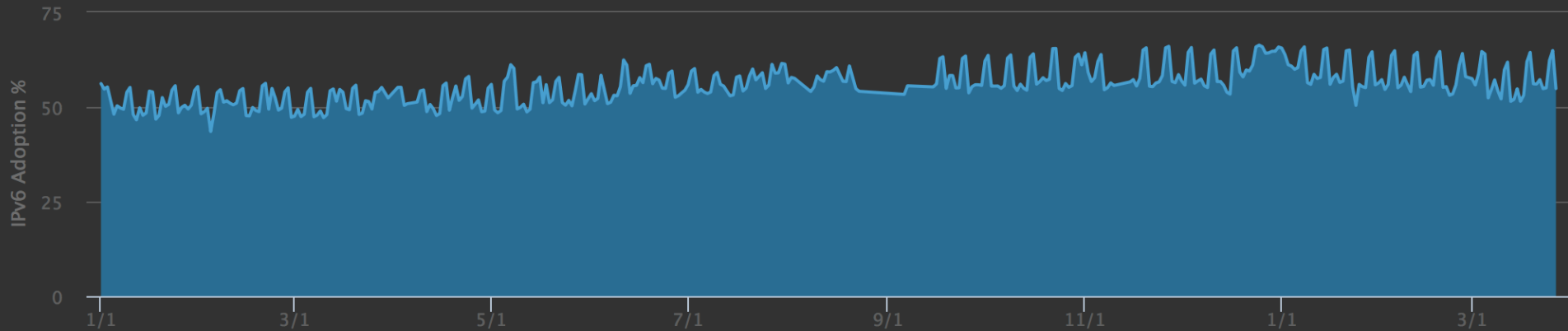
IPV6 %

NETWORK

12

54.8%

TELENET



Select with your mouse to zoom-in on graph

Source: Akamai State of the Internet Report

Data last updated: 3/27/2017

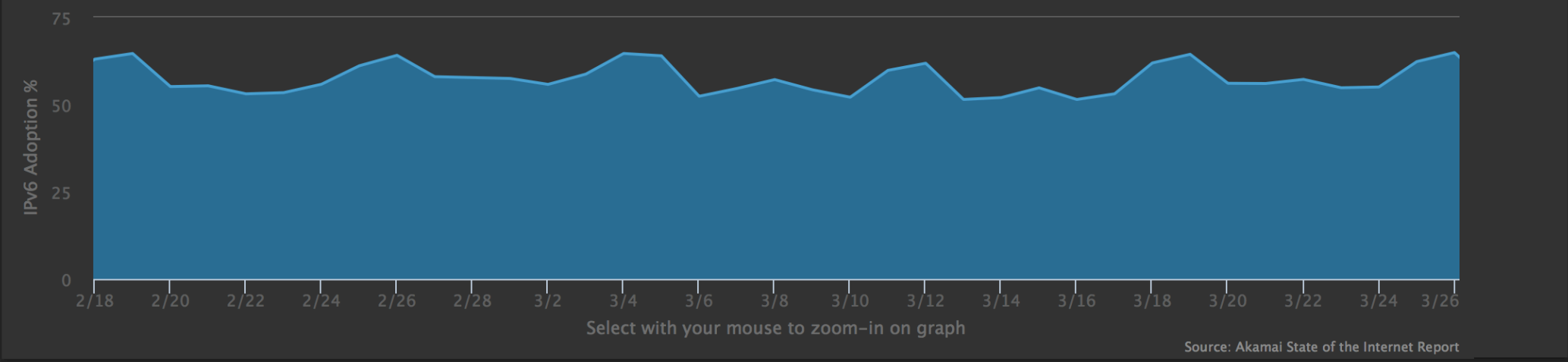
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telenet X

RANK	IPV6 %	NETWORK
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12	54.8%	TELENET
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Reset zoom



Data last updated: 3/27/2017

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telenet



RANK ▲

IPV6 %

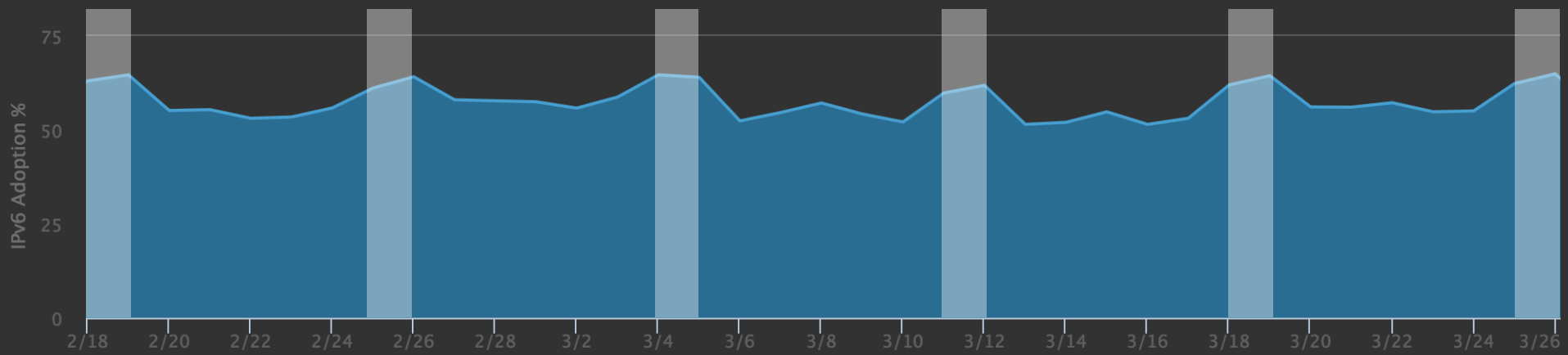
NETWORK

12

54.8%

TELENET

Reset zoom



Select with your mouse to zoom-in on graph

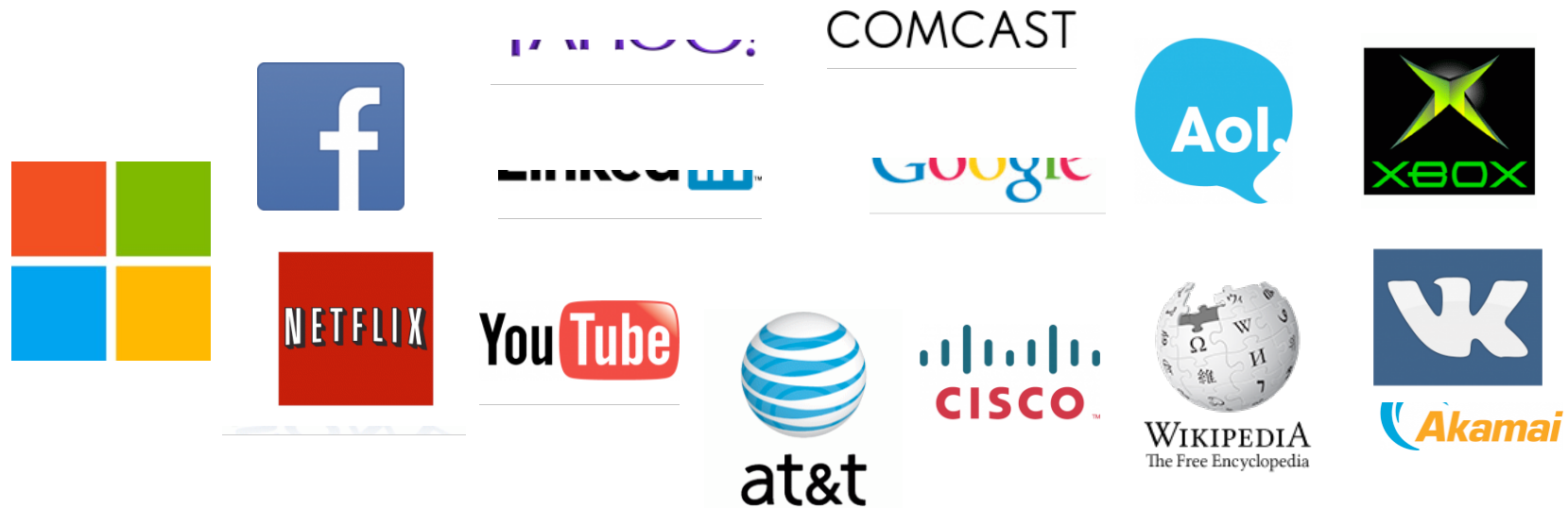
Source: Akamai State of the Internet Report

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IPv6 Landscape: Content

Many major sites and content dual-stacked today:

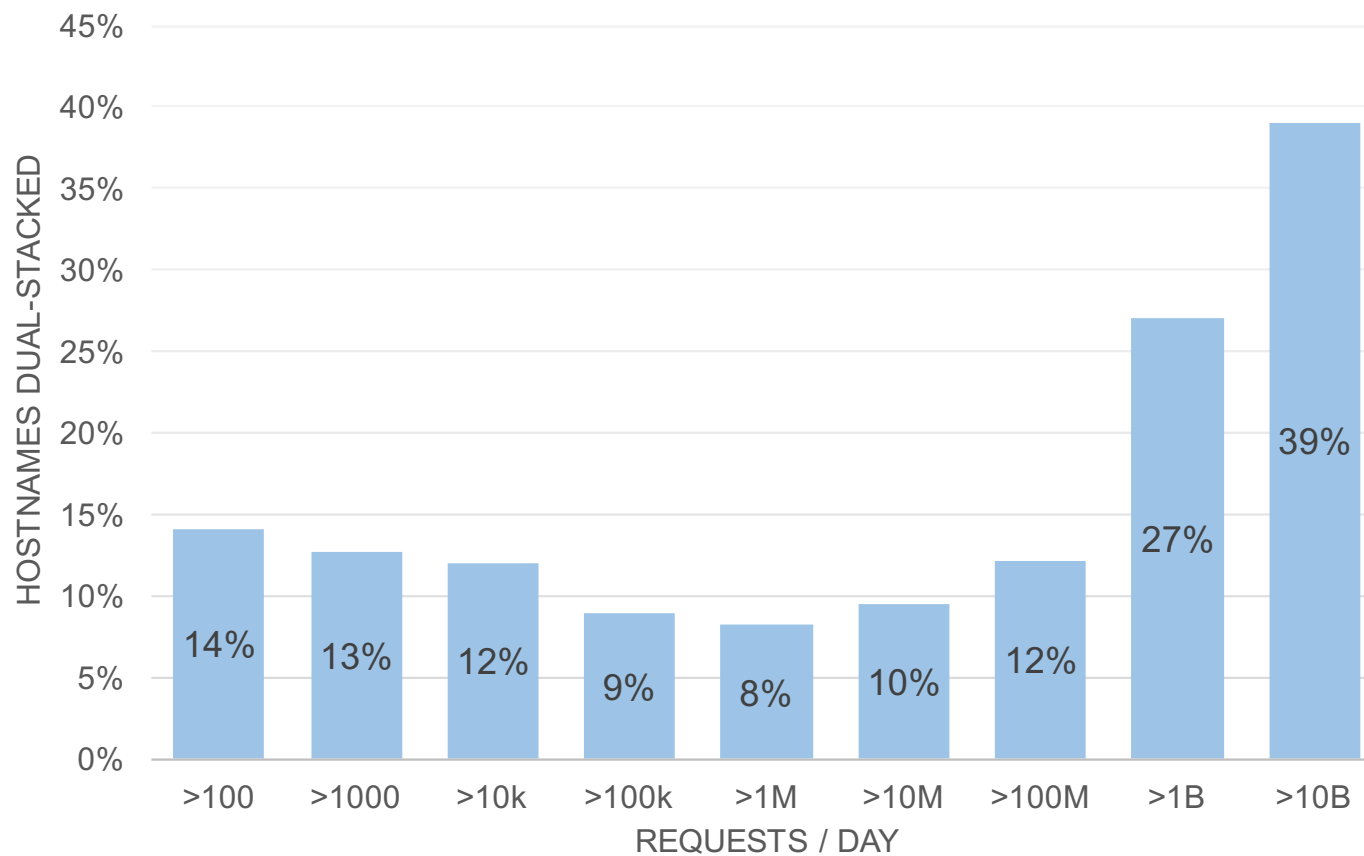


Tens of thousands of hostnames on Akamai for over 700 customers

Default in Property Manager for new hostnames on Akamai since mid-2016

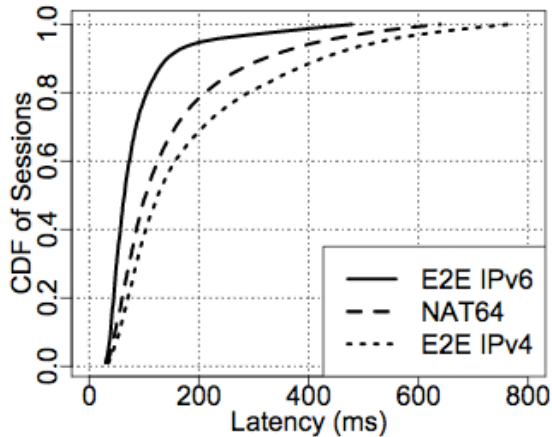
Content dual-stacked on Akamai

Hundreds of dual-stacked hostnames on Akamai serving over 1B requests/day

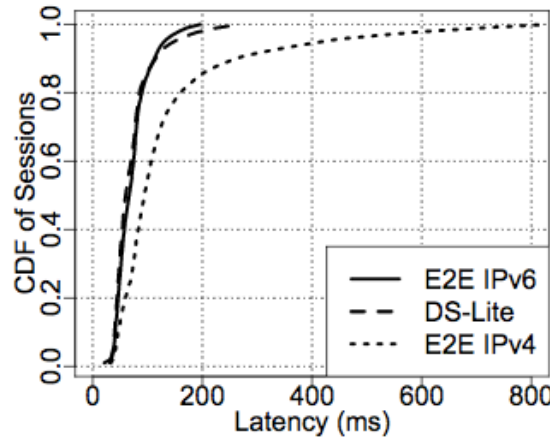


IPv6 Performance

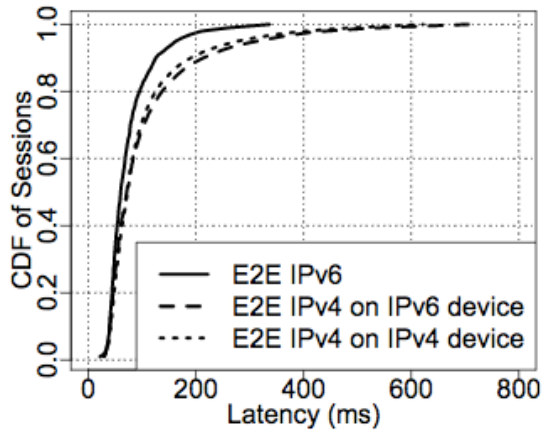
Performance: IPv6 has lower TCP RTT/Latency



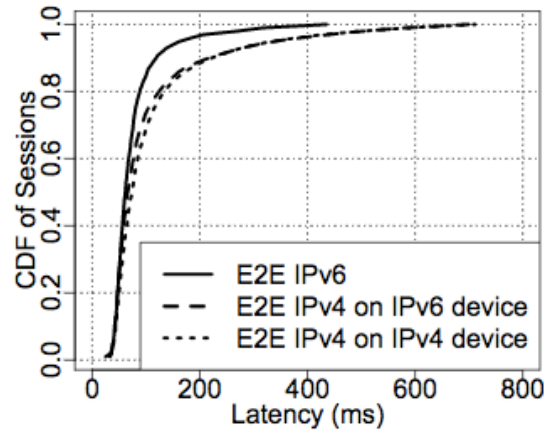
(a) T-Mobile



(b) Verizon



(c) AT&T



(d) Sprint

For selected Android devices in top-4 US mobile networks.

Source:
U. Goel, M. Steiner,
et al "A case for faster
mobile web in cellular
IPv6 networks."
Mobicom 2016

HTTP/1

IPv4

KA 10 s

Ciphers

OCSP
Stapling

Protocol optimisations

HTTP/2

IPv4
IPv6

KA 500s

ChaCha
Poly

OCSP
Stapling

Akamai Online Retail Performance Report

- 100ms delay in website load time can hurt conversion rates by 7 percent
- 2s delay in web page load time increase bounce rates by 103 percent
- 53 percent of mobile site visitors will leave a page that takes longer than 3 seconds to load

Milliseconds Are Critical

IPv6 Deployment status

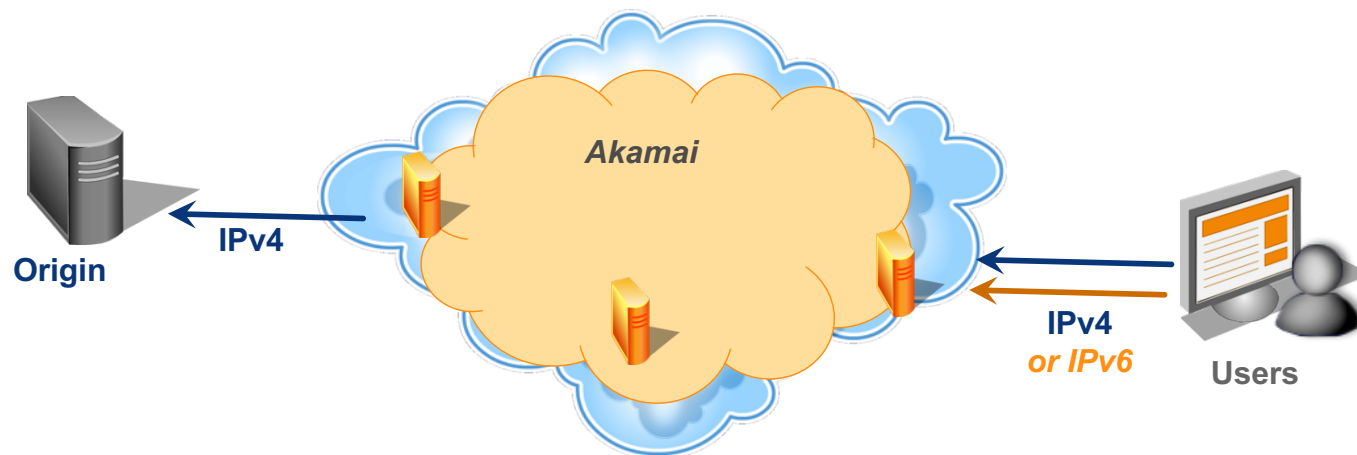
Akamai and IPv6: current deployment status

- IPv6 now configured and live on Akamai servers in...
 - ... over 109 countries
 - ... over 600 cities
 - ... over 700 networks
 - ... over 1,900 server locations

(limited by some of our network partners not yet having working IPv6)
- IPv6 peak traffic on Akamai has exceeded 2 Tbps

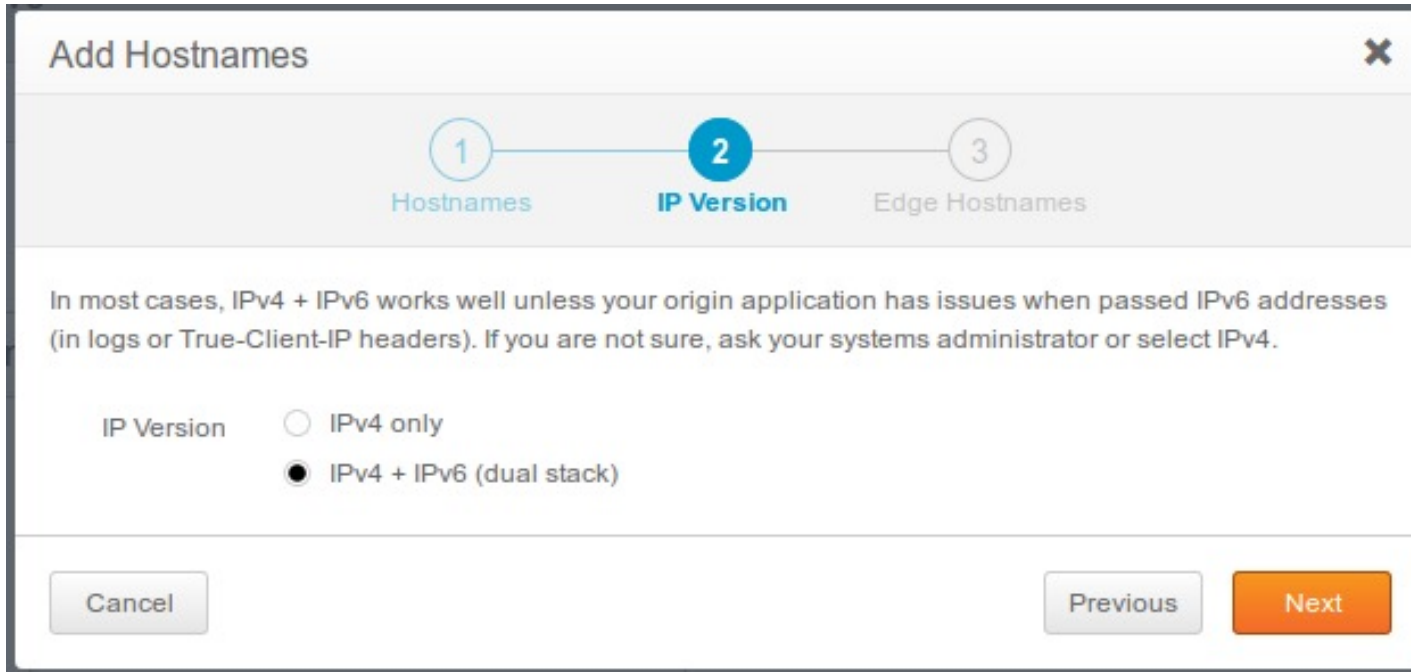
How Akamai enables IPv6 for many products

- Dual-stacking edge servers
- Customer properties can be dual-stacked
 - Terminate IPv4 and IPv6 connections in server software
 - Can go forwards to customer origin via IPv4 (and IPv6 soon)
 - End-to-end testing often advised, with occasional origin changes



Enabling IPv6 for your site

For new hostnames, just leave “IPv4+IPv6 (dual stack)” selected:



The screenshot shows a dialog box titled "Add Hostnames" with a close button (X) in the top right corner. At the top, there is a progress indicator with three steps: "1 Hostnames", "2 IP Version" (which is highlighted with a blue circle), and "3 Edge Hostnames". Below the progress indicator, there is a paragraph of text: "In most cases, IPv4 + IPv6 works well unless your origin application has issues when passed IPv6 addresses (in logs or True-Client-IP headers). If you are not sure, ask your systems administrator or select IPv4." Below this text, there are two radio button options for "IP Version": "IPv4 only" (unselected) and "IPv4 + IPv6 (dual stack)" (selected). At the bottom of the dialog, there are three buttons: "Cancel" (grey), "Previous" (grey), and "Next" (orange).

For dual stacking existing Edge Hostnames, contact your account team or AkaTec. Self-service support coming soon.

Observing IPv6 traffic levels

Many Luna reporting interfaces provide IPv4 vs IPv6 break-downs:

The screenshot displays the Akamai Luna 'User Traffic' reporting interface. A 'CHANGE SETTINGS' dialog box is open, allowing for configuration adjustments. The dialog includes the following elements:

- Traffic Segments:** A list with a checked 'Select All' option and '1 / 1 Selected' items. The selected item is 'DSA (123259)'. A 'Sort By Name | ID' link is visible to the right.
- Traffic Type:** A dropdown menu currently set to 'All Traffic'.
- IP Version:** A dropdown menu currently set to 'All'. The 'IPv6' option is highlighted by a mouse cursor and is enclosed in an orange rectangular box.
- Date Range:** A section with a 'Custom Date Range' checkbox that is currently unchecked.

In the background, the main interface shows a 'User Traffic' header with filters for 'Date Range: 2 Days', 'Traffic Segment(s): DSA (123259)', 'Traffic Type: All Traffic', and 'IP Version: All'. A 'CHANGE' button is visible in the top right corner. On the left, there is a chart titled 'EDGE HITS' showing 'Hits/Sec' over time, and a section titled 'Hits By Geograph'.

HLN.be example

8682137603 hits

15071352431 hits

6389214828 hits

8,68 Billion hits

15,07 Billion hits

6,39 Billion hits

8,68 Billion hits

42,3 %

15,07 Billion hits

6,39 Billion hits

57,6 %



Thank you!

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