Supporting Internet growth and evolution: The Transition to IPv6

CNNOS

14 July 2010

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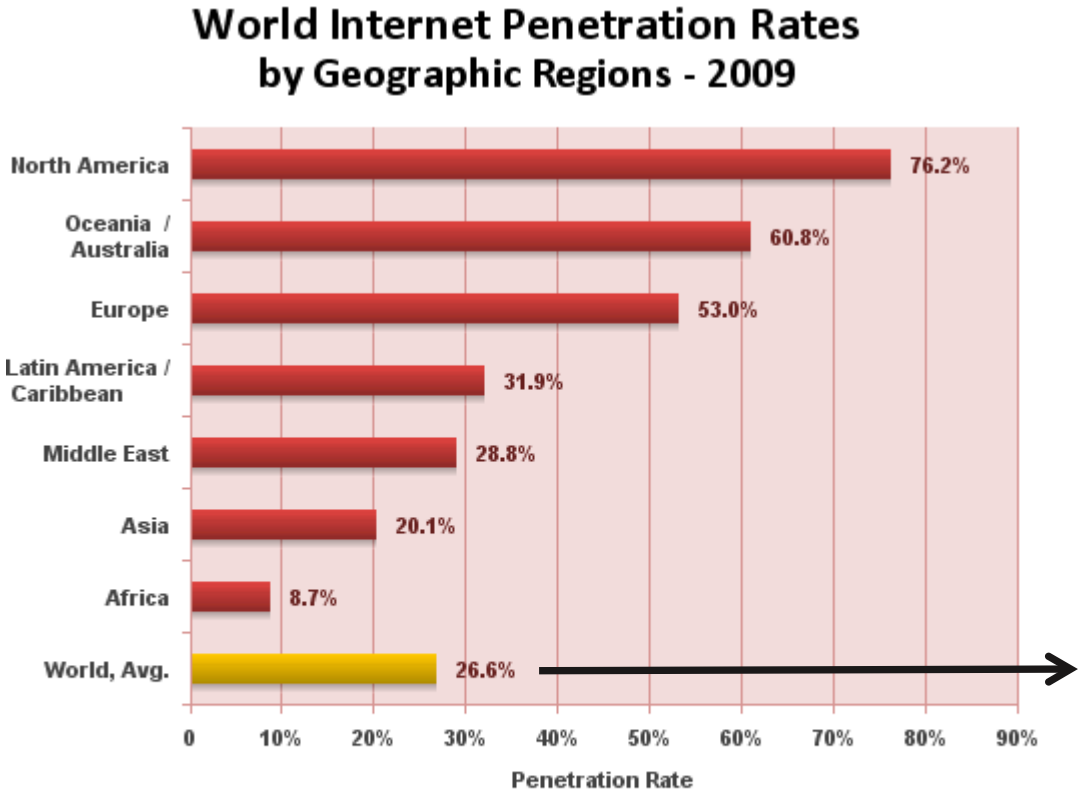
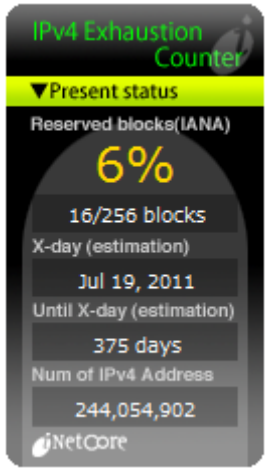
World Internet Penetration



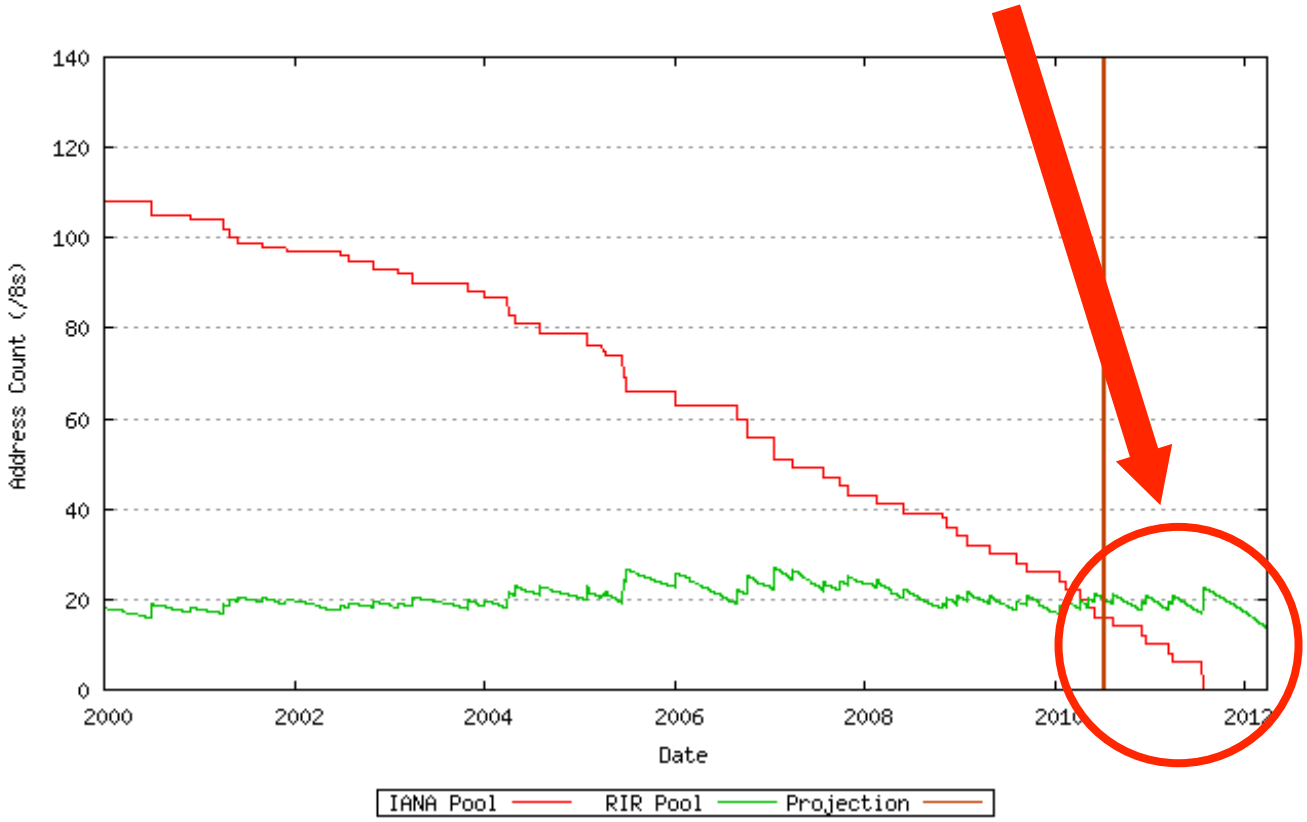
Source: Internet World Stats - www.internetworldststs.com/stats.htm
Penetration Rates are based on a world population of 6,767,805,208 and 1,802,330,457 estimated Internet users for December 31, 2010.



Internet Penetration is only at 26.6%, but IPv4 address is running out already with only 6% remaining

IPv4 Consumption: Projection

Projected IANA exhaustion: **19/07/2011**
Projected RIR exhaustion: **24/03/2012**



http://www.potaroo.net/tools/ipv4/ **9 July 2010**

Transition to IPv6

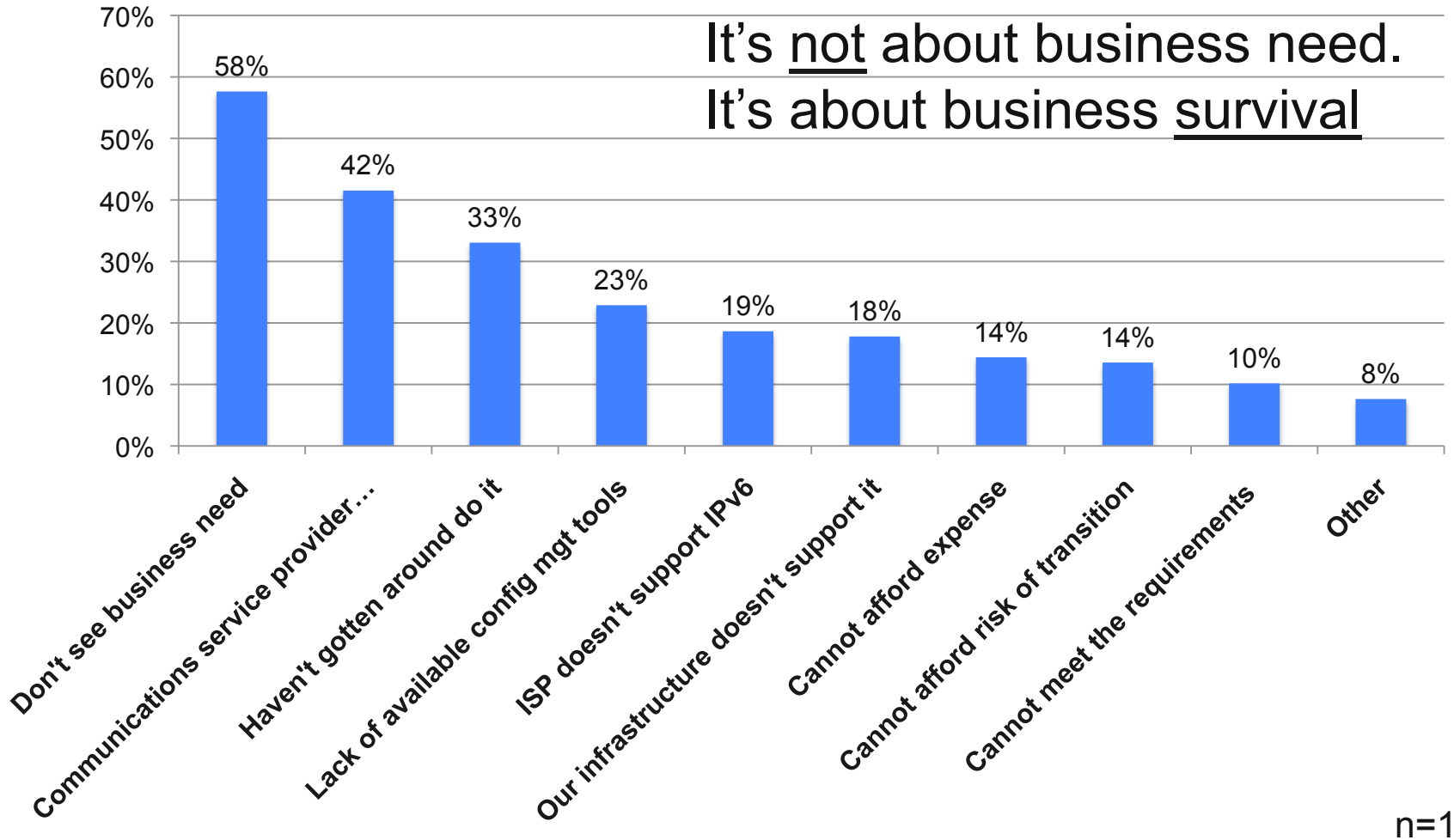
- IPv4 address exhaustion inevitable
  - 4 billion (32 bit) addresses is just not enough!
- IPv6 should be inevitable
  - 340,282,366,920,938,463,463,374,607,431,768,211,456

    trillion trillion trillion

    (128 bit) addresses is big enough
  - The only solution to IPv4 exhaustion
  - IPv6 protocol is mature
  - Increasing usage in the past years
- How far have we come?

APNIC: Survey 2009

If not, why not considering IPv6?



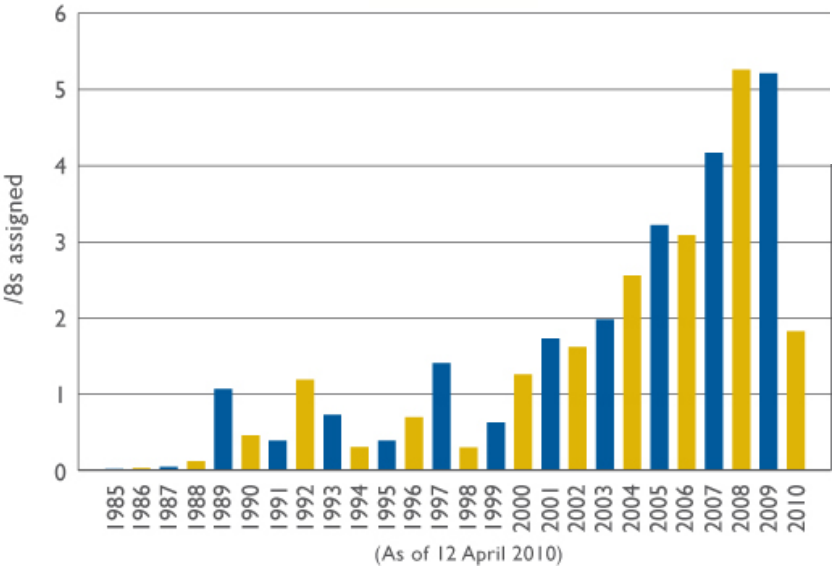
n=118

IPv6 address allocations and assignments (ISPs)

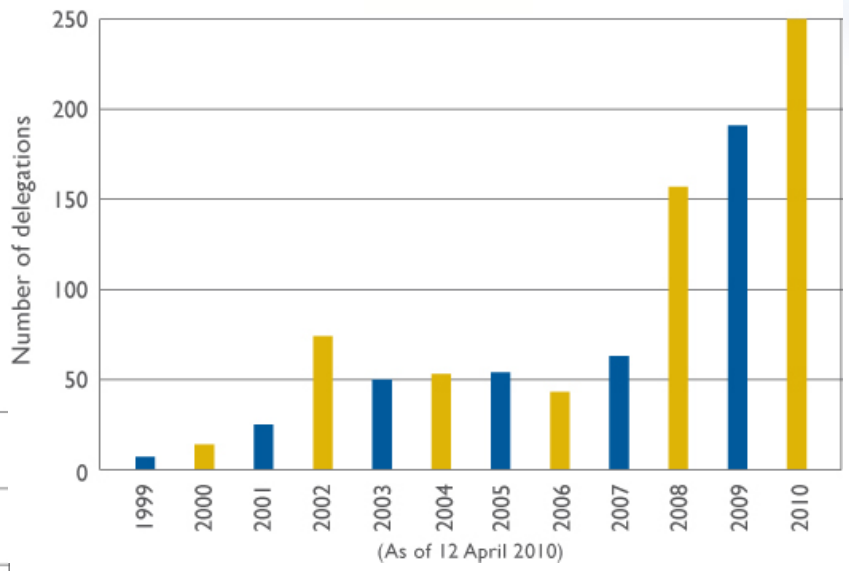
Does your organization have, or consider having an IPv6 allocation and/or assignment? (Sept 2009) n=192

APNIC Resource Delegations

IPv4



IPv6

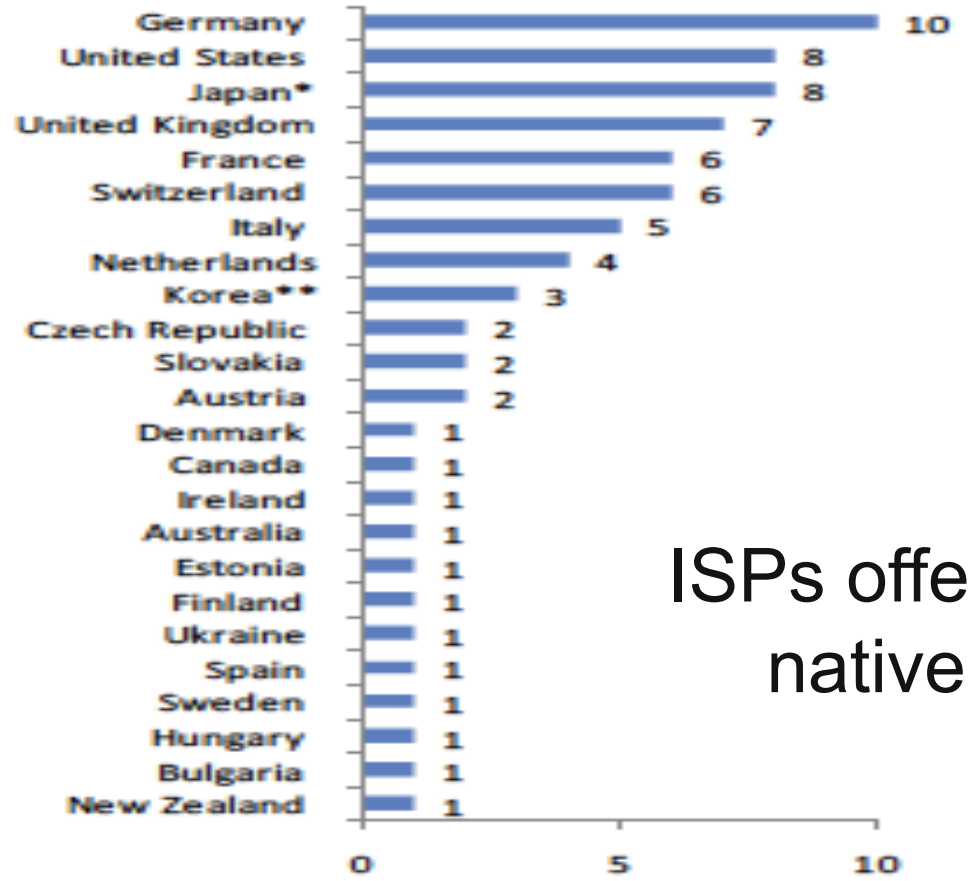


Asia Pacific Network Information Centre

APNIC

OECD: Latest Report

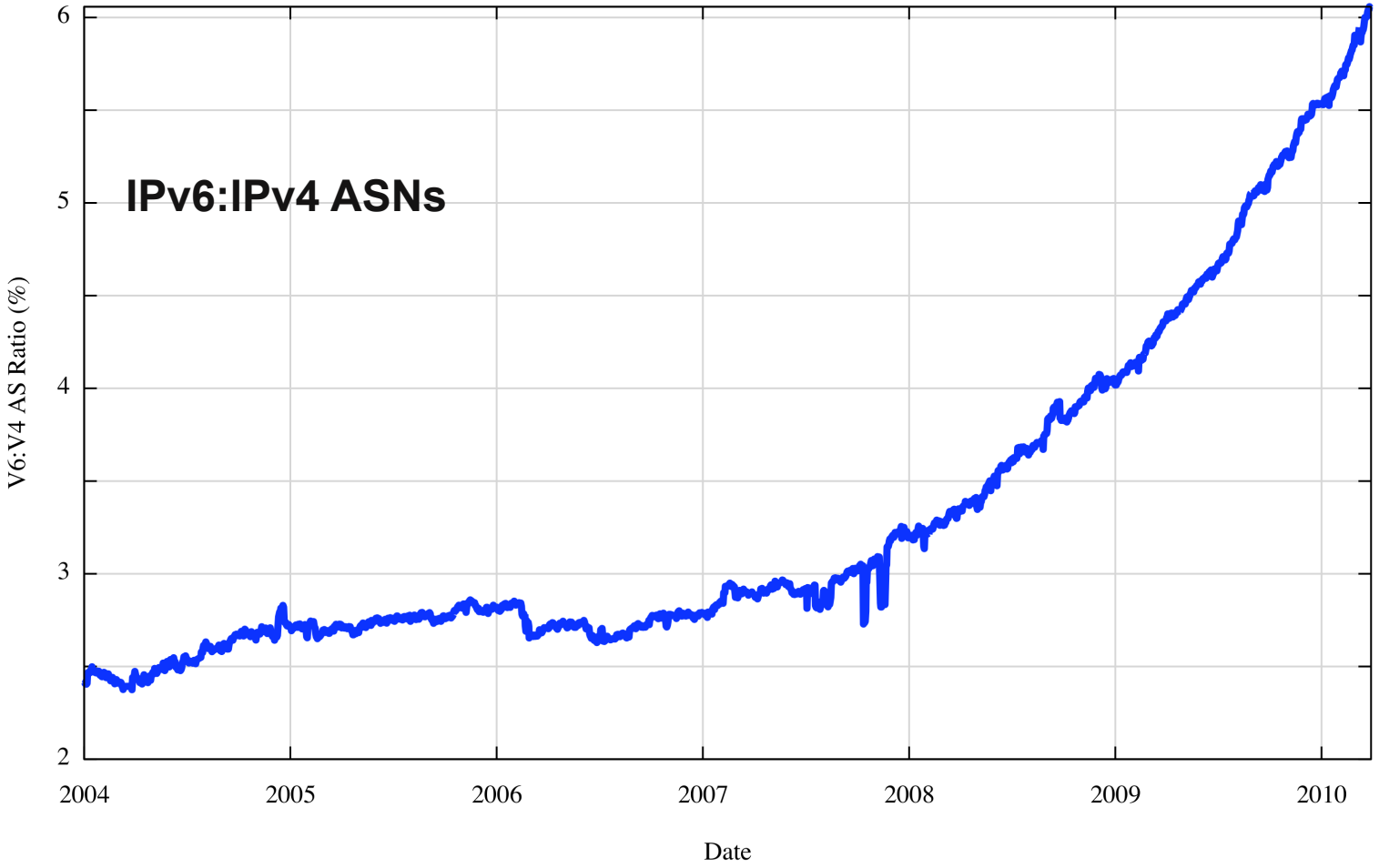
Figure 19. Number of ISPs offering commercial native IPv6 service per country



ISPs offering commercial native IPv6 service

http://www.oecd.org/dataoecd/48/51/44953210.pdf

Ratio of IPv6 to IPv4 ASes



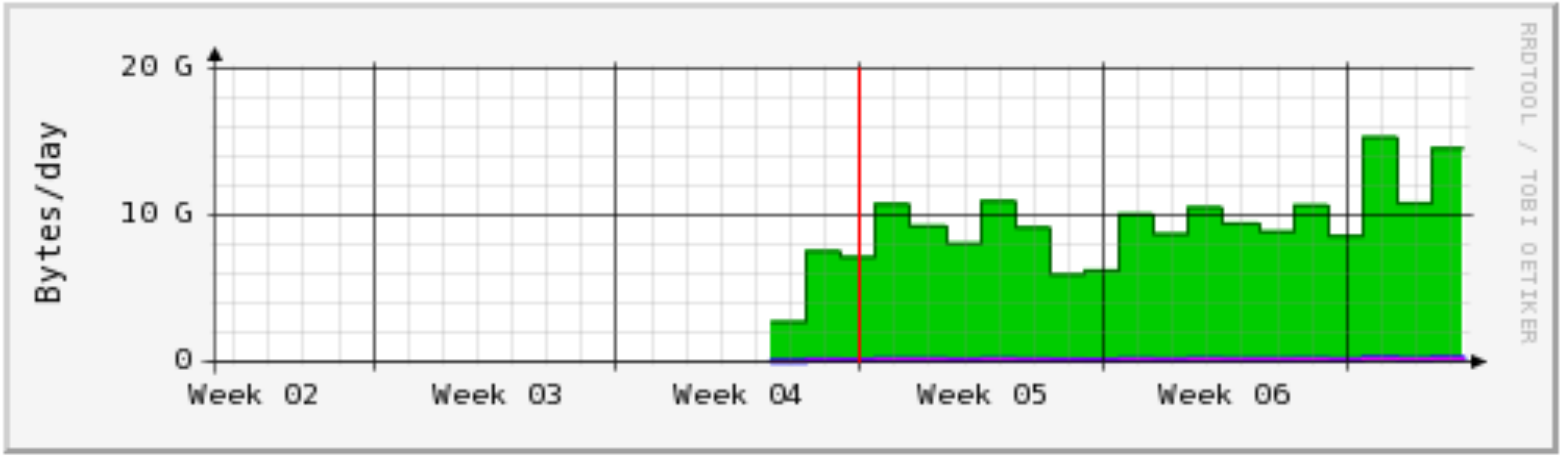
Measuring IPv6 Deployment by Geoff Huston, APNIC http://www.isoc.org/isoc/conferences/ipv6momentum/

Chicken or Egg?

"Google has quietly turned on IPv6 support for its YouTube video streaming Web site, sending a spike of IPv6 traffic across the Internet…"

– 1 Feb 2010 Networld

- Monash University, Melbourne, Australia:



In Conclusion

Prepare for IPv6 Now

- IPv4 will run out in 2 year's time
- Enable IPv6 in your network
  - Do something small but DO NOT delay

Future-proof your network with IPv6!

“What’s the Killer App for IPv6?”

The Internet !

Thank You!

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