

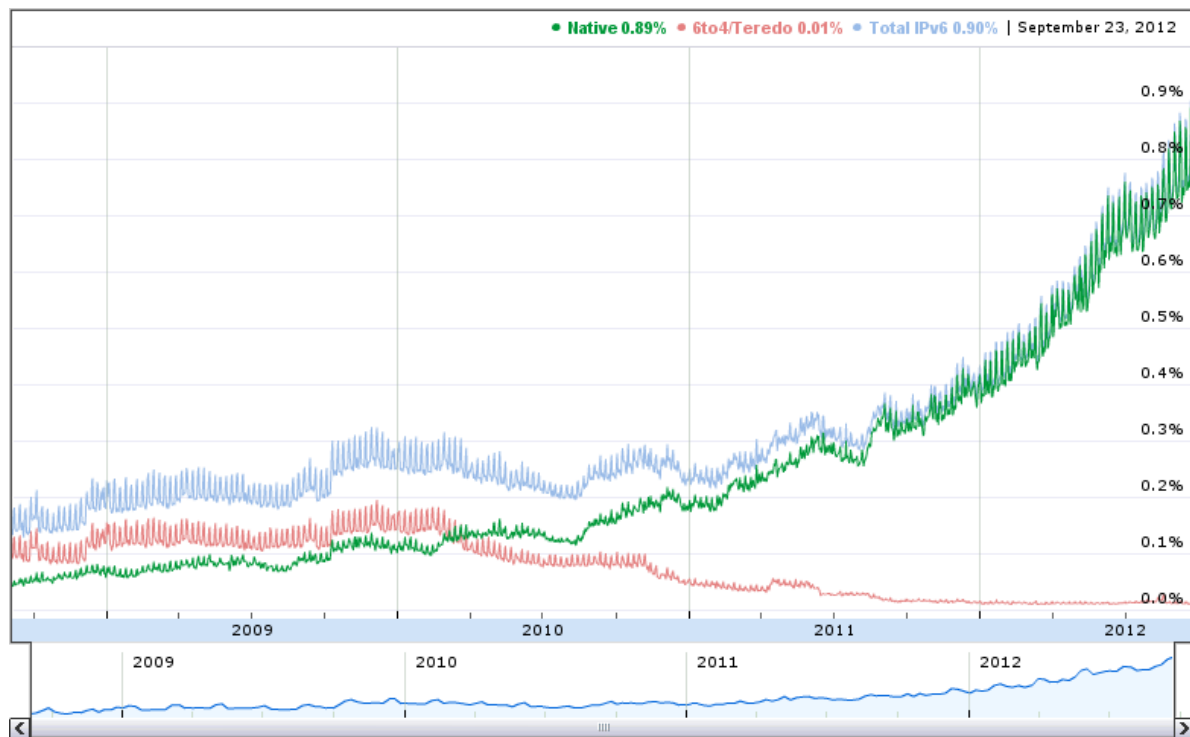


World IPv6 Launch

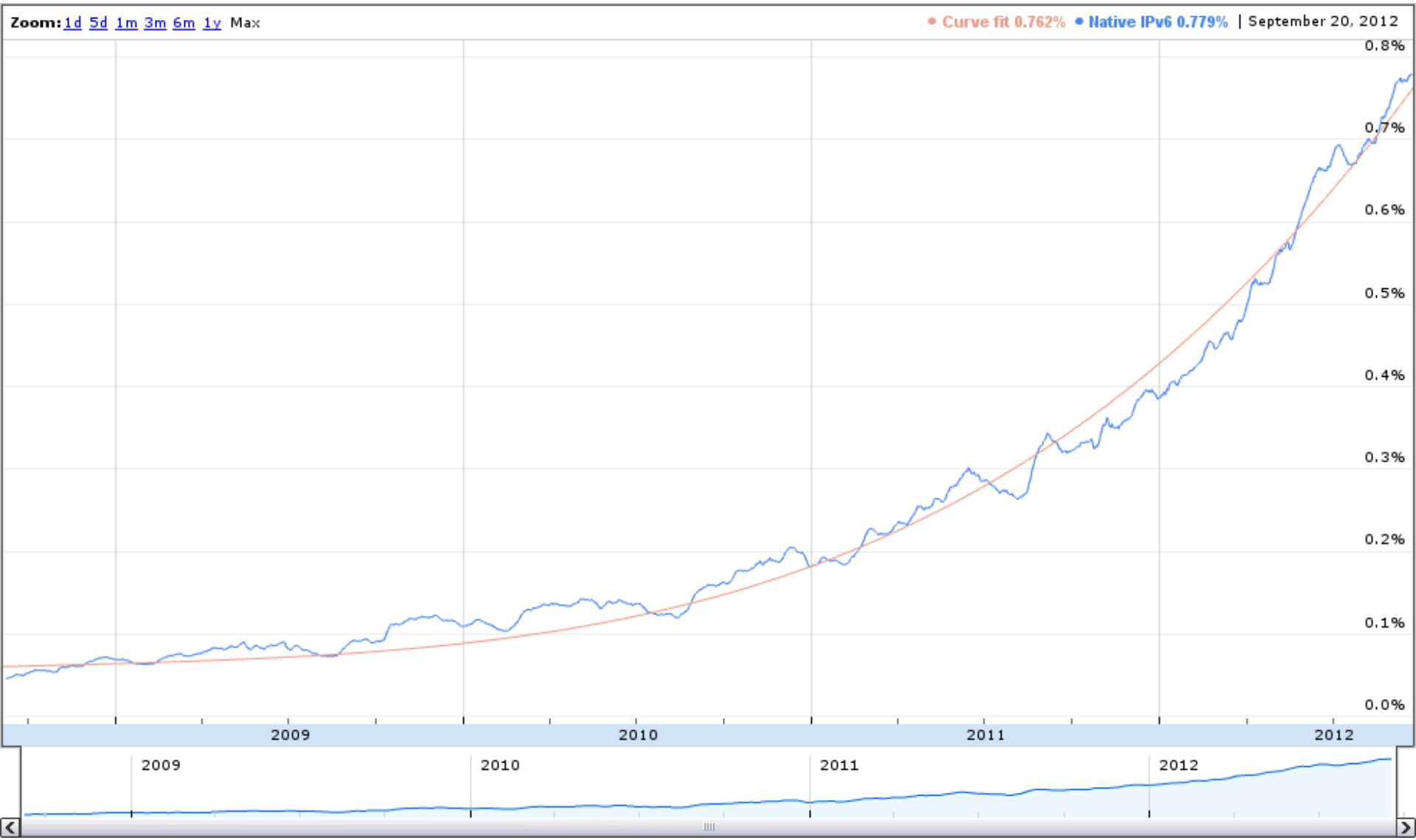
Lorenzo Colitti, Erik Kline
RIPE 65

Preparation

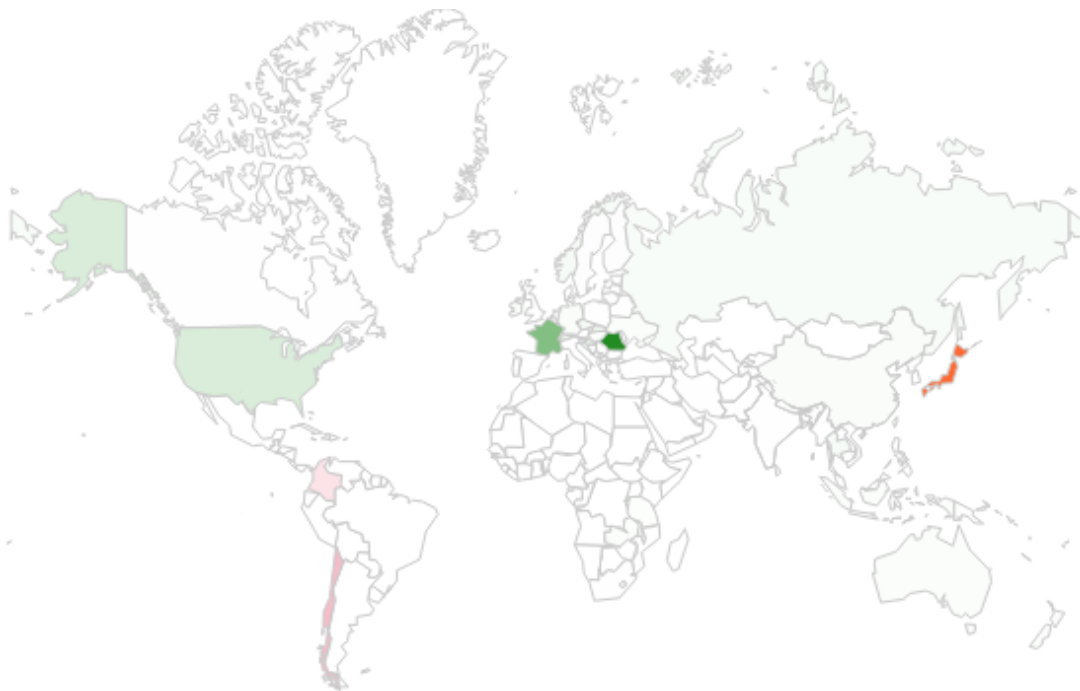
Adoption measurements



- Helped power World IPv6 launch:
 - Wrote committee tool, provided data to [participant list](#) pages
- IPv6 adoption grew by 150% (2.5x) in the last year
 - On top of already rapid IPv4 growth
 - At this rate, 50% of users will have IPv6 in ~6 years



Brokenness measurements

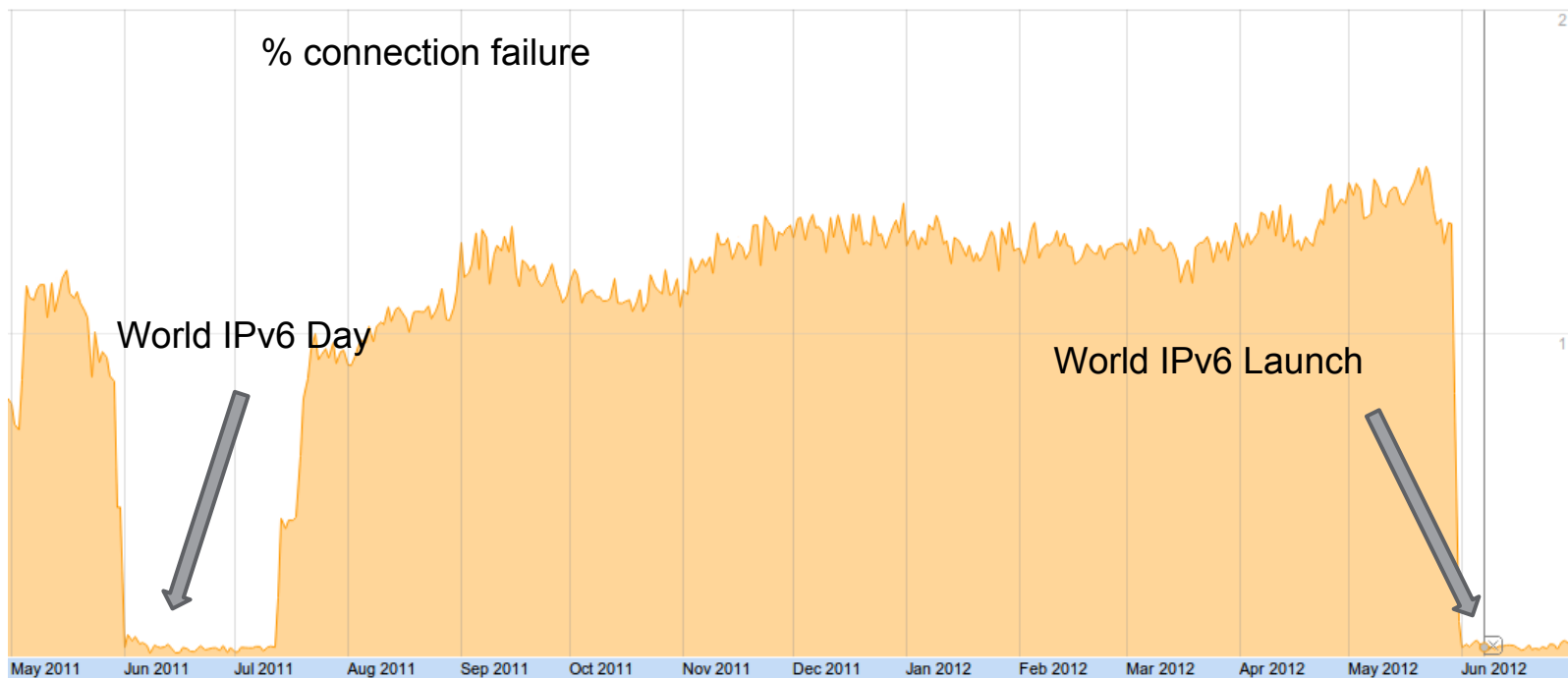


- Worked with major IPv6 networks to identify / fix issues before launch
 - Not scalable, but necessary before launch
- Warned users with connectivity problems
- Publish and update [list of networks](#) Google does not enable IPv6 for
 - Allows website operators to avoid enabling IPv6 in impacted networks

AAAA filtering

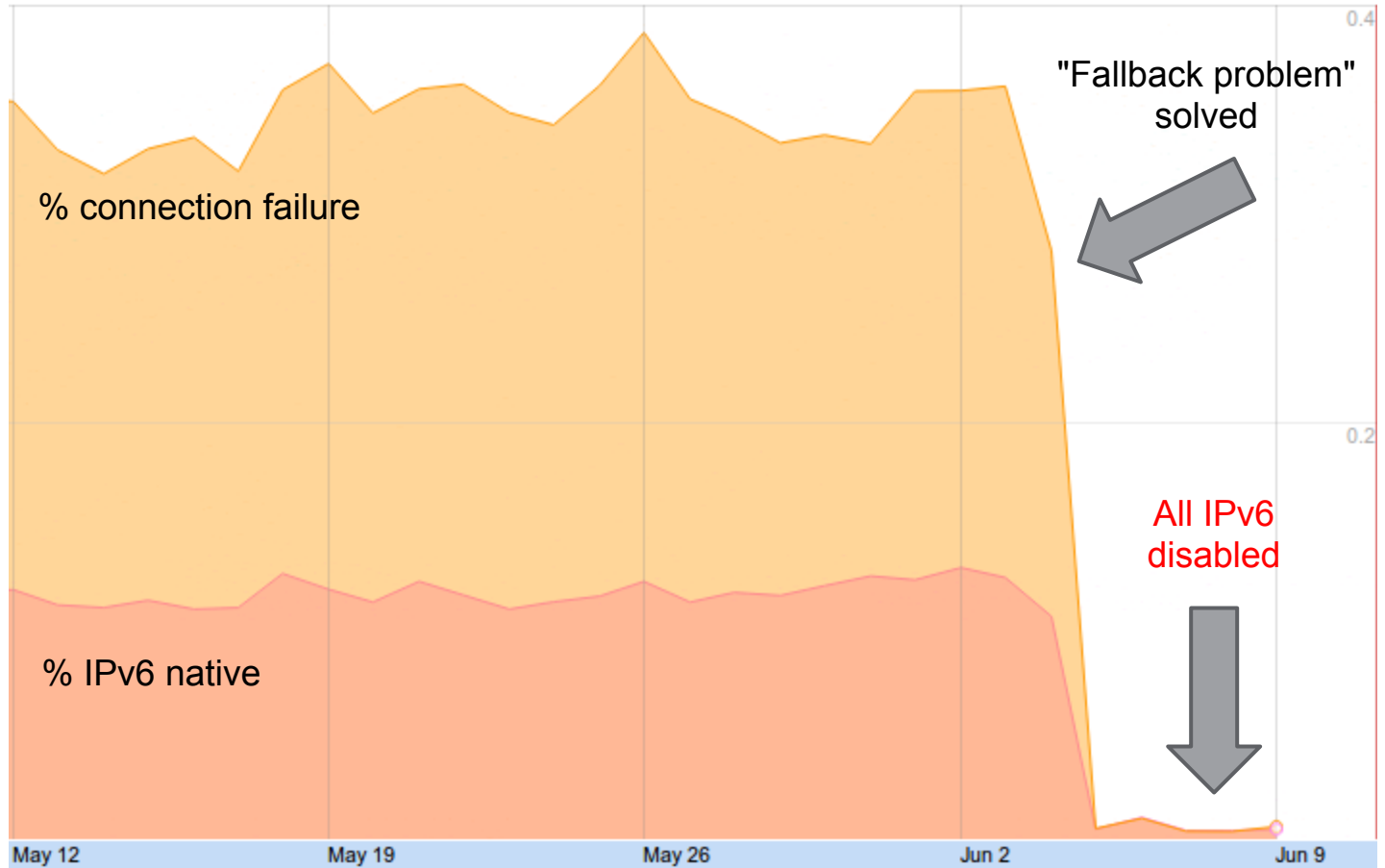
Not a real fix

- Many ISPs with IPv6 connectivity problems used AAAA filtering
 - The underlying problem doesn't go away
 - Disables measurements, so impossible to know when to stop filtering
 - Policy/censorship issues

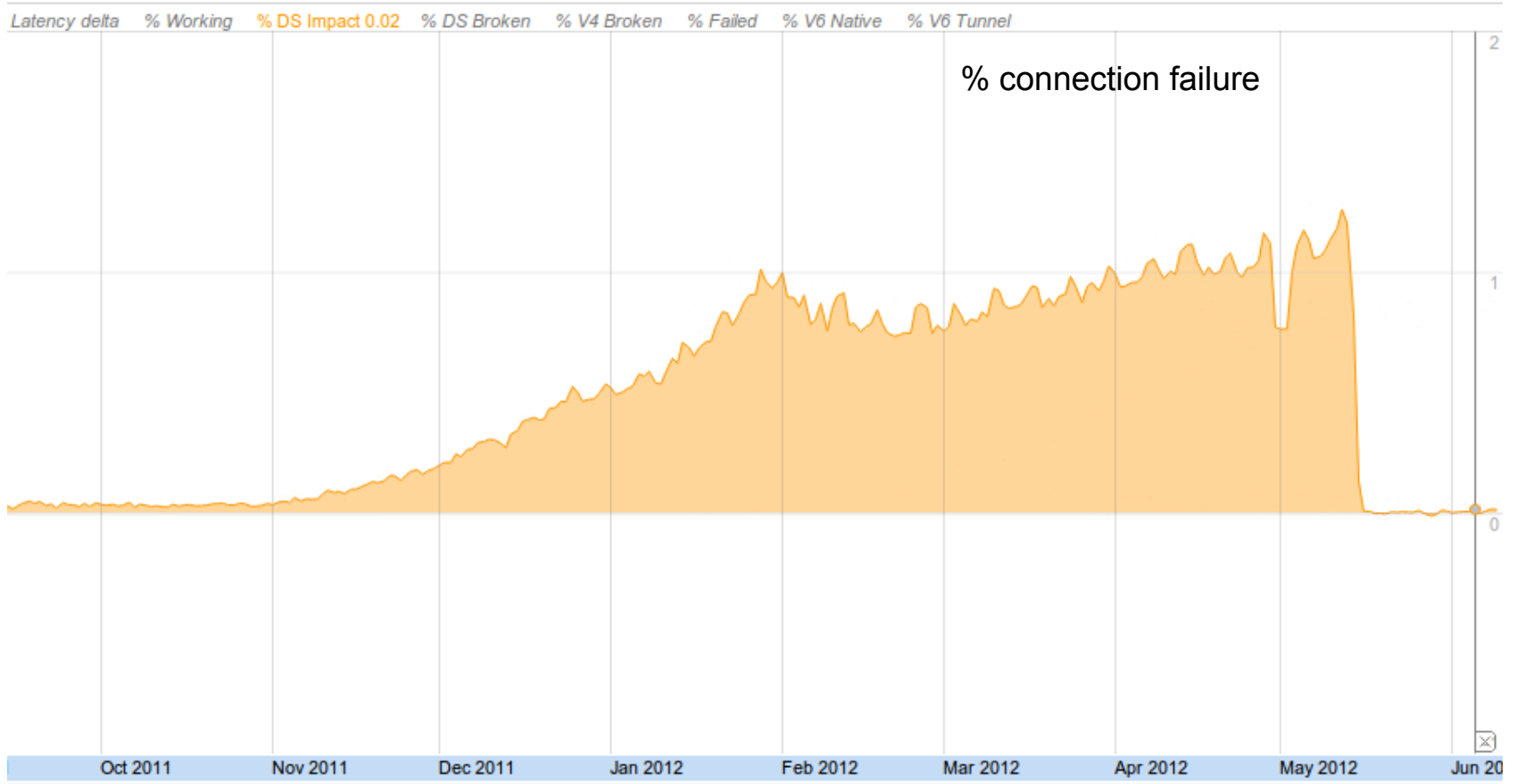


A major Japanese FLETS ISP

Collateral damage



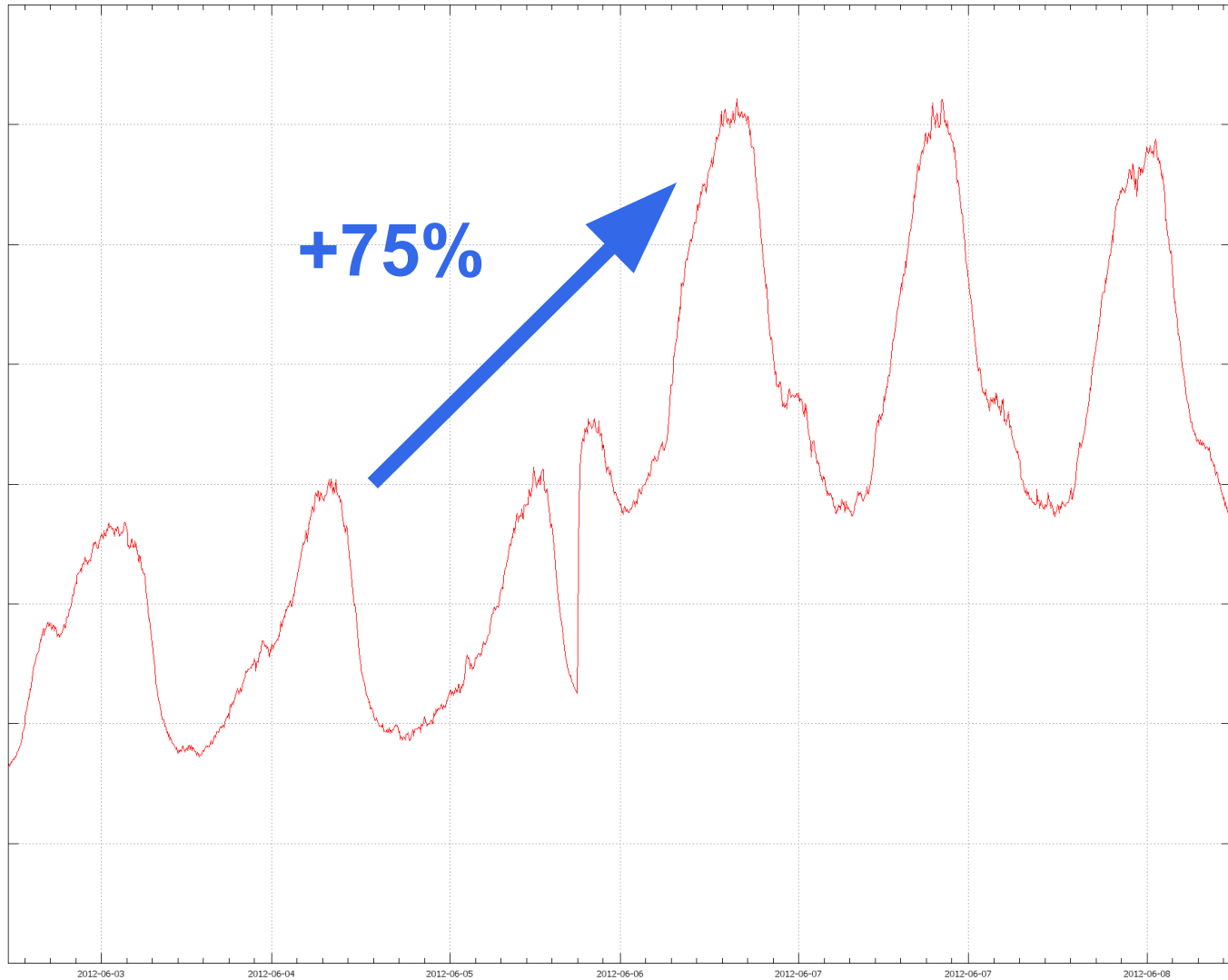
Not just Japan



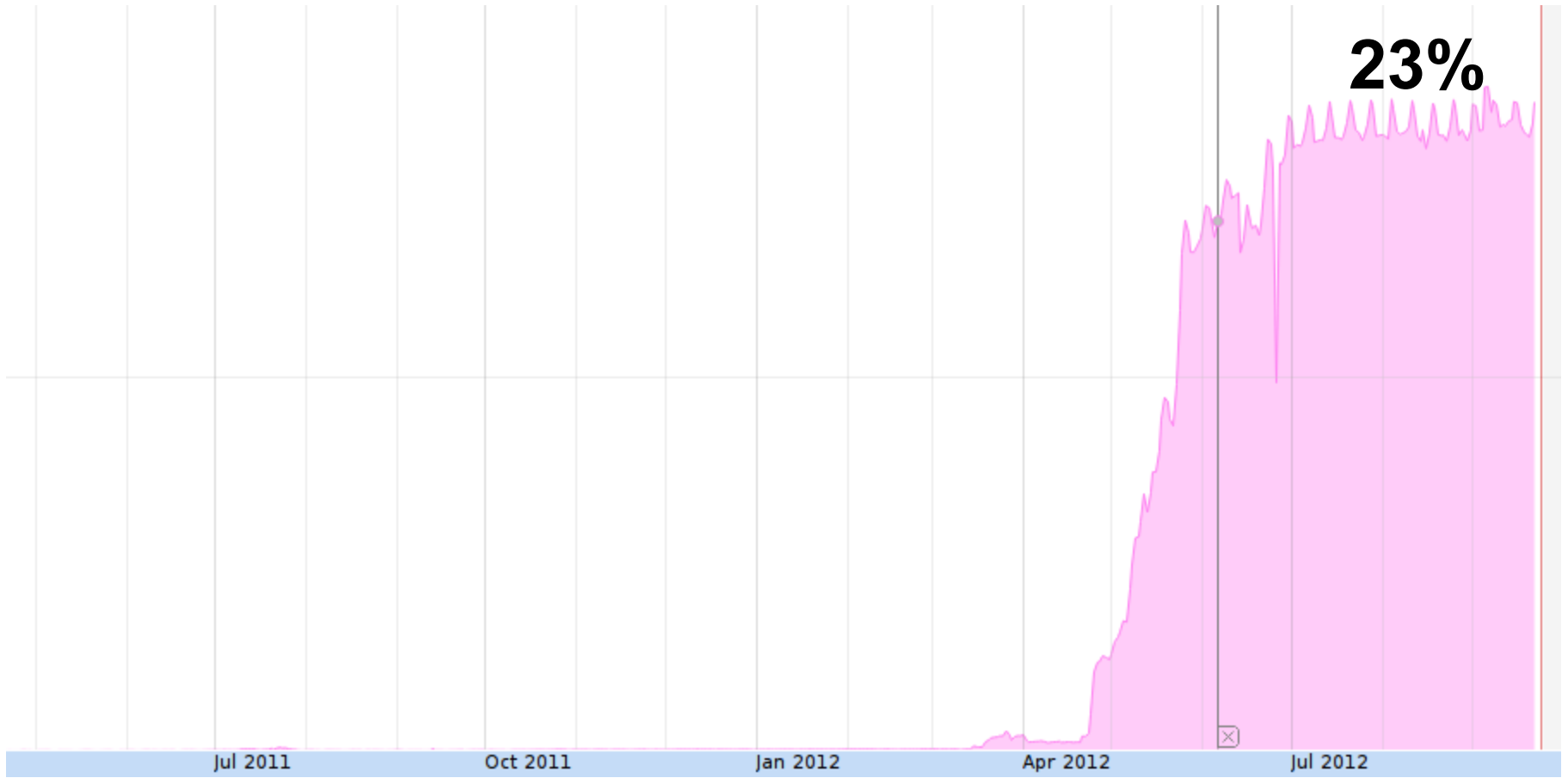
A major ISP in Greece

Launch!

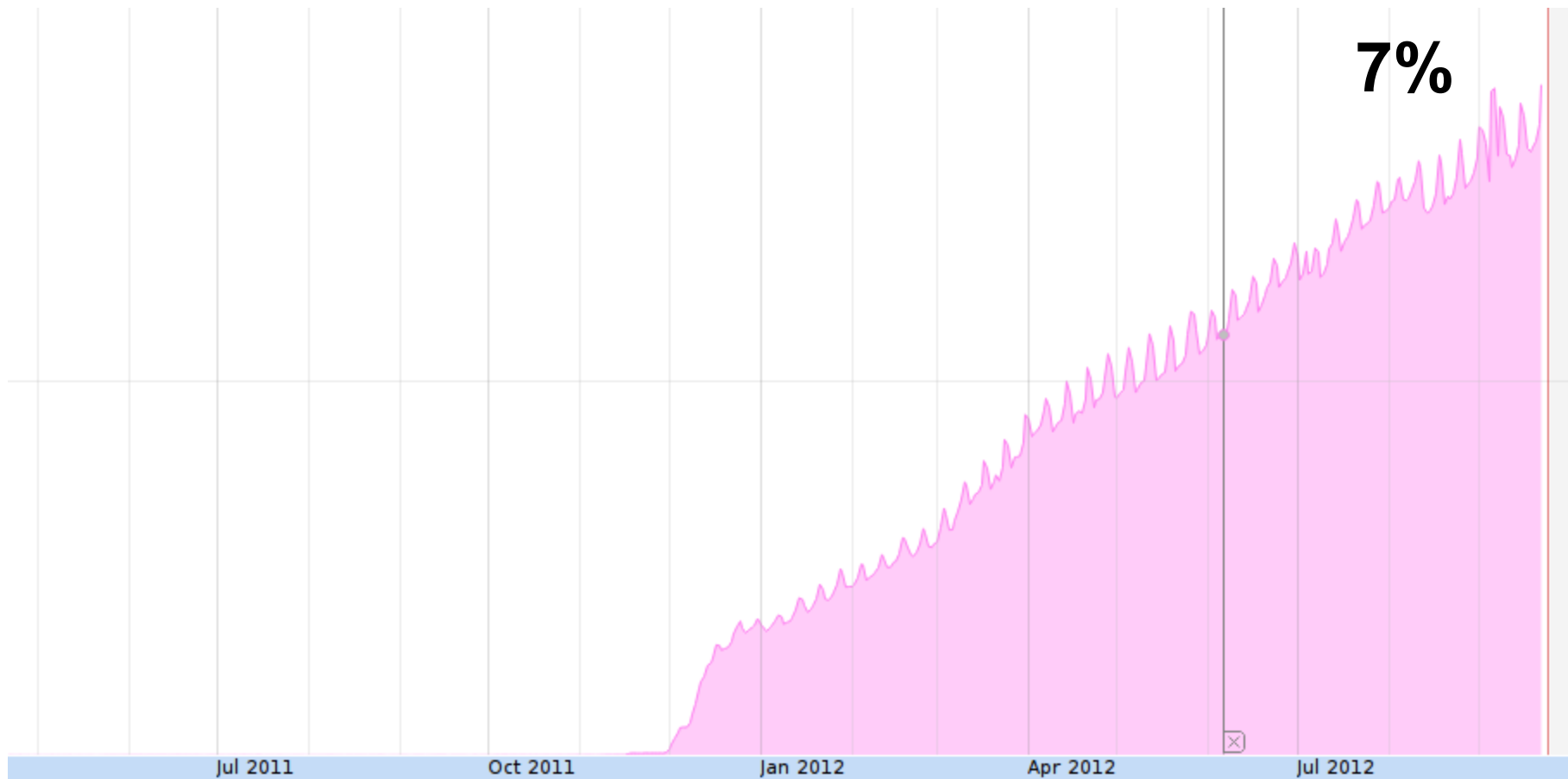
IPv6 QPS



Fiber, cable: RCS & RDS

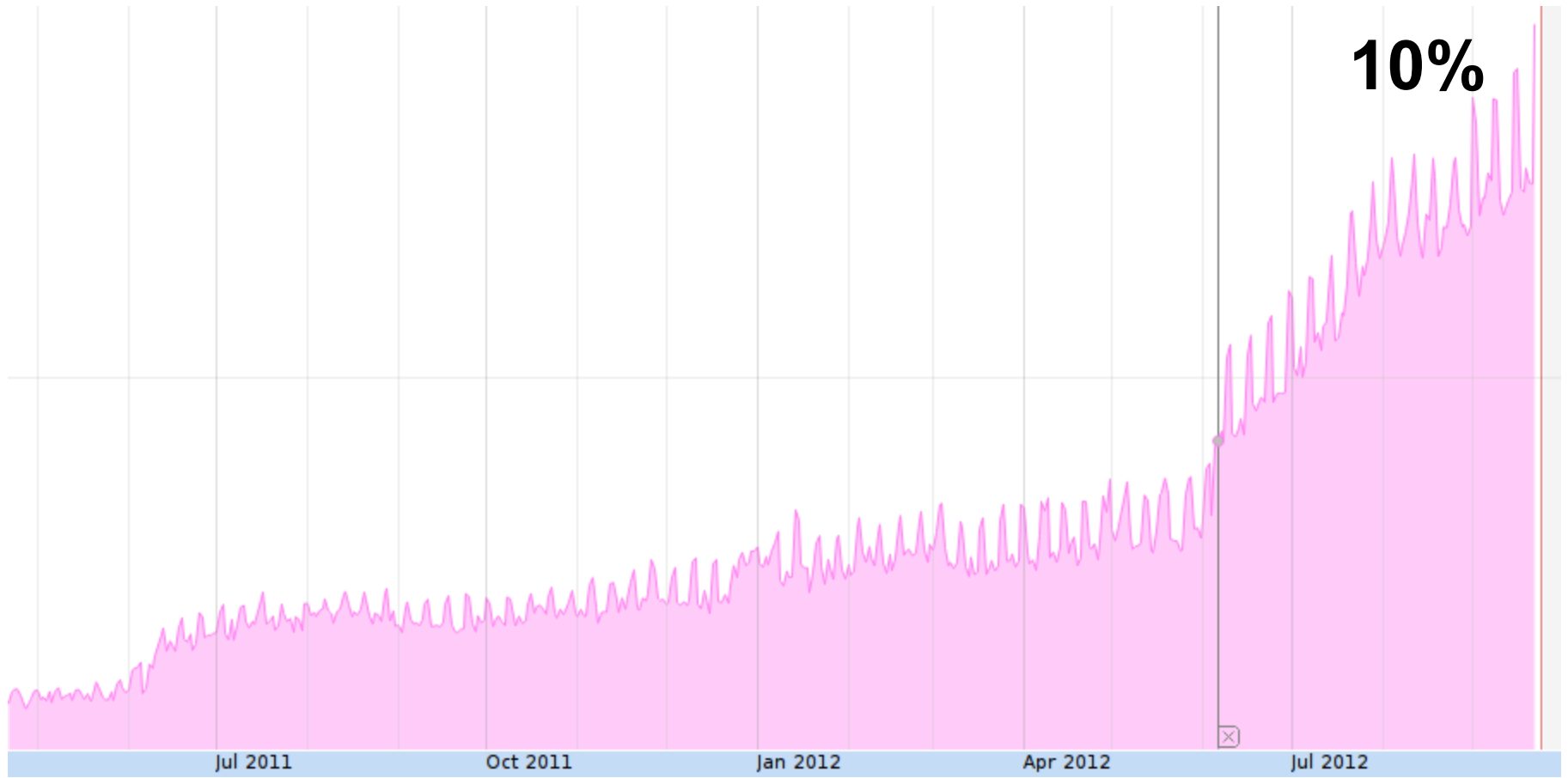


DSL 6rd: AT&T

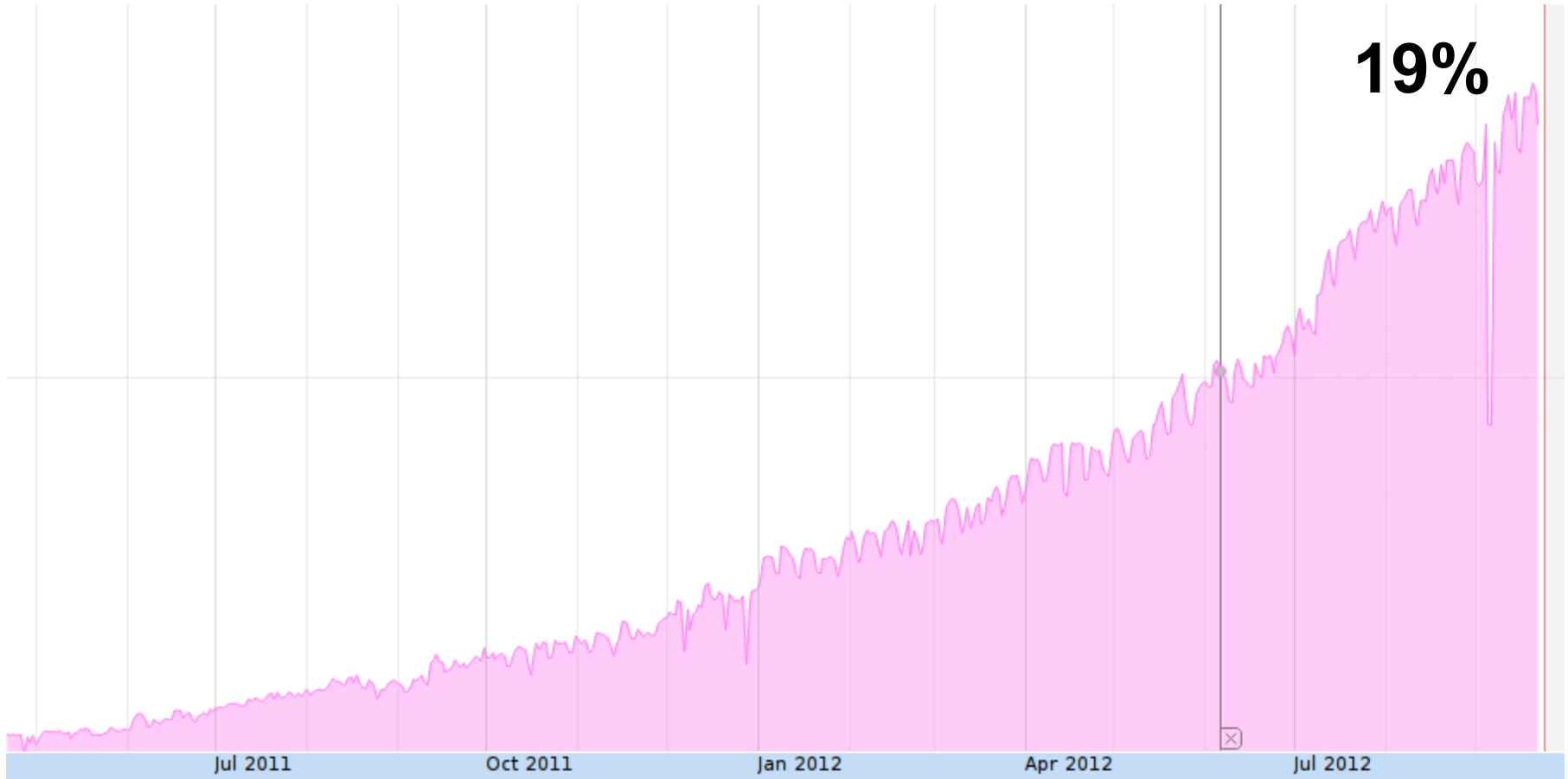


- Enabled IPv6 for 1 million subscribers
 - Could reach [5 million by EOY 2012](#)
 - IPv6-enabled customers see 20% of traffic on IPv6

PPP: XS4ALL



LTE: Verizon Wireless



Conclusions

Real impact on whole ecosystem

- World IPv6 Launch participants
 - 3000+ websites
 - 60+ ISPs
 - 4 home router vendors
- Real traffic
 - Comcast: "IPv6 enabled users see [up to 40% of traffic](#) on IPv6"
- Real deployments
 - everywhere around the world
 - on every access technology