



Sixth Year Anniversary of World IPv6 Launch



Where are we now and who cares?

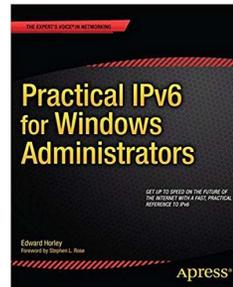
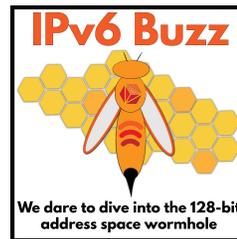
Ed Horley, co-founder HexaBuild
Advancing Cloud, IoT and Security with IPv6



About the Presenter



Ed Horley



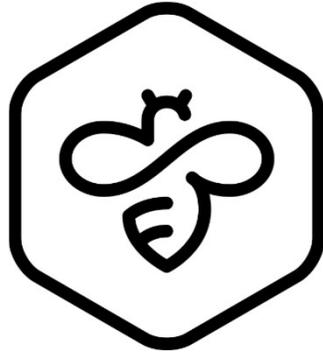
PLURALSIGHT



World IPv6 Launch

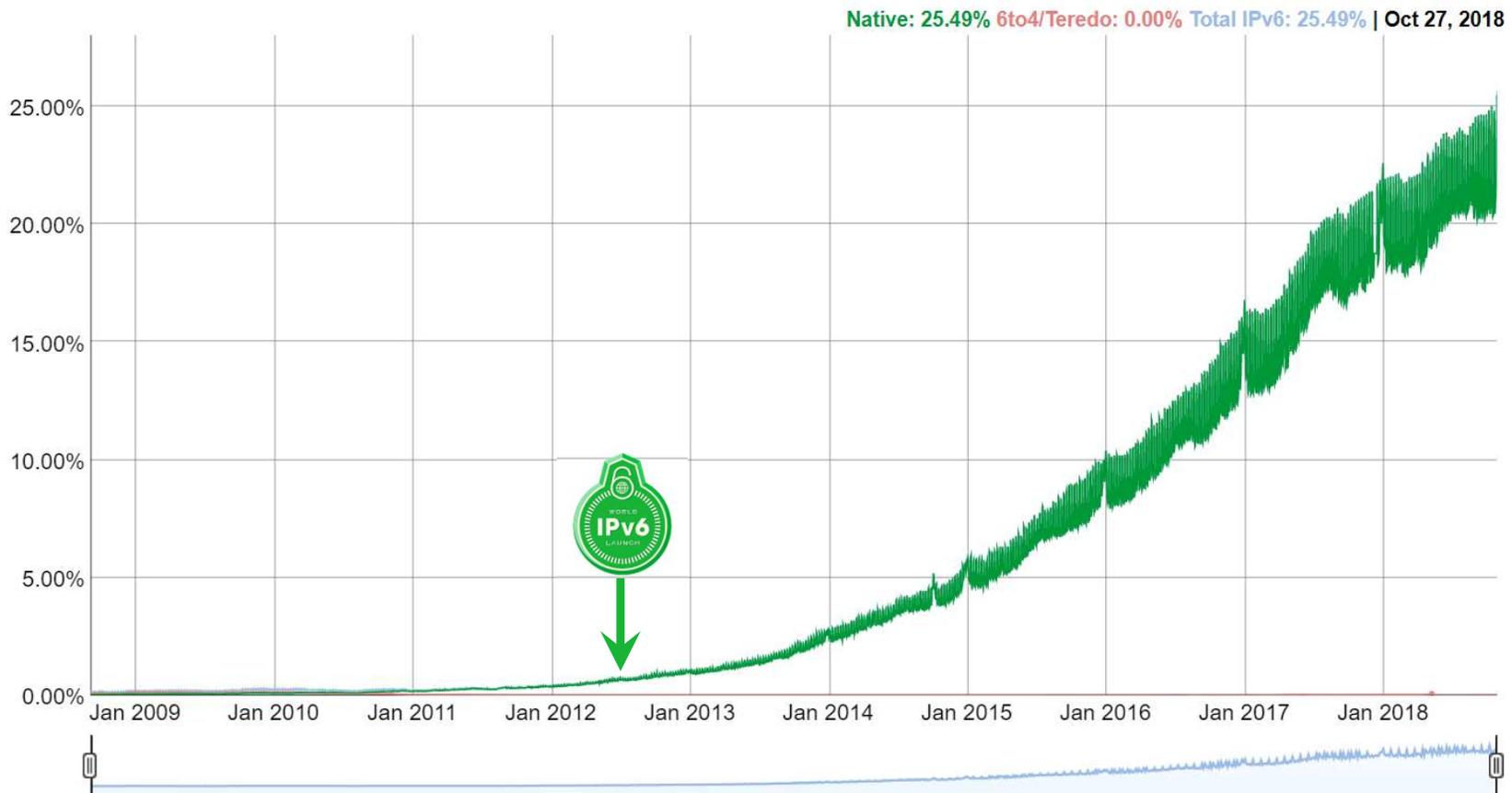
- June 6th, 2012
- Organized by the Internet Society
- Building on the successful
World IPv6 Day on June 8, 2011
- Goal was to turn it on and leave it on
- Facebook, Microsoft, Yahoo!, Google,
Limelight, Cisco, Akamai, Comcast,
Time Warner, KDDI, and AT&T + more





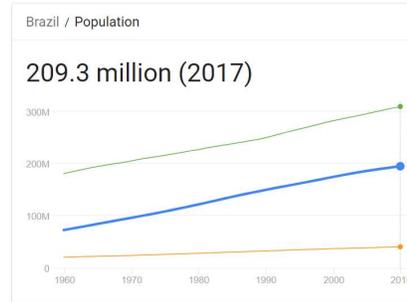
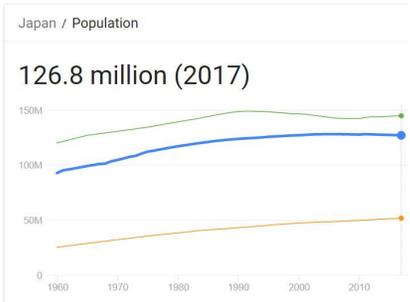
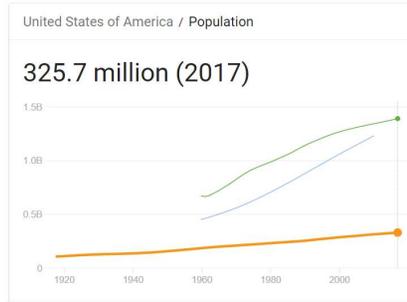
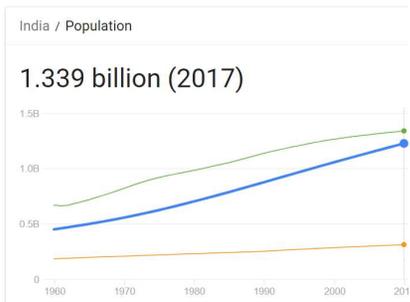
Where are we now?

Worldwide



Worldwide

*Country data ranked by % of IPv6 connections from that country.



▼ RANK	IPV6%	COUNTRY
1	53.3%	Belgium
2	52.2%	India
3	49.7%	United States
4	41.5%	Germany
5	36.2%	Greece
6	34.8%	Malaysia
7	30.5%	Luxembourg
8	29.3%	Japan
9	29.2%	Switzerland
10	29.1%	Brazil

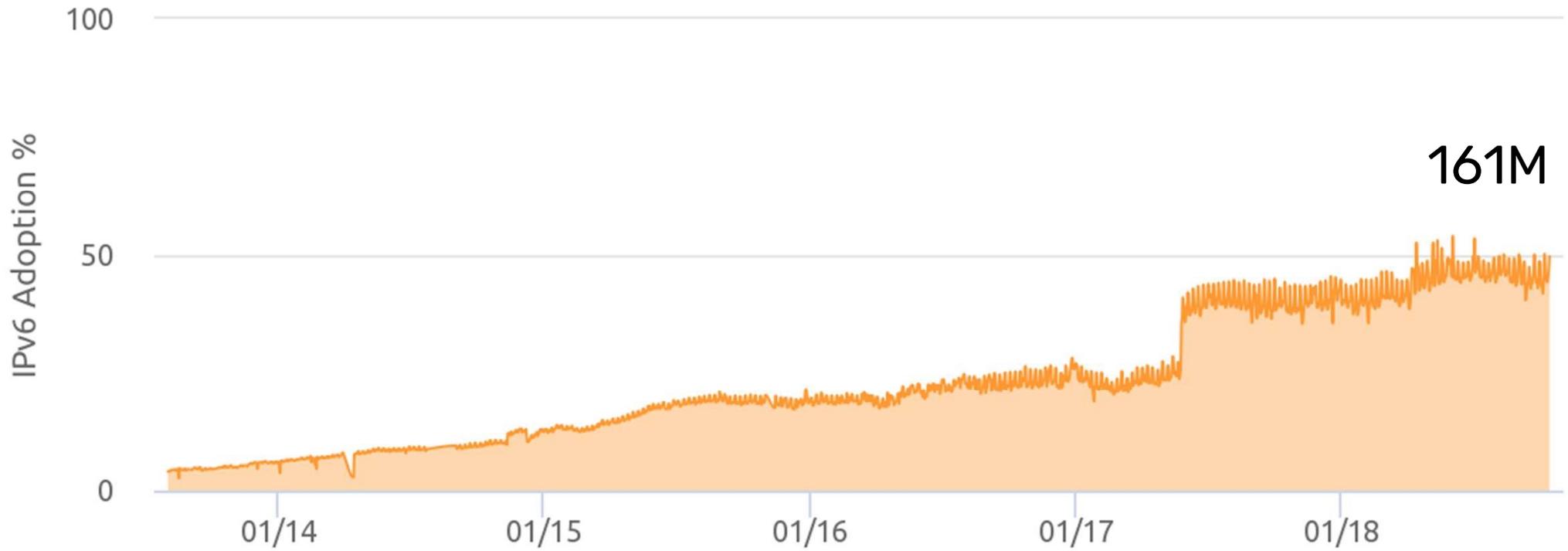
699M

161M

37M

61M

US



Source: Akamai State of the Internet Report

Networks

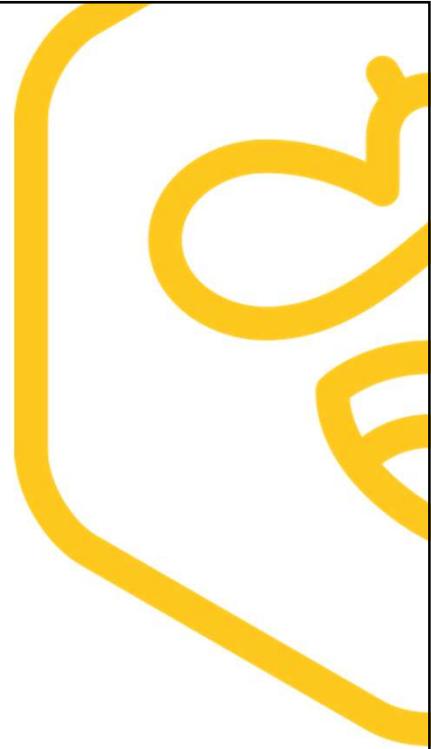
IPv6 Adoption By Networks

**Networks data is limited to the top 200 networks ranked by total IPv6 hits to platform.*

▼ RANK	IPV6%	NETWORK
1	70.7%	AT&T Communications Americas
2	66.9%	Comcast Cable
3	64%	Verizon Business
4	87.3%	Reliance Jio Infocomm Limited
5	94.8%	T-Mobile
6	45.5%	Charter Communications Inc - TWC
7	71.7%	Sprint Communications
8	61.5%	Deutsche Telekom Germany
9	82.6%	Sky Broadband
10	50%	Cox Communications Inc

7 of the top 10 are US





Who cares?

Content Providers



CloudFlare

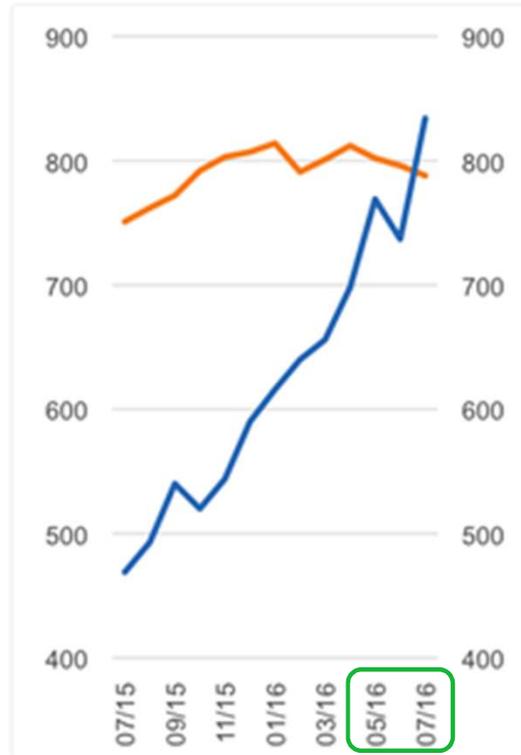
August 16, 2016



Matthew Prince
@eastdakota

Follow

In June number of IPv6 addresses (/64 masked) crossed IPv4 addresses connecting to @CloudFlare for the first time. 🟢



RETWEETS
184

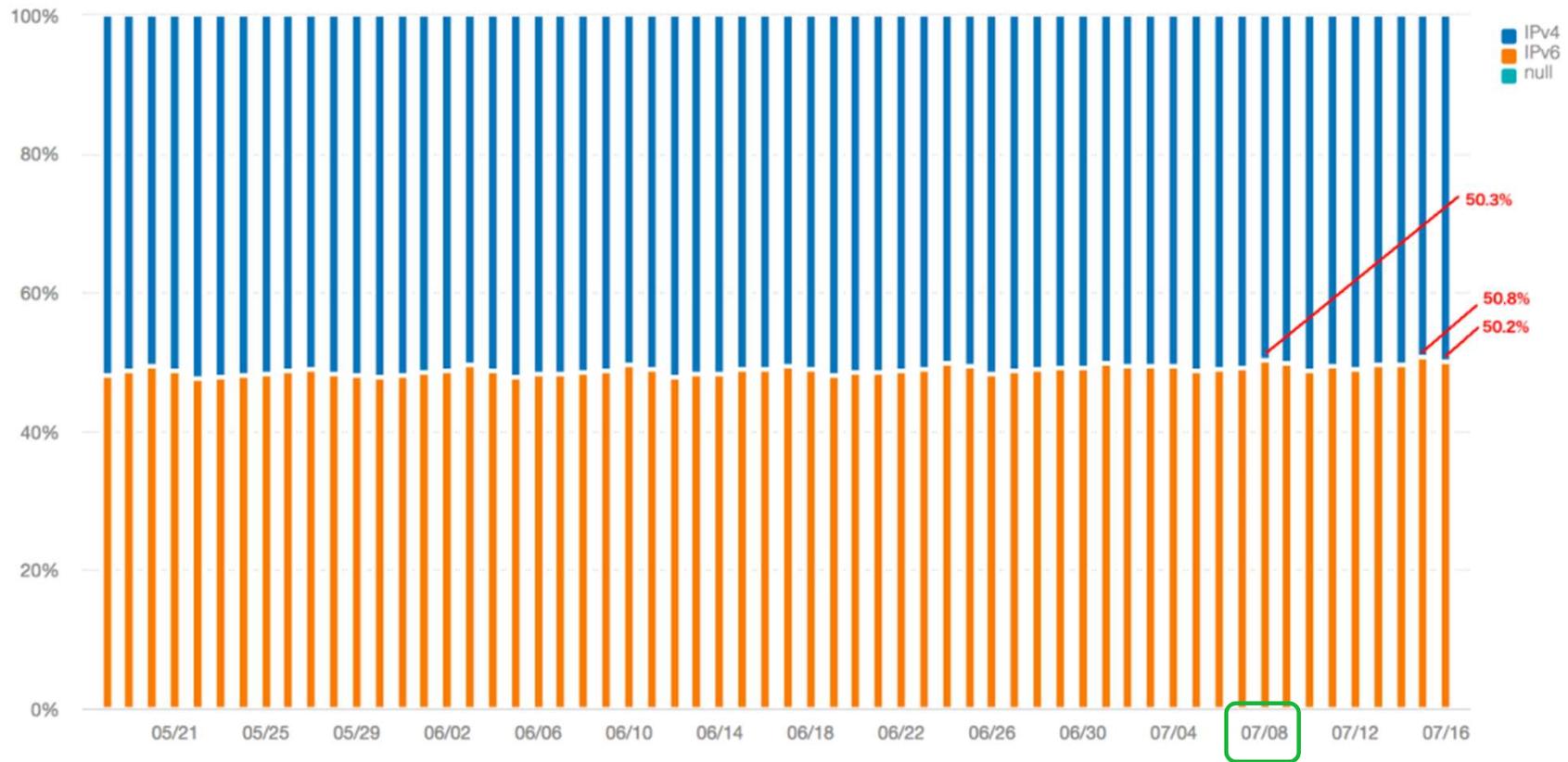
LIKES
139



5:01 PM - 16 Aug 2016



LinkedIn above 50% in 2017



Facebook above 50% in 2018

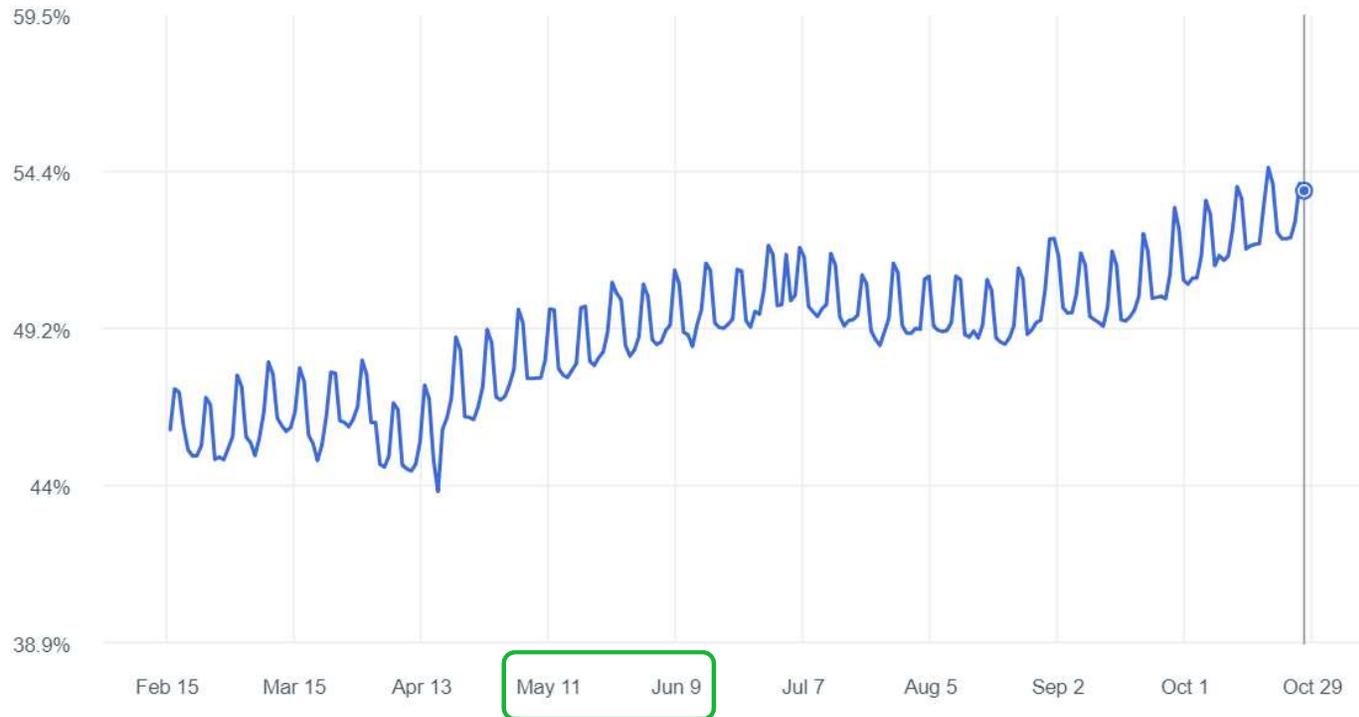


UNITED STATES

Fit Y-Axis To Data

Export All ▼

- IPv6 Deployment - Weekly Growth - Monthly Growth

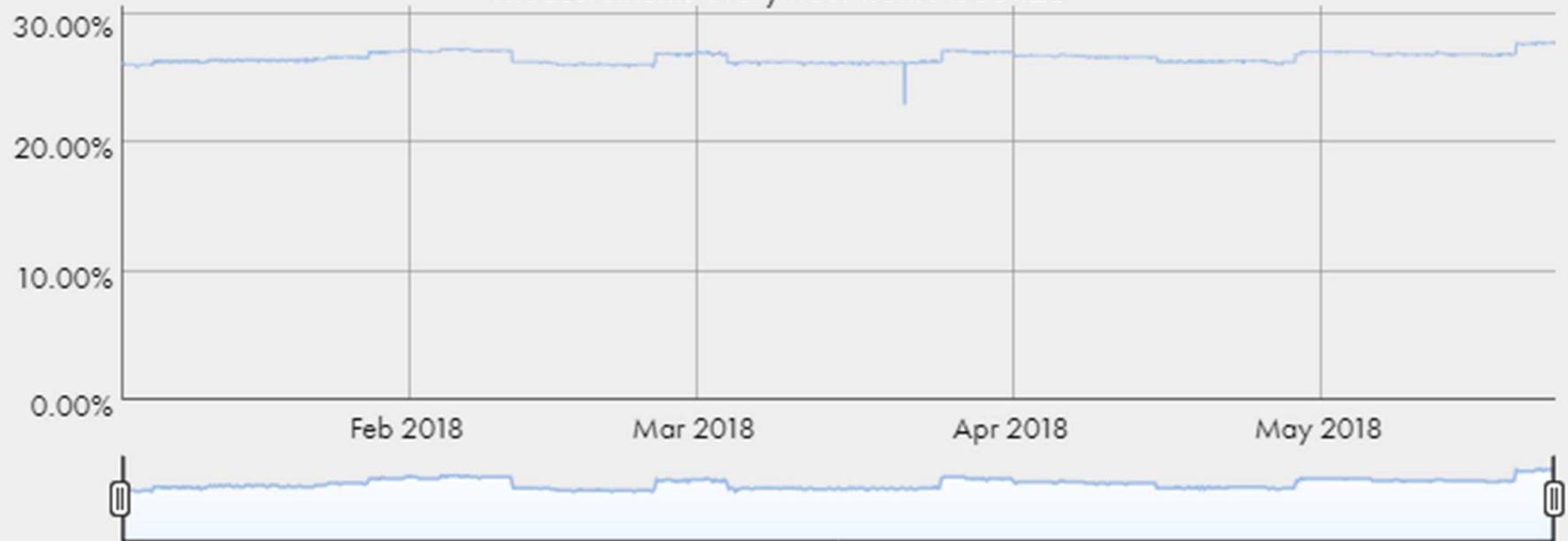


Alexa

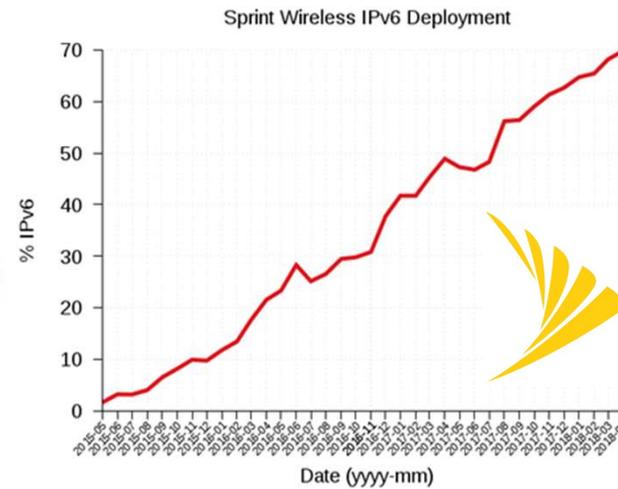
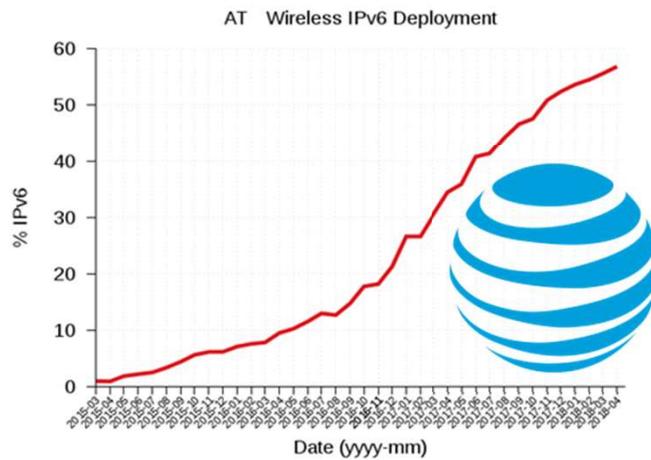
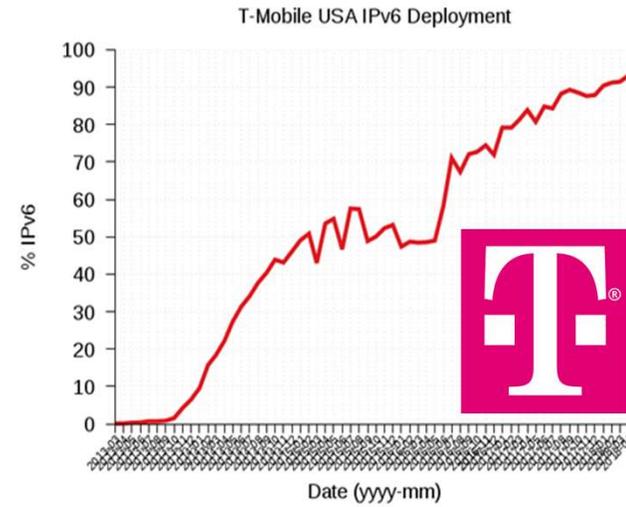
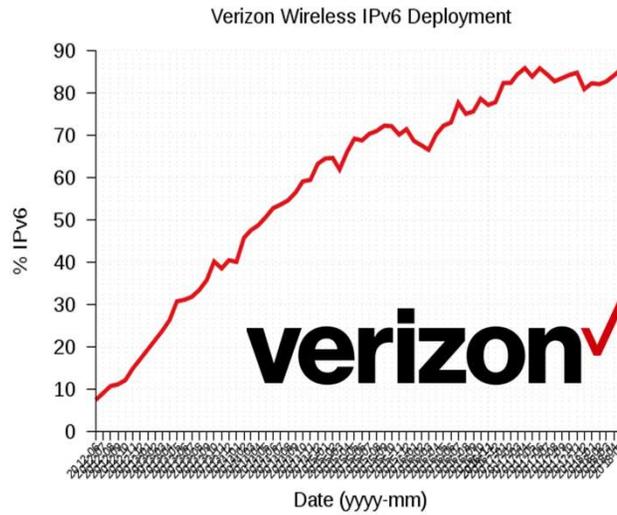


Percentage of Alexa Top 1000 websites currently reachable over IPv6

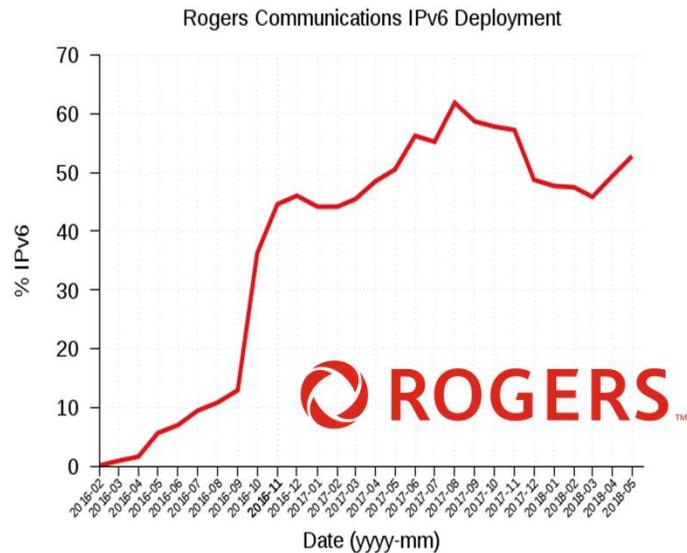
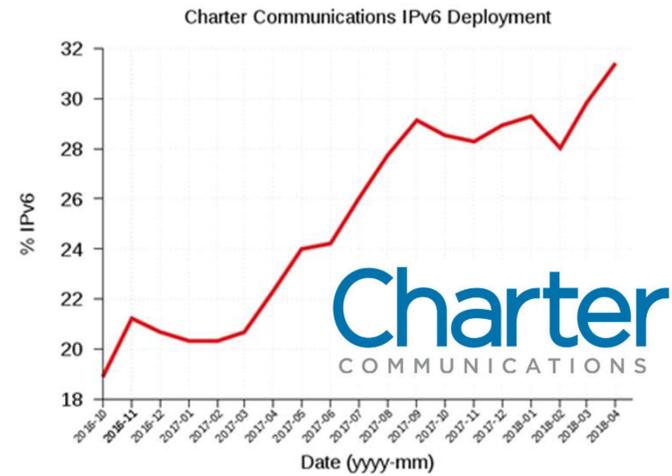
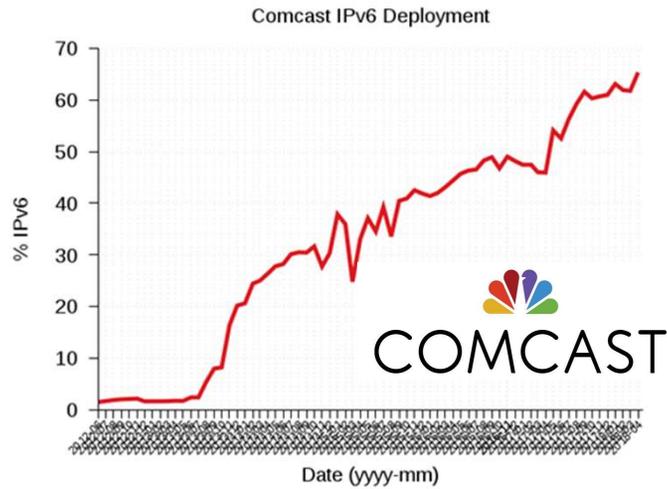
Measurements every hour from AS35425



Mobile



Cable



Cloud Providers



IBM Cloud

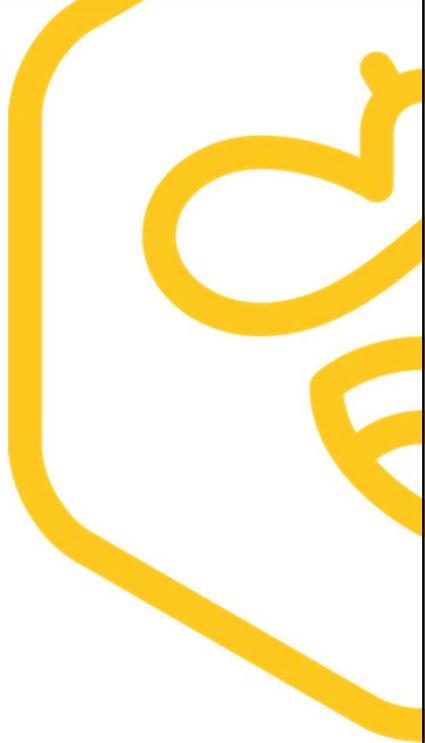


Google Cloud



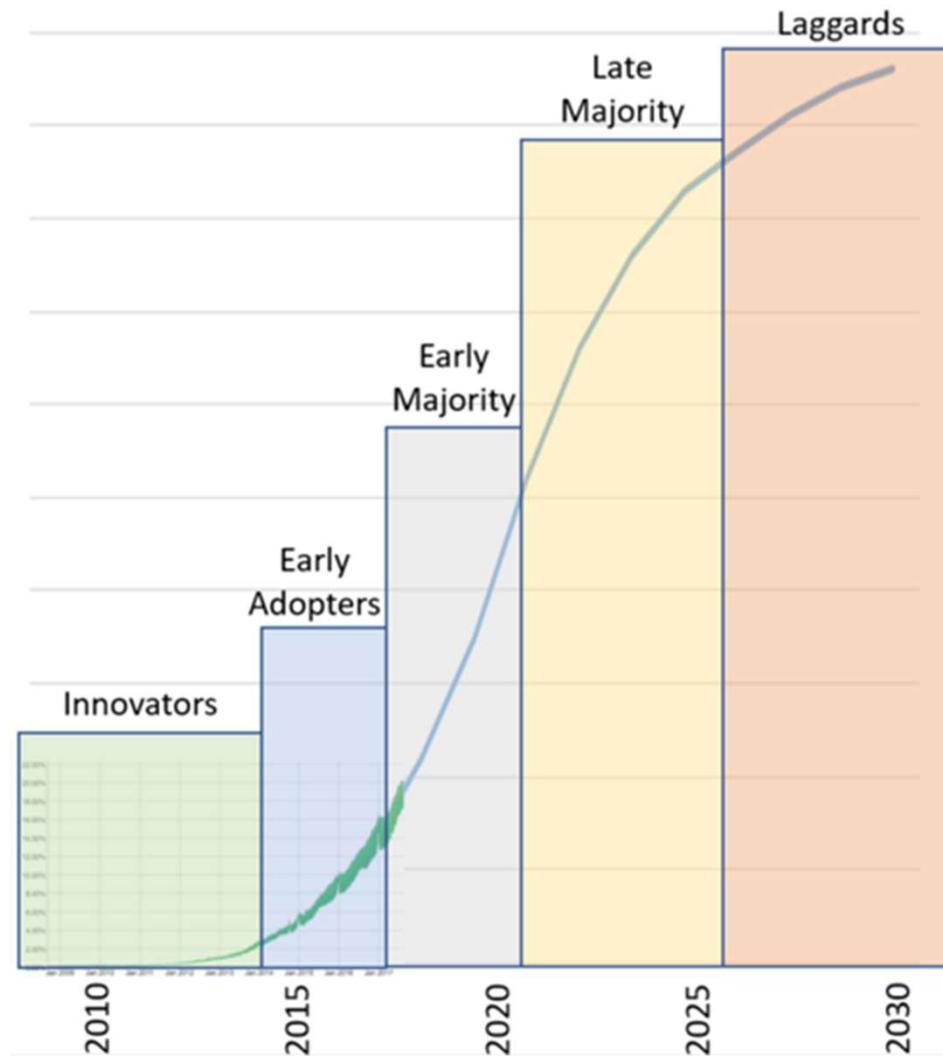
Azure

ORACLE[®]
Cloud *Soon



Decisions

It is Time



Security – this is (ISC)2



You already have IPv6-capable and IPv6-enabled devices in your network

Most organizations are un-trained in IPv6 and lack visibility to IPv6 packets on their networks

IPv6 is no more or less secure than IPv4, many protection methods are functionally similar

We all need to learn about the IPv6 protocol and anticipate attacker behavior

We need to plan to deploy IPv6 securely right from the start

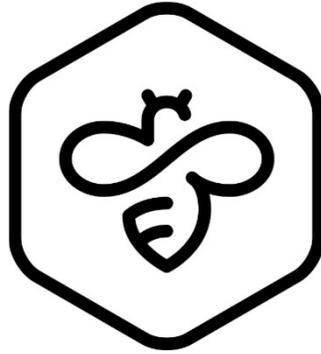
But most importantly...



DO NOT TURN IPv6 OFF!

You are better off proactively managing it rather than trying to turn it off on every device on your network

Press your security vendors about their IPv6 product/service capabilities



Your Next Move



A Checklist

IPv6 Adoption Plan Includes:

Business Plan, Motivation/Justification, and Timeline

IPv6 Assessment:

Know where you are at, so you know what to do

IPv6 Enable:

Start at the Edge w/ Internet content and VPN

Be Thoughtful



Realistically, you can't turn on IPv6 overnight:

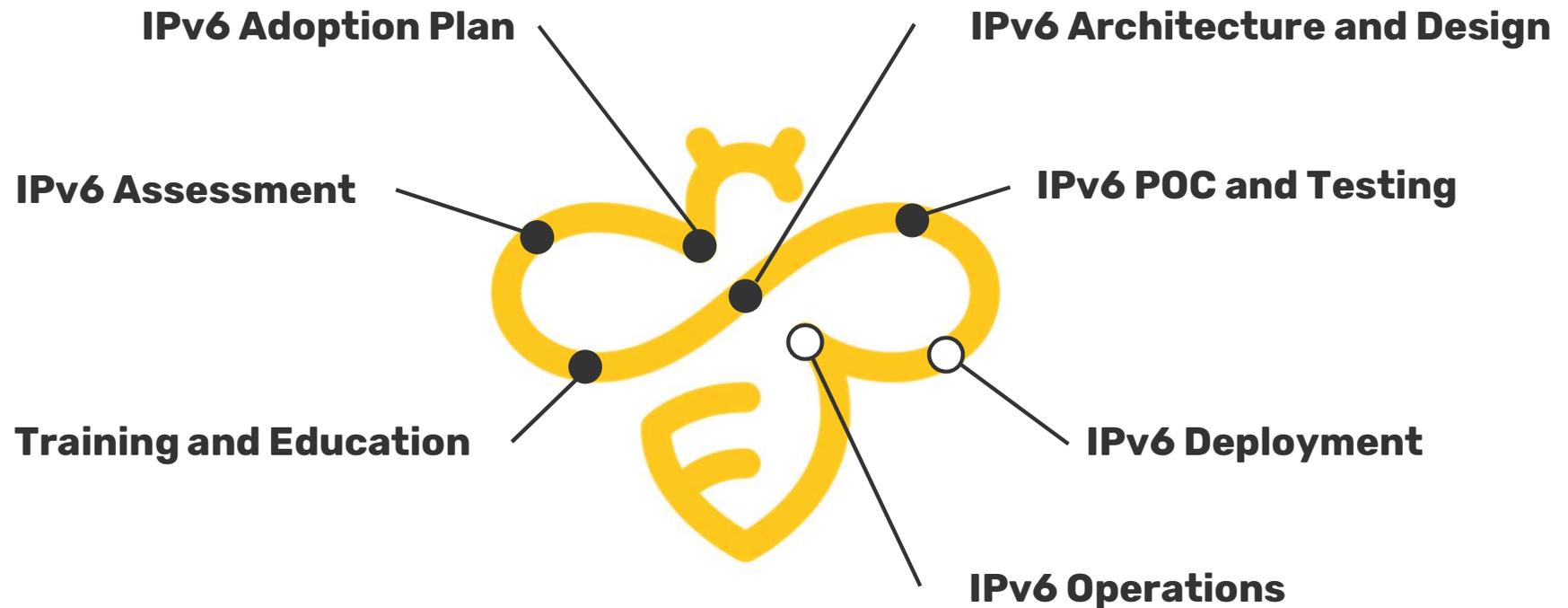
Assess, Design, Plan, Train, Implement and Operate

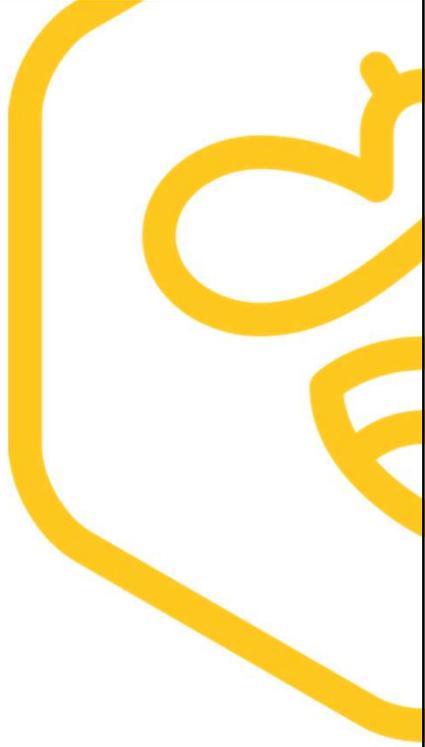
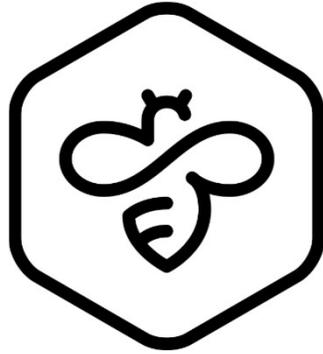
Pick services and applications that make sense to dual-stack

Invest in People, Process and Technology

Pick a consulting partner who has experience

HexaBuild Lifecycle Methodology





Q&A



Thank You