

# Measuring Trends in IPv6 Support

Tommy Pauly (tpauly@apple.com)

MAPRG

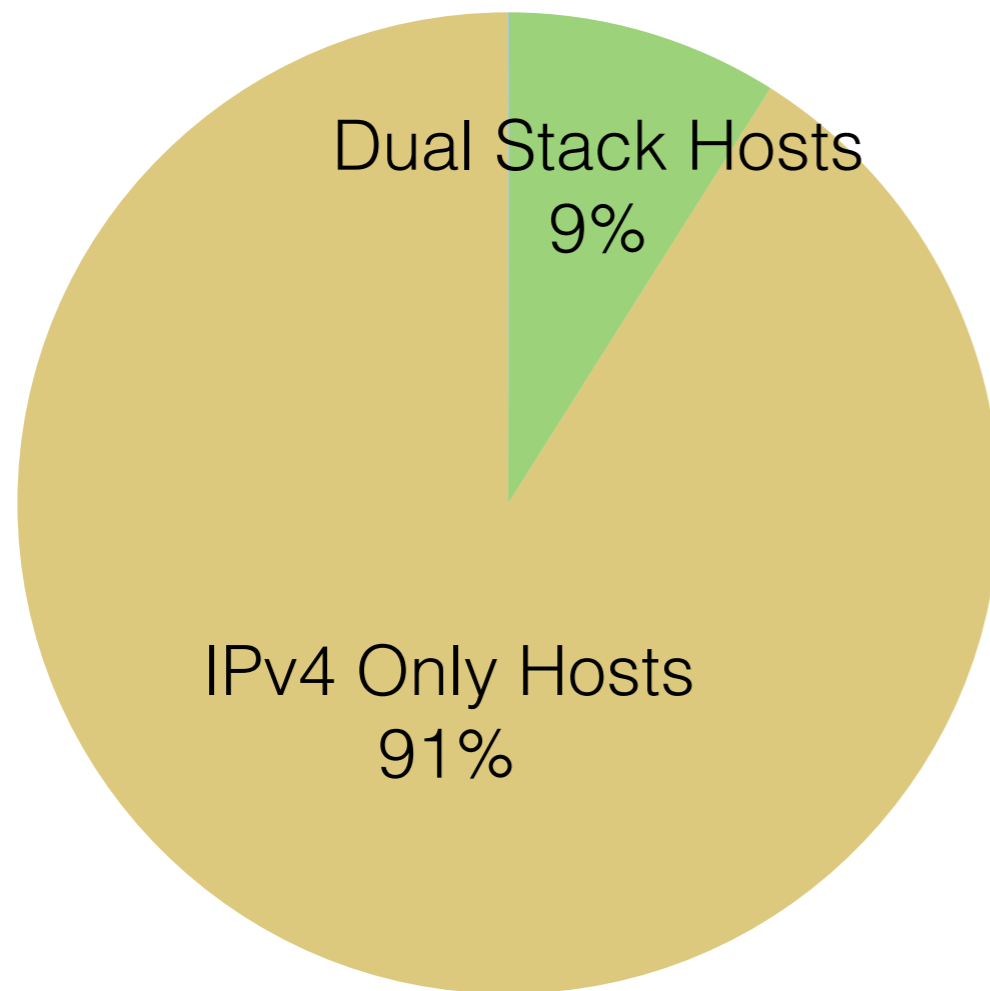
IETF 98, March 2017, Chicago

# What's New?

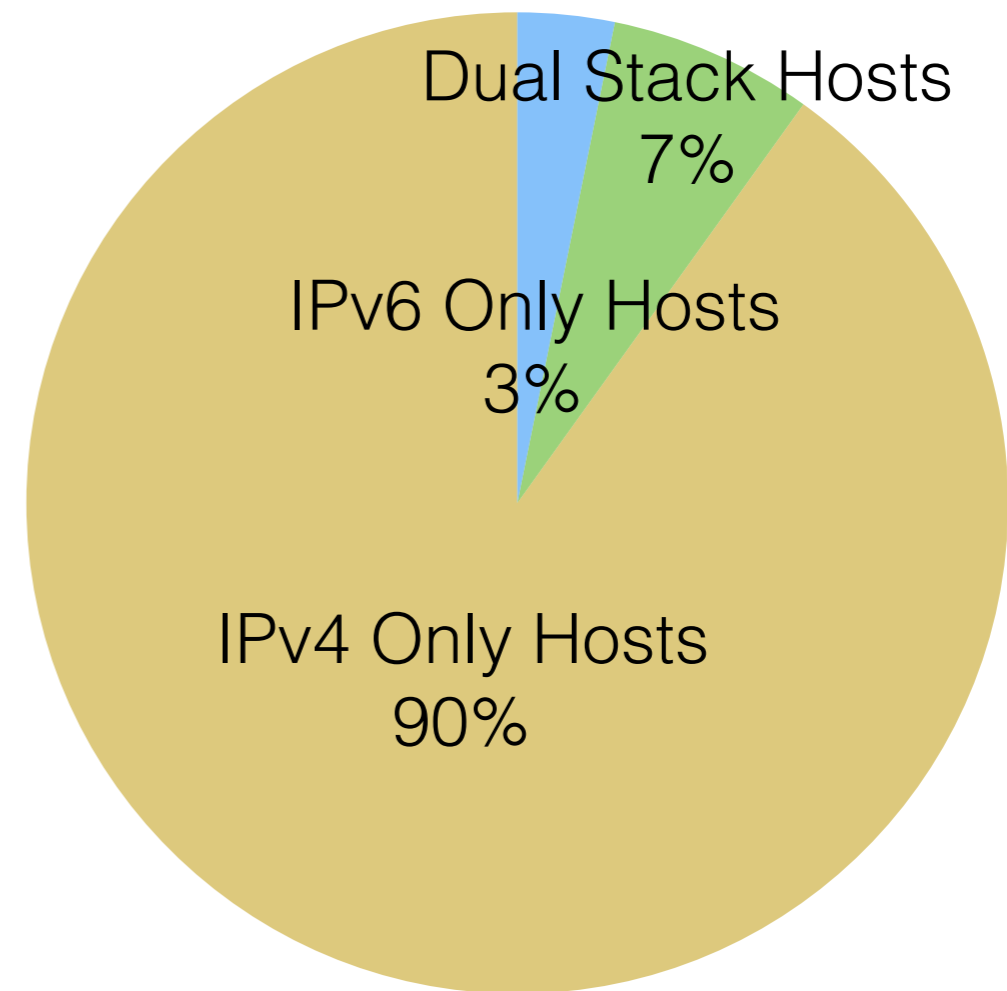
- At IETF 96 we presented our Happy Eyeballs data gathered in betas of iOS 10 and macOS Sierra
  - 6% of connections had both IPv4 and IPv6 addresses, 87% of which ended up using IPv6
  - Happy Eyeballs fell back to a secondary address on 5% of eligible connections
- We now have five months of data from wider deployment, and are looking at trends in IPv6 usage and Happy Eyeballs. 0.1% of connections are sampled

# Connection Breakdowns

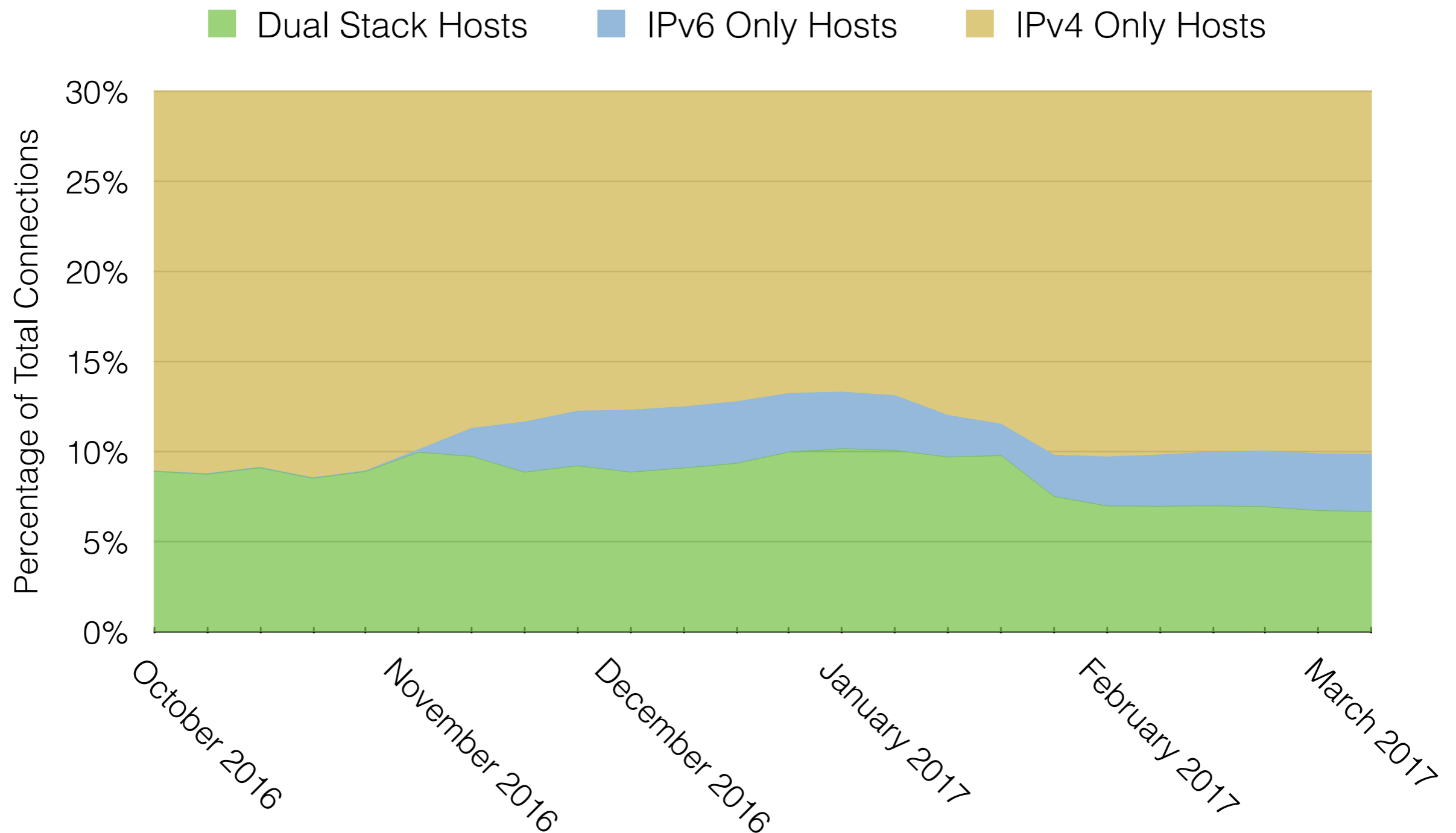
*October 2016*



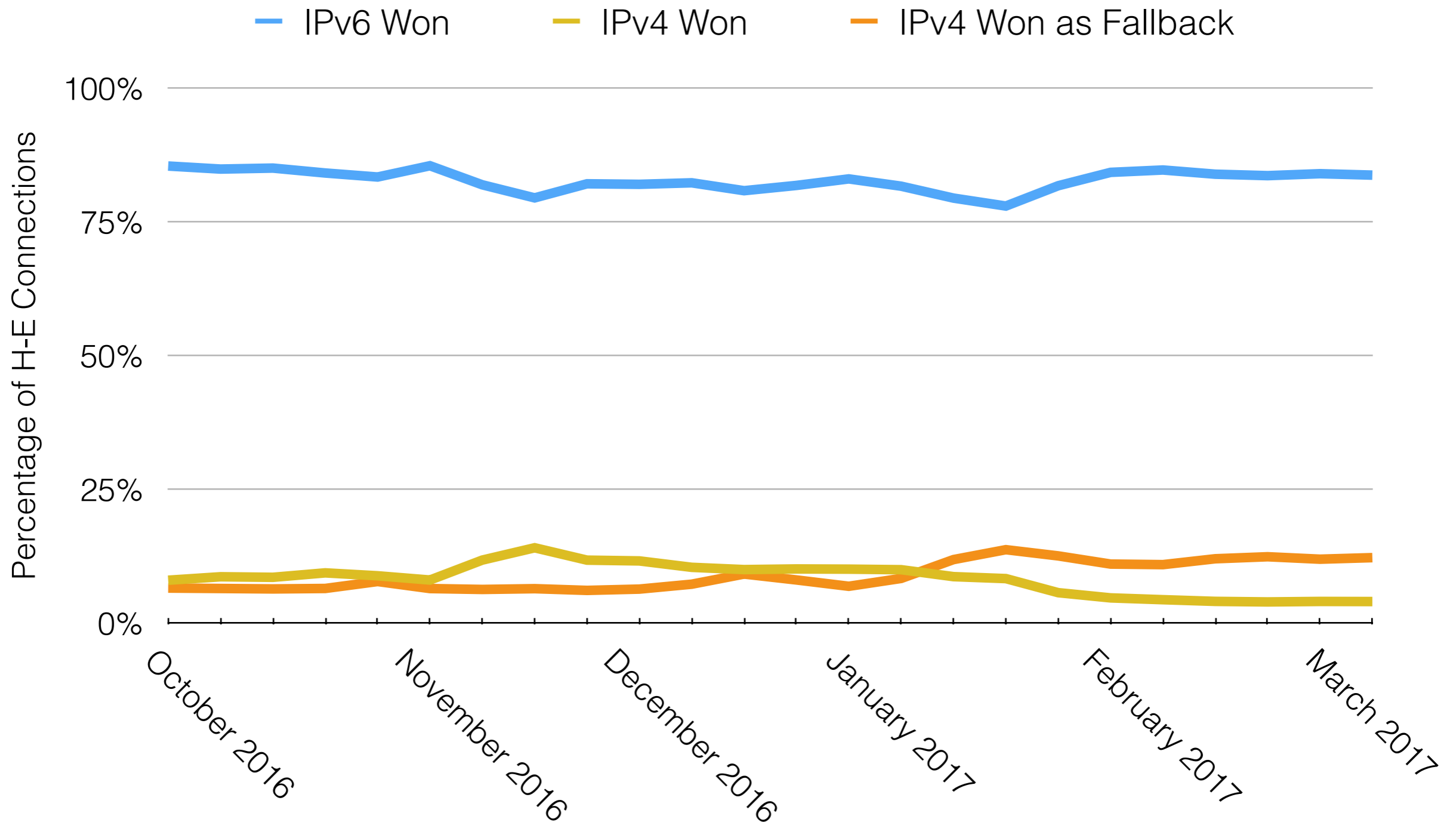
*March 2017*



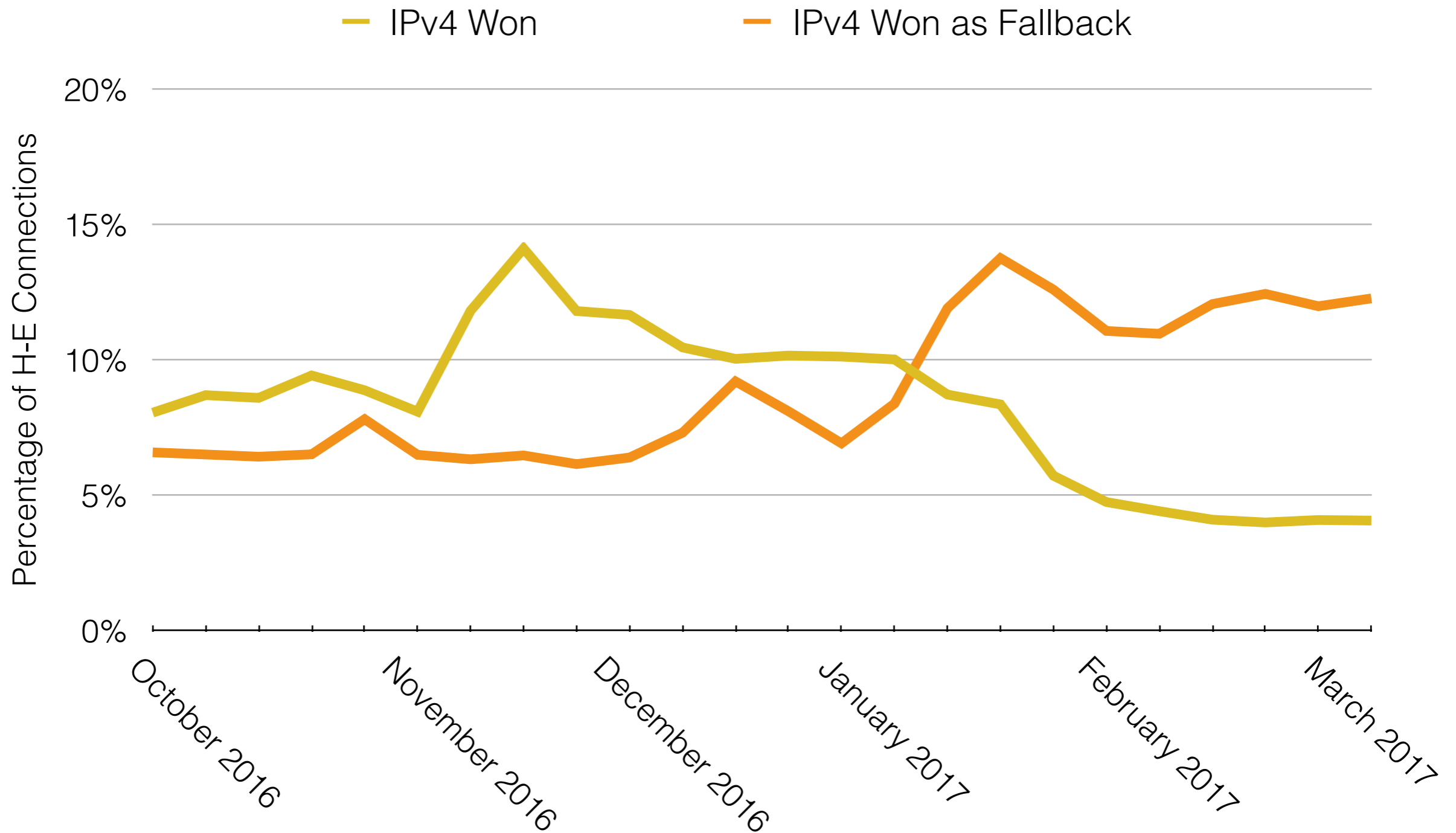
# Rise of IPv6-Only Hosts



# Measuring Happiness



# Measuring Happiness



# Summary

- The overall split between IPv4 and IPv6 connections has held steady, but a growing number of IPv6 connections only had an IPv6 address to attempt
  - More networks are deploying NAT64, or are suppressing IPv4 responses
- Happy Eyeballs racing results have fluctuations that seem to correspond to the rise of IPv6-only connections
- As we see more IPv6-only connections, the remaining Happy Eyeballs races show more fallback to IPv4, showing that the better-performing IPv6 deployments are the ones switching to IPv6-only