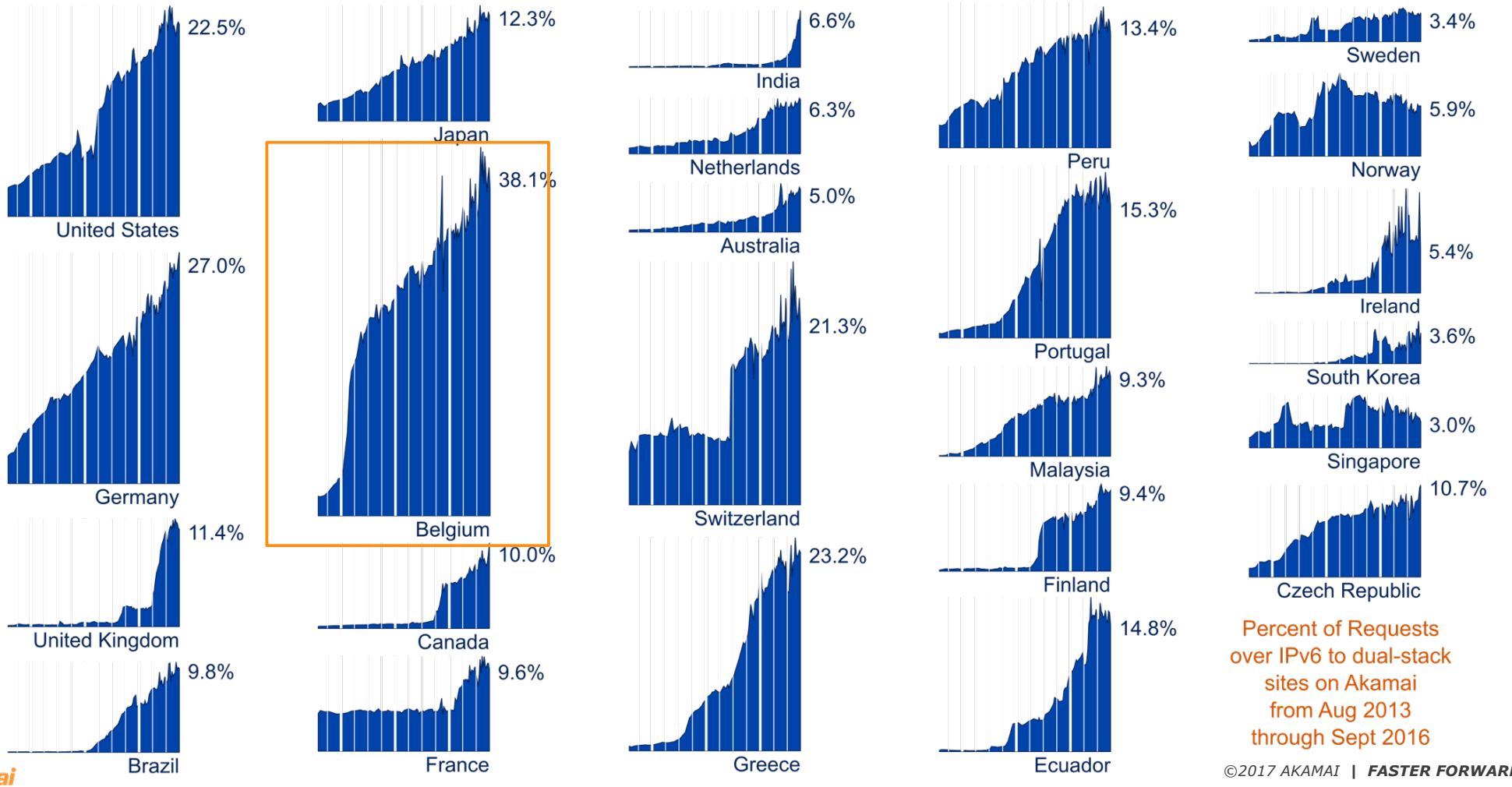
IPv6 Council – (Belgian) Content provider view

Tim Vereecke, Senior Solutions Engineer

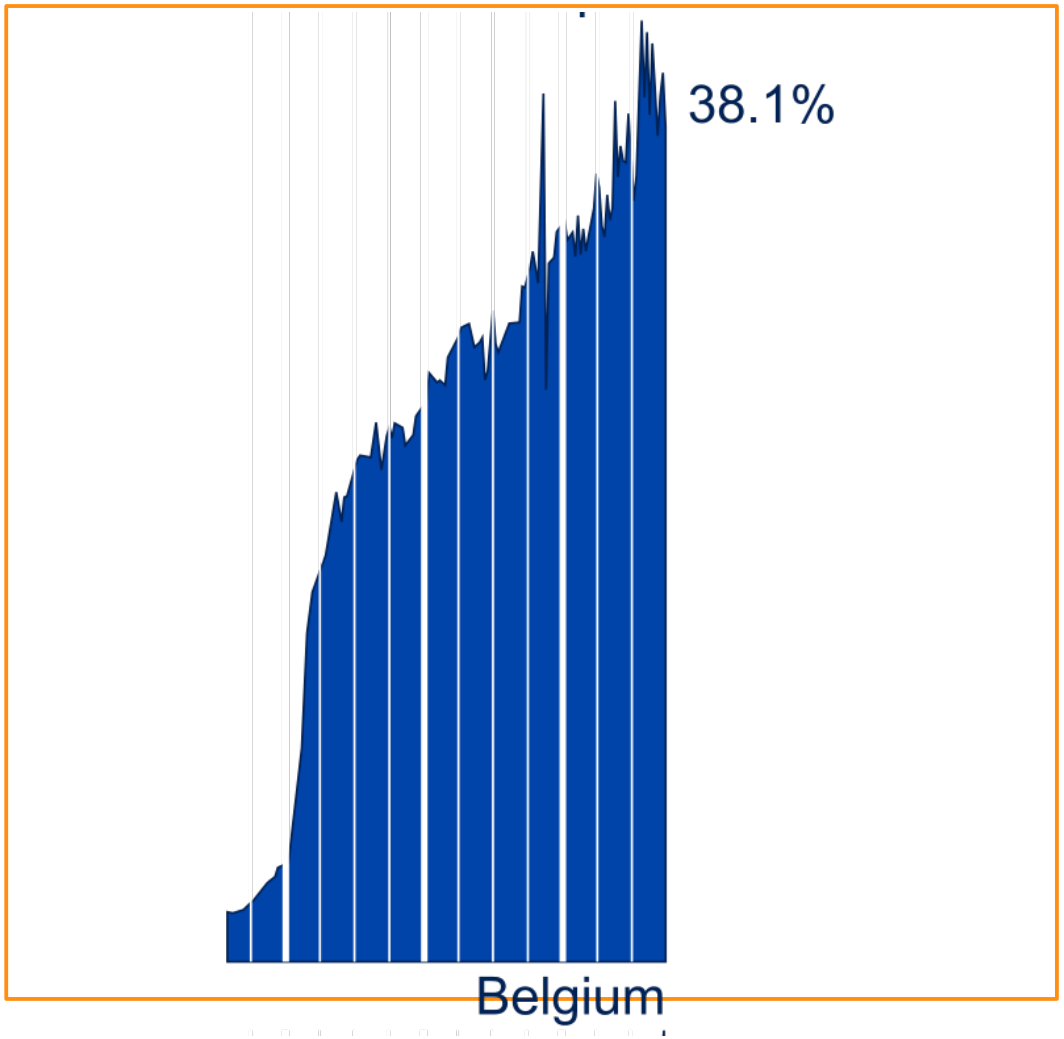
IPv6 Trends

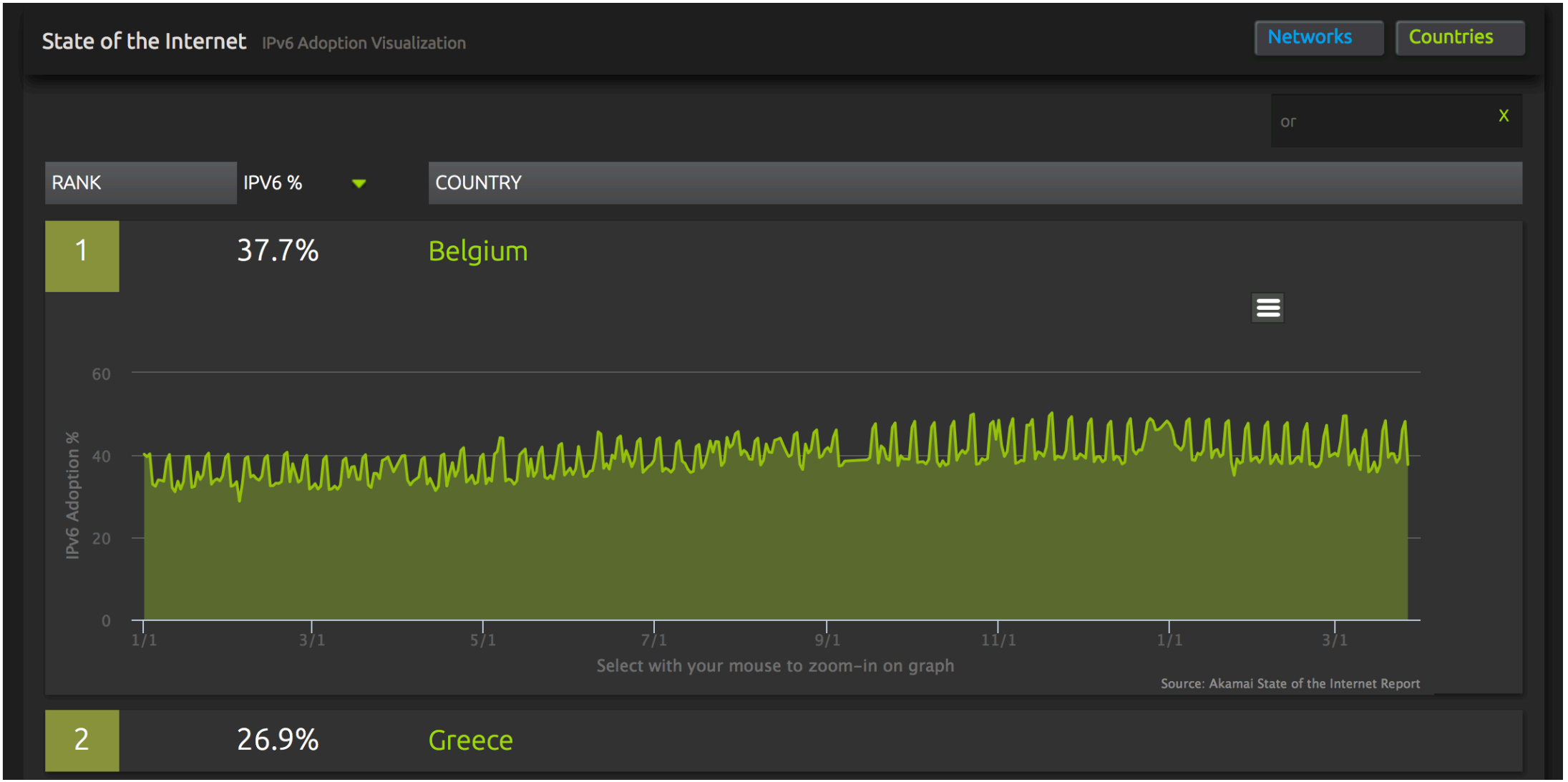
Leading Countries: three years of IPv6 growth



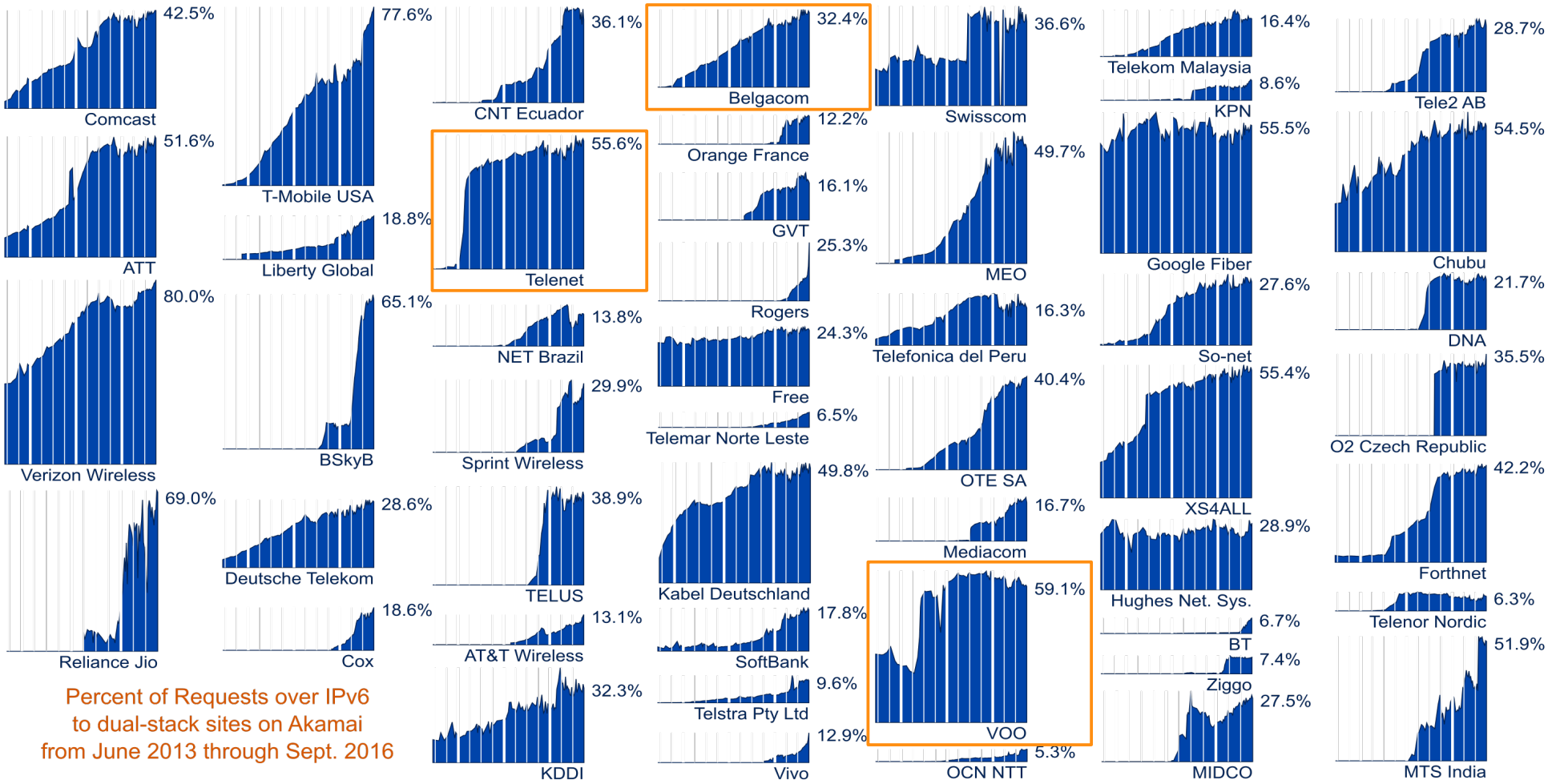
Percent of Requests over IPv6 to dual-stack sites on Akamai from Aug 2013 through Sept 2016

Leading Countries: three years of IPv6 growth





Leading global networks: 3 years of IPv6 growth



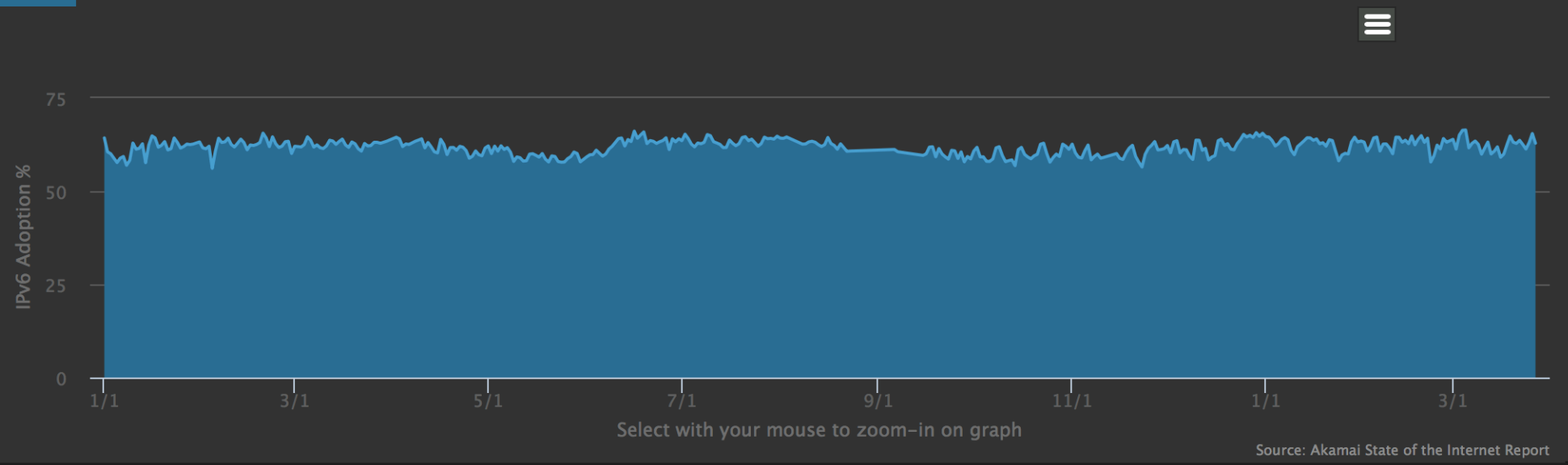
Percent of Requests over IPv6
to dual-stack sites on Akamai
from June 2013 through Sept. 2016

State of the Internet IPv6 Adoption Visualization

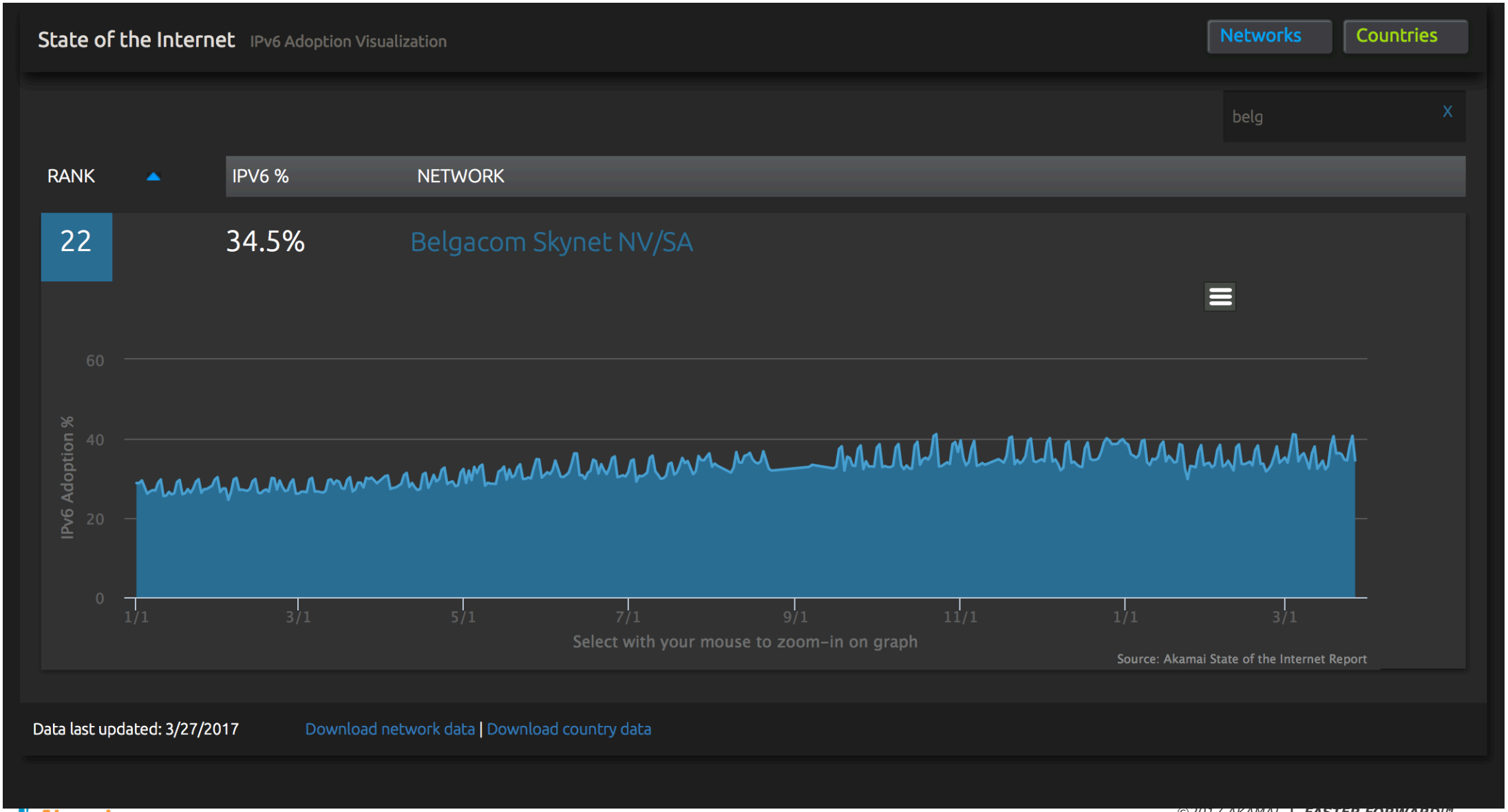
Networks | Countries

brut X

RANK	IPV6 %	NETWORK
40	62.9%	BRUTELE SC



Data last updated: 3/27/2017 Download network data | Download country data

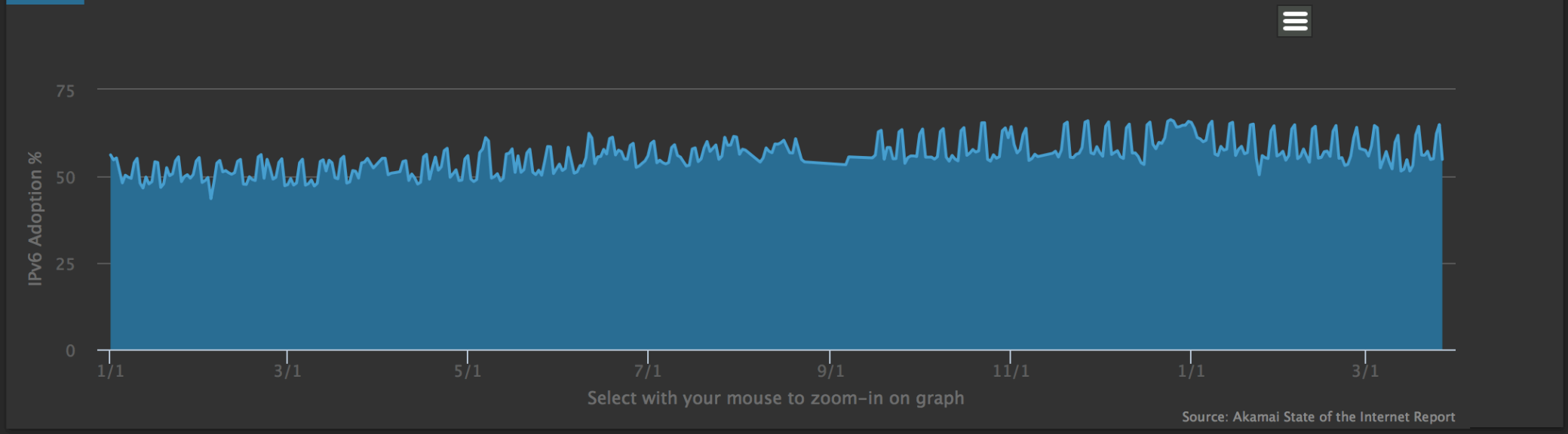


State of the Internet IPv6 Adoption Visualization

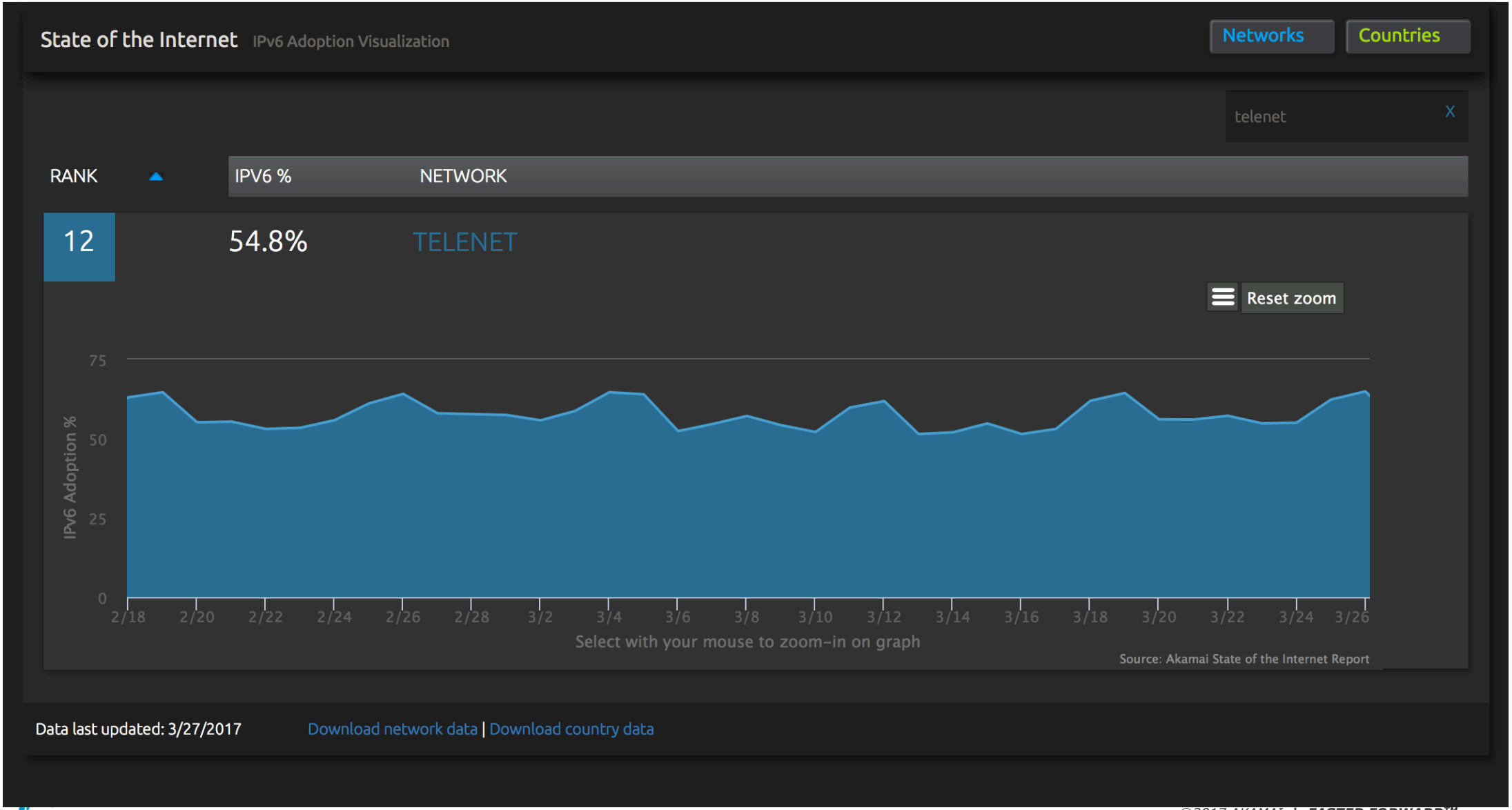
Networks | Countries

telenet X

RANK	IPV6 %	NETWORK
12	54.8%	TELENET



Data last updated: 3/27/2017 Download network data | Download country data



State of the Internet IPv6 Adoption Visualization

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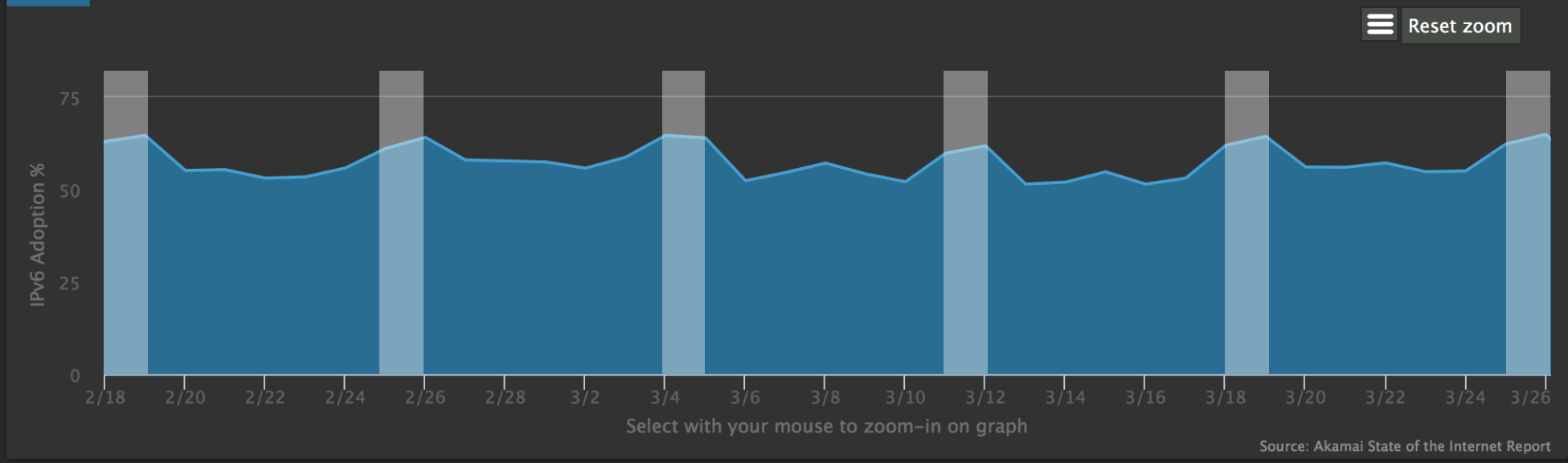
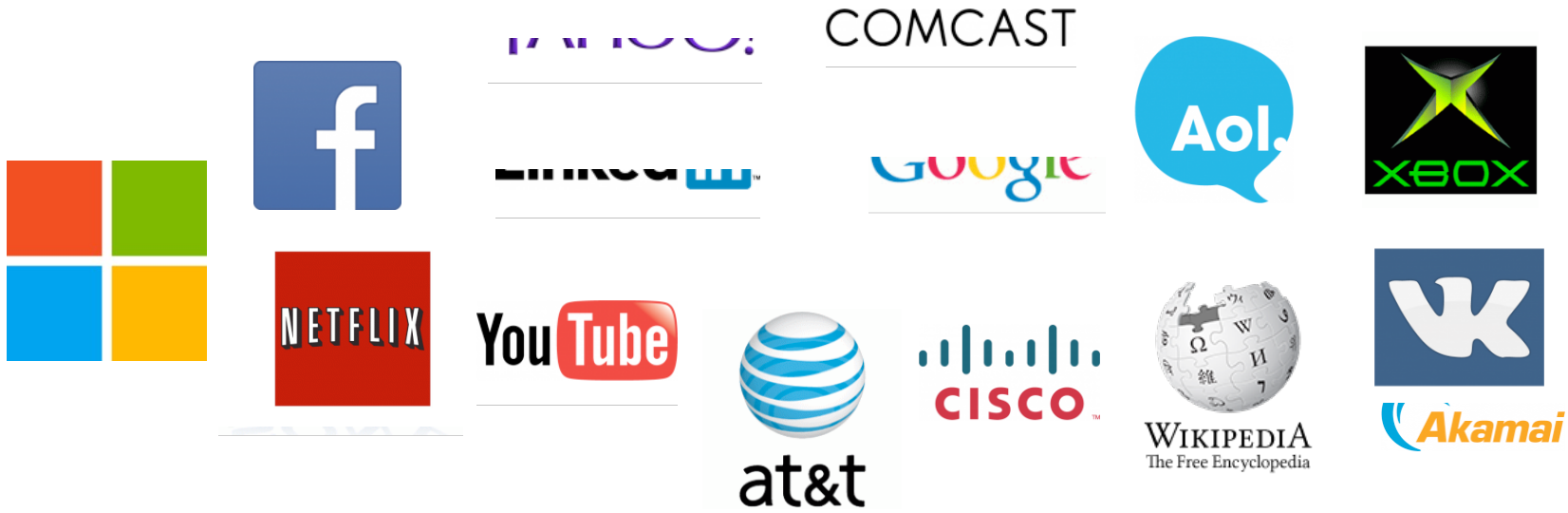


Data last updated: 3/27/2017 Download network data | Download country data

IPv6 Landscape: Content

Many major sites and content dual-stacked today:

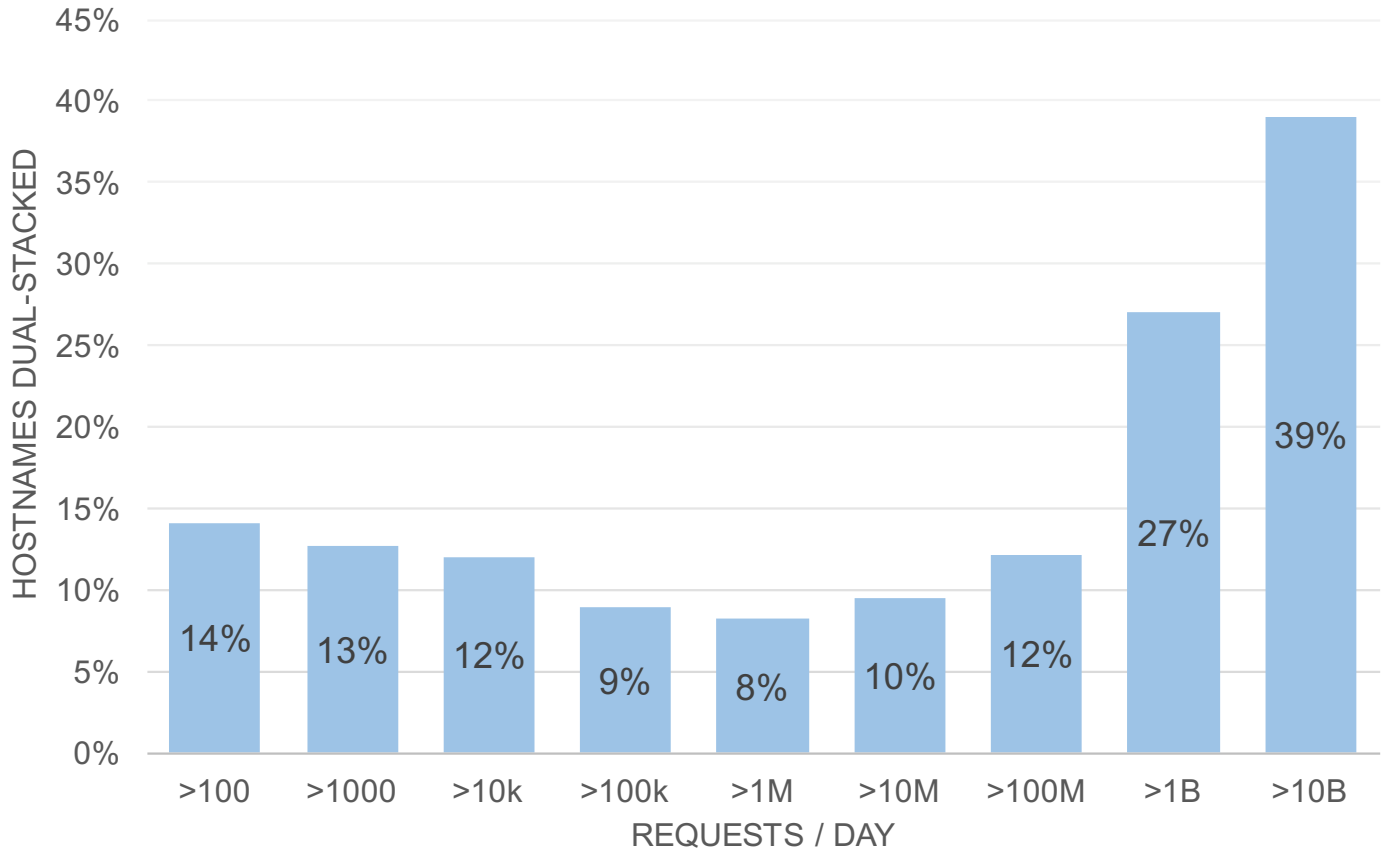


Tens of thousands of hostnames on Akamai for over 700 customers

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

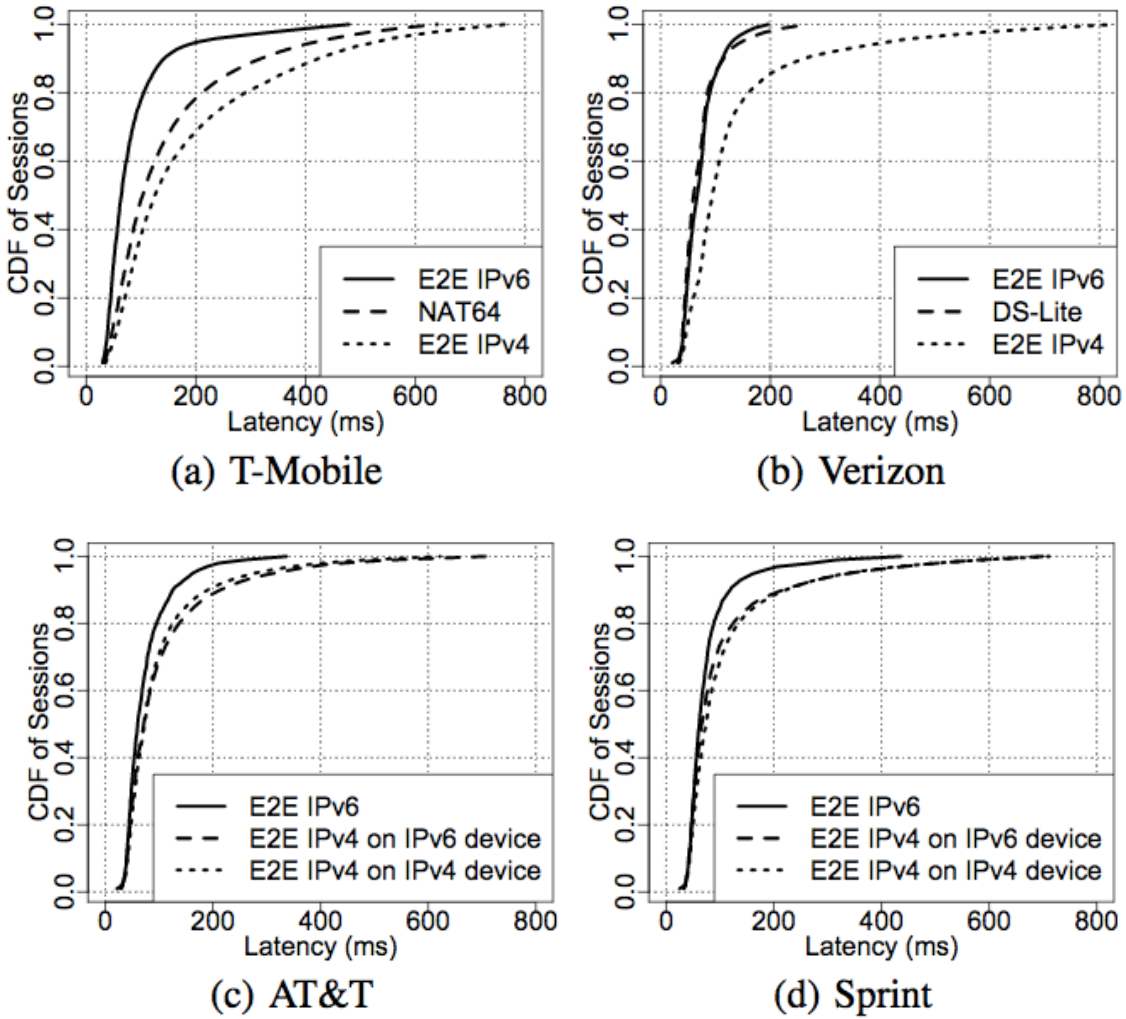
Content dual-stacked on Akamai

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



IPv6 Performance

Performance: IPv6 has lower TCP RTT/Latency



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

Akamai press release: April 19th 2017

IPv6 Deployment status

Akamai and IPv6: current deployment status

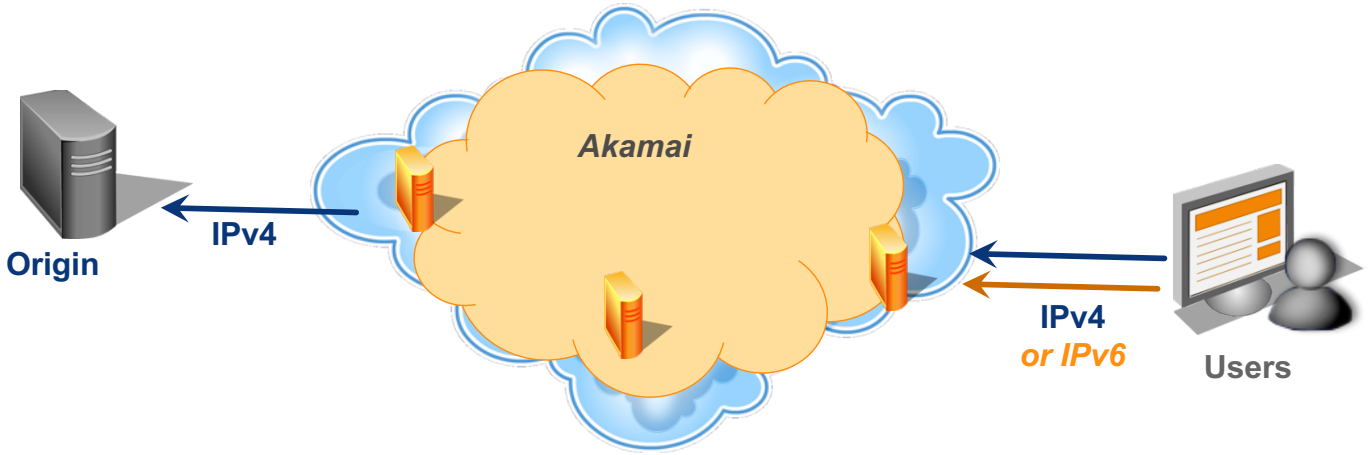
- IPv6 now configured and live on Akamai servers in…
  - … over 109 countries
  - … over 600 cities
  - … over 700 networks
  - … over 1,900 server locations

  (limited by some of our network partners not yet having working IPv6)

- IPv6 peak traffic on Akamai has exceeded 2 Tbps

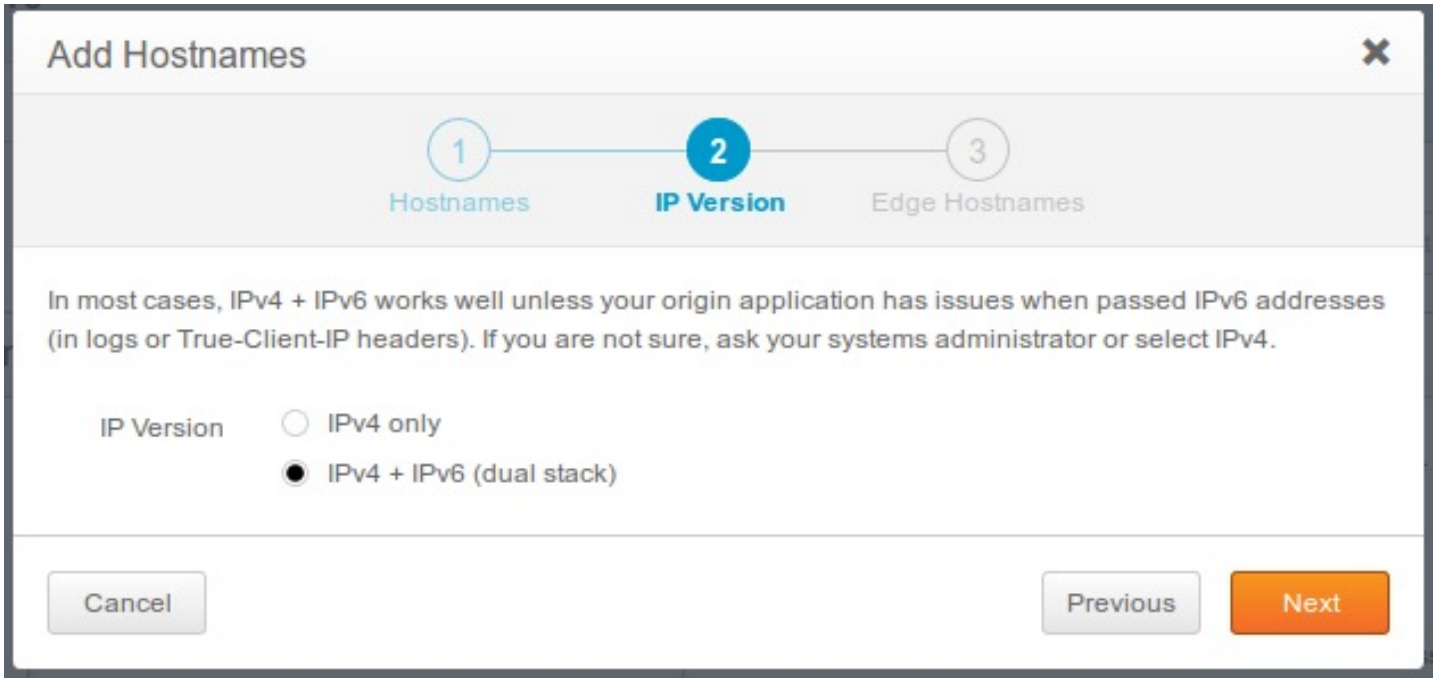
How Akamai enables IPv6 for many products

- 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

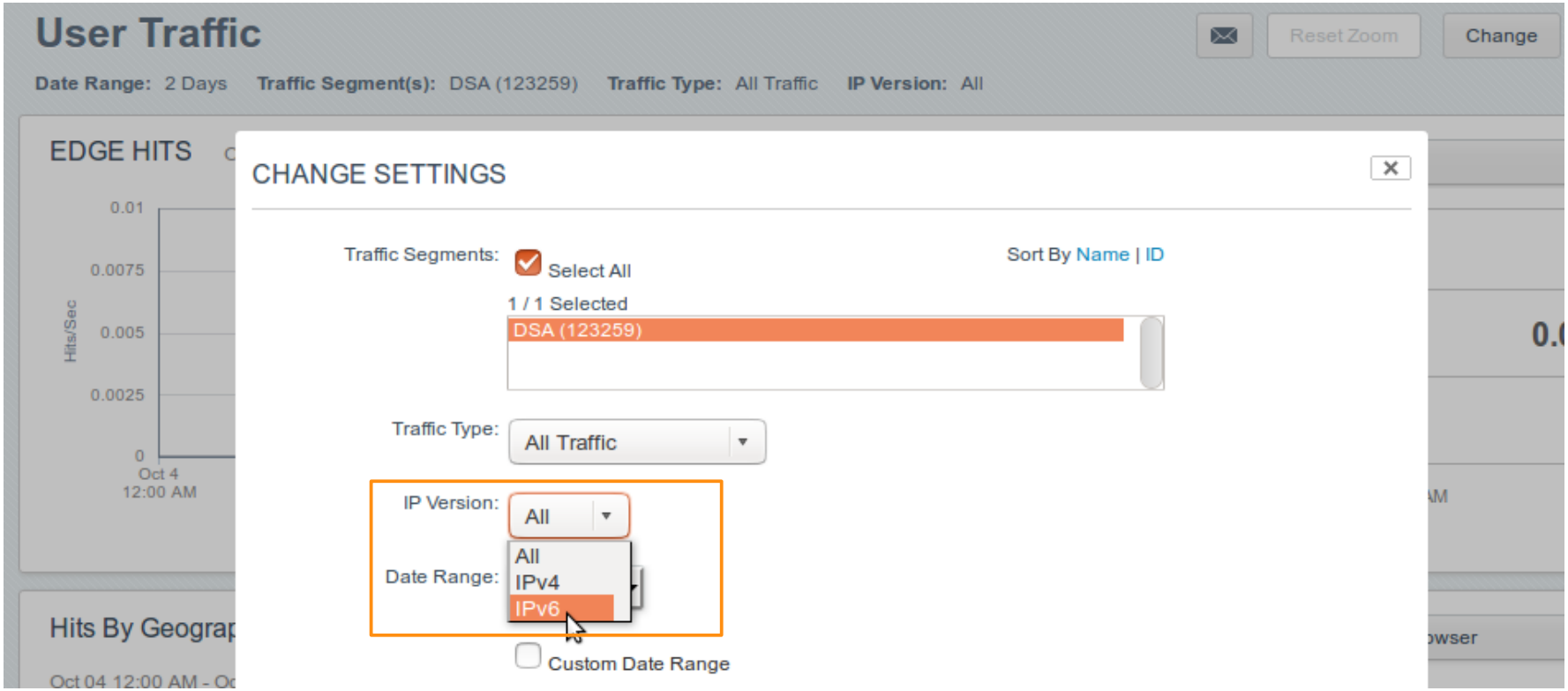
For new hostnames, just leave “IPv4+IPv6 (dual stack)” selected:



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 prove IPv4 vs IPv6 break-downs:



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!

Tim Vereecke, tvereeck@akamai.com