



# IPv6: the acceptance phase

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# Why?

- IPv6 does have a business case
  - New devices (set-top boxes, ...)
  - Limit NAT infrastructure costs (devices, logging, ...)
  - Avoid NAT support costs (v6 much simpler than NAT!)
  - Business continuity
    - Allow the Internet to continue to operate
    - Allow the development of new applications that will drive subscribers, traffic and revenue
    - Keep the Internet open
- Unless you have a monopoly, better not be last to market
- Even if you believe IPv6 will never take on, might want to hedge your bets

# How?

- Tap enthusiasm
  - Started as a 20% project, got huge influx of contributors
- Make it easy for contributors to get initial results
  - A pilot network is not expensive
  - Once network is up, internal applications follow
- Do it in stages
  - v6 needn't be as capable as v4 on day one
  - But it must be done properly
  - If it's not production-quality, it's no use to anyone
- Remember: IPv6 is not rocket science

# How long?

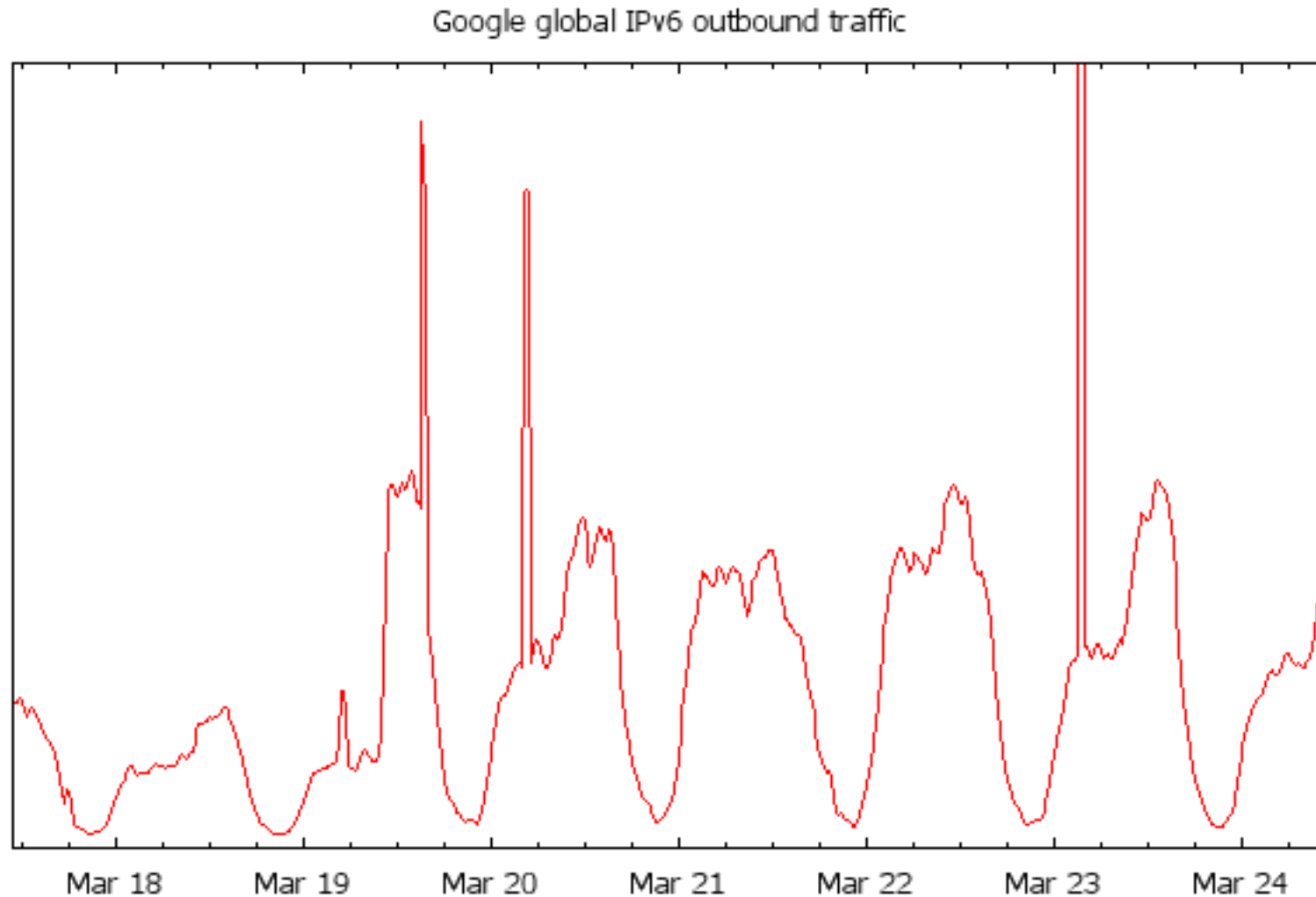
April 2005	Obtain and announce address space
...	...
July 2007	Network architecture and software engineering begin (20%)
December 2007	Mark Townsley challenges Google to serve IPv6 by IETF 73
January 2008	First pilot router
January 2008	Google IPv6 conference, Google available over IPv6 to attendees
March 2008	ipv6.google.com (IETF 72)
July 2008	ipv6.google.cn
October 2008	ipv6.google.co.jp
October 2008 - November 2008	First Google over IPv6 networks enabled. Google over IPv6 at RIPE / IETF / ...
January 2009	Google over IPv6 publicly available

And all this with a small core team

# But I can't do anything with IPv6!

- You can get to Google!
- If you have production-quality IPv6, you can get most Google services over IPv6
  - www, news, docs, calendar, maps, ...
- We have about 150,000 users, we'd love to have you too  
<http://www.google.com/ipv6/>

# Warning: traffic can appear overnight



Maps enabled for Google over IPv6 - 3x increase in traffic overnight