APNIC Update

The state of IP address distribution and its impact to business operations

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About APNIC

- What we do
  - “Regional Internet Registry”
- Why we do it
  - Needed technical/administrative service
  - Support development of the Internet as a single, seamless, routable, global network
- How we do it
  - Non-profit mutual organization
  - Bottom-up policy process

Overview

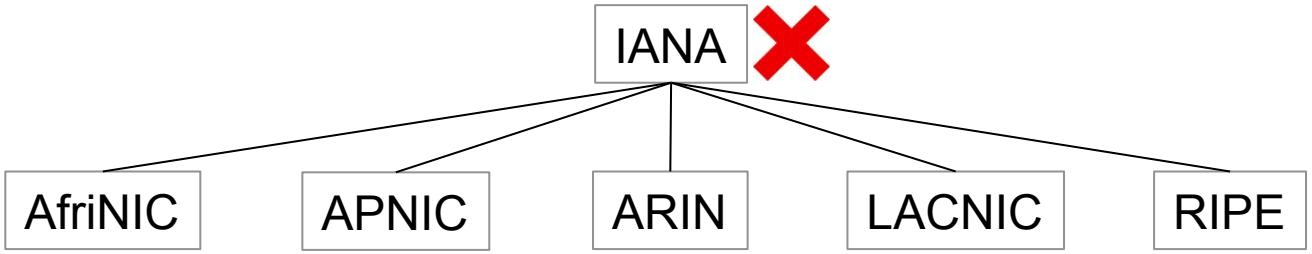
- IP address distribution in the AP region
- Status of IPv4 exhaustion
- IP address availability impact in business
- Strategic considerations

Key Points

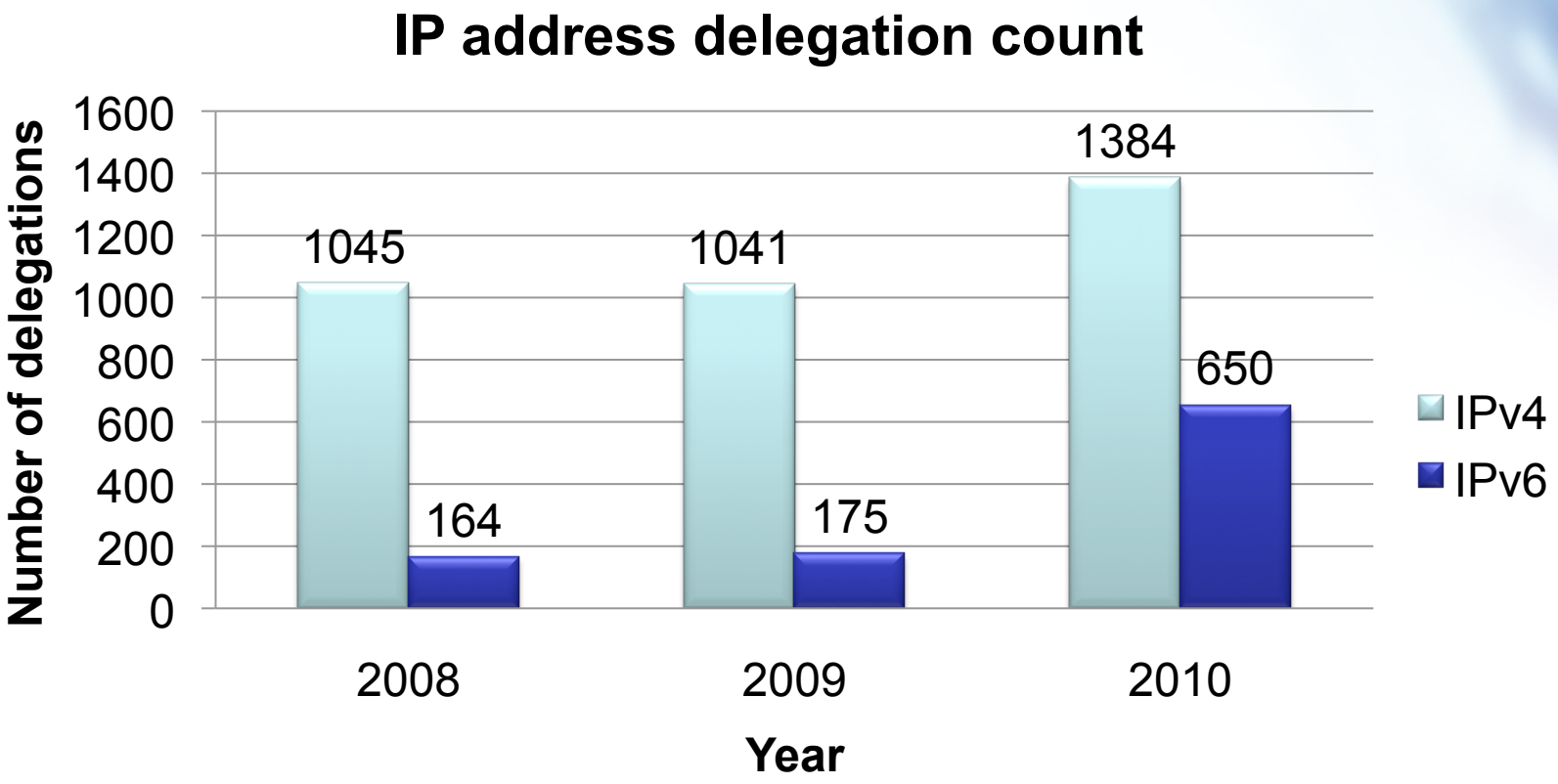
- APNIC's IPv4 address pool is running out
- Look at your IPv4 life extension and IPv6 deployment options
- Commit resources, deadlines, and report on this issue to senior management

No More IPv4 at IANA

- **Montevideo, 3 February 2011** – The Number Resource Organization (NRO) announced today that the free pool of available IPv4 addresses is now fully depleted. On Monday, January 31, the Internet Assigned Numbers Authority (IANA) allocated two blocks of IPv4 address space to APNIC, the Regional Internet Registry (RIR) for the Asia Pacific region, which triggered a global policy to allocate the remaining IANA pool equally between the five RIRs. Today IANA allocated those blocks. This means that there are no longer any IPv4 addresses available for allocation from the IANA to the five RIRs.



APNIC IP Address Distribution
2008 - 2010



APNIC IP Address Distribution
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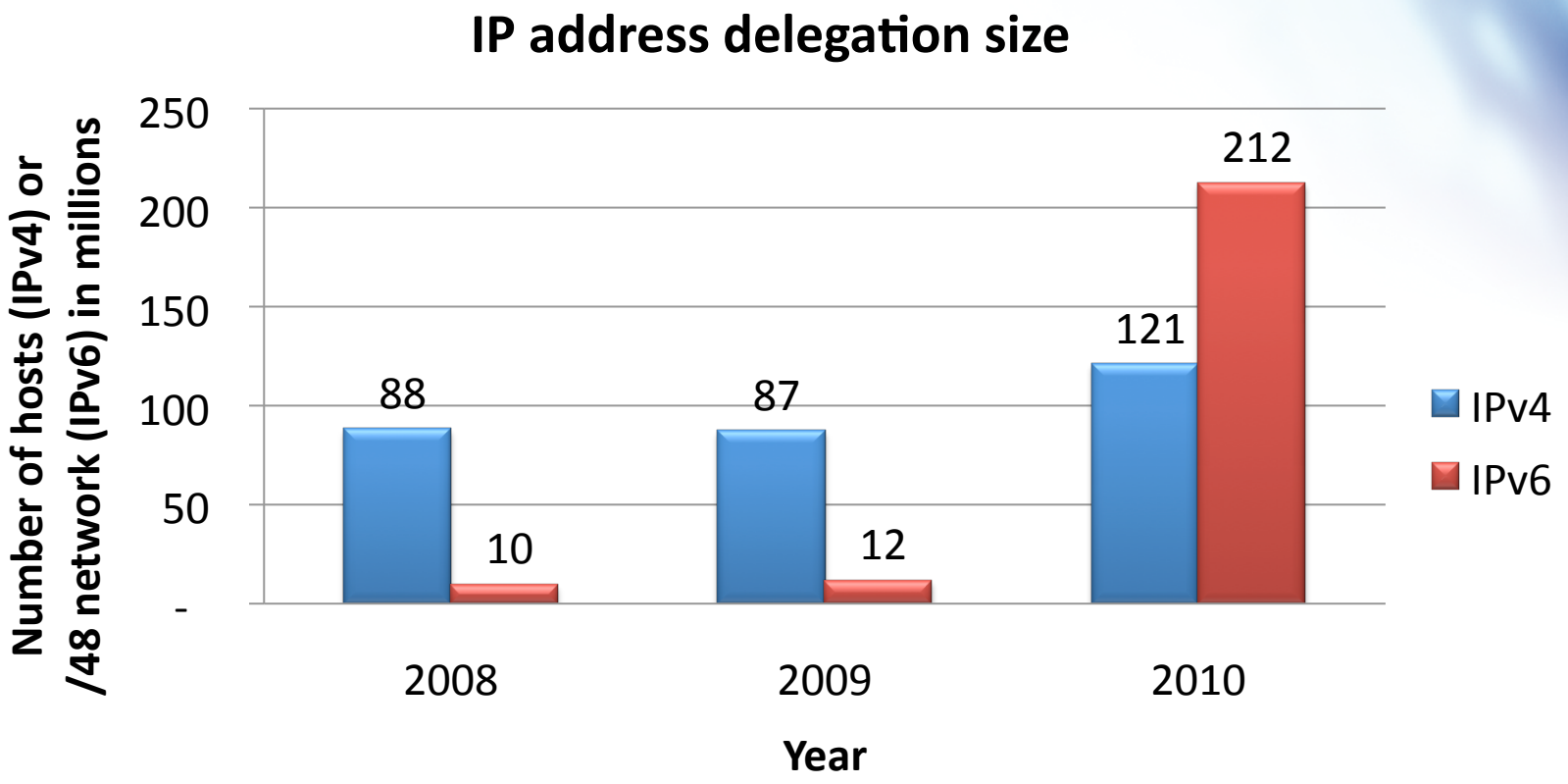
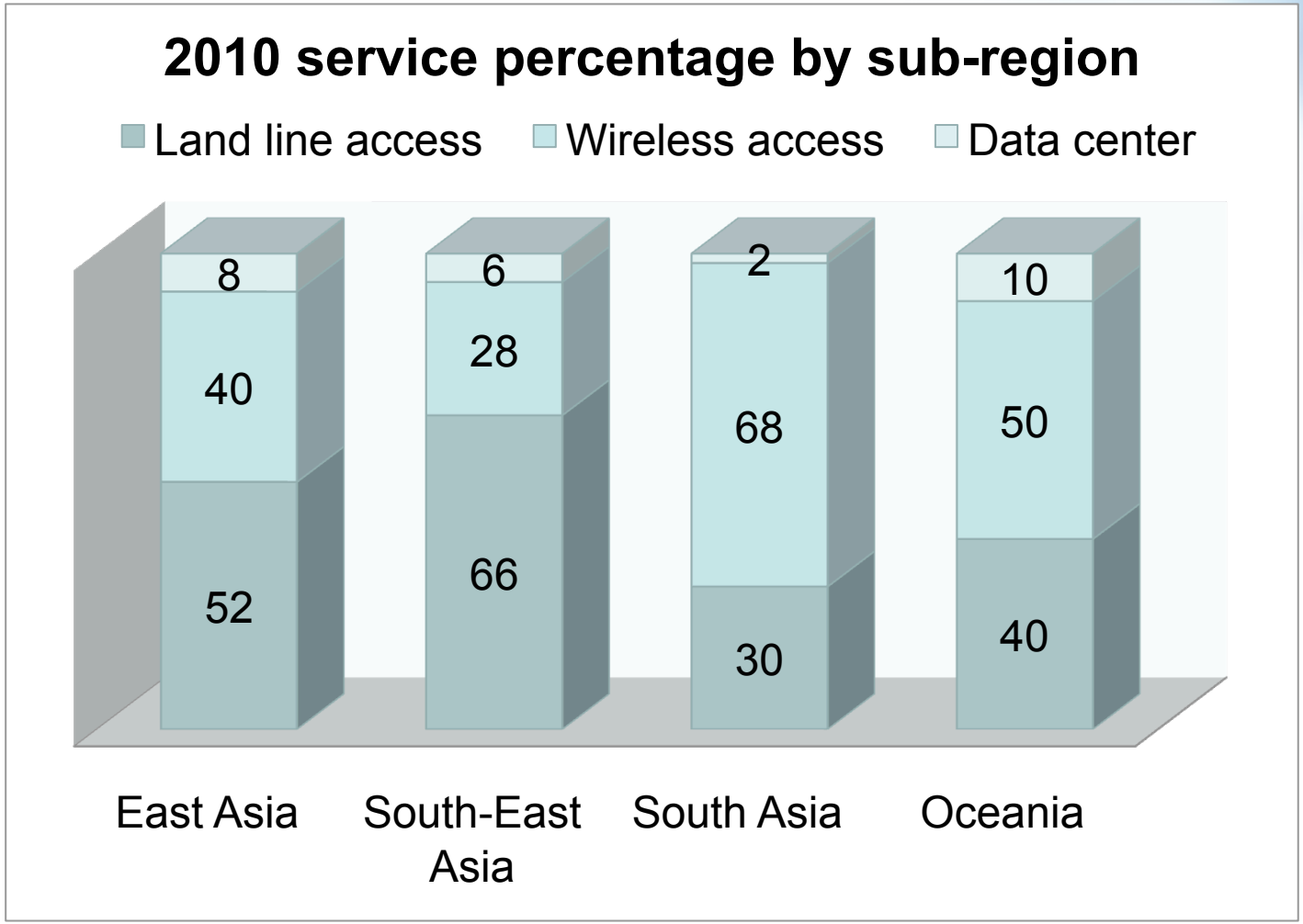
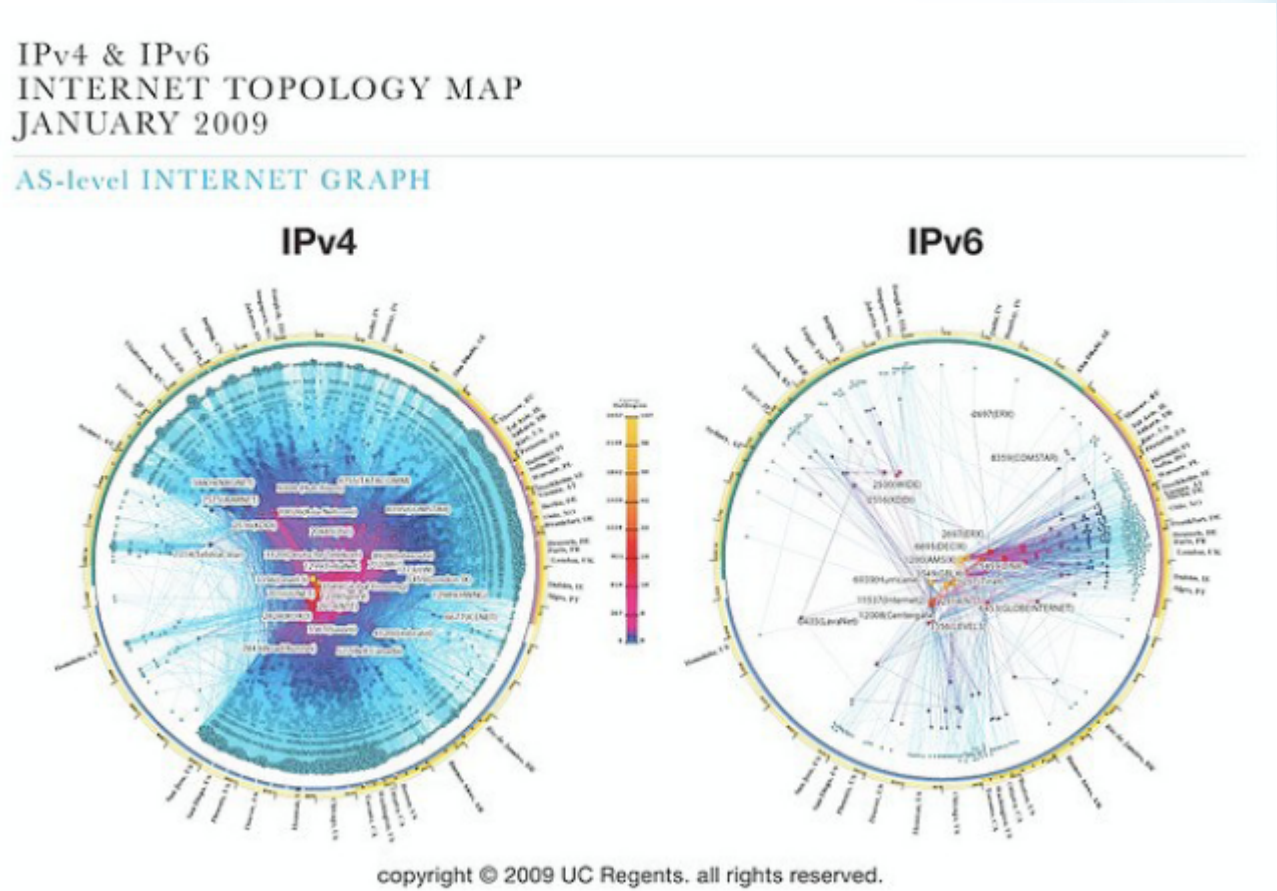


What Services Do These IP Addresses Go To?



Global IPv4 vs IPv6 Deployment State

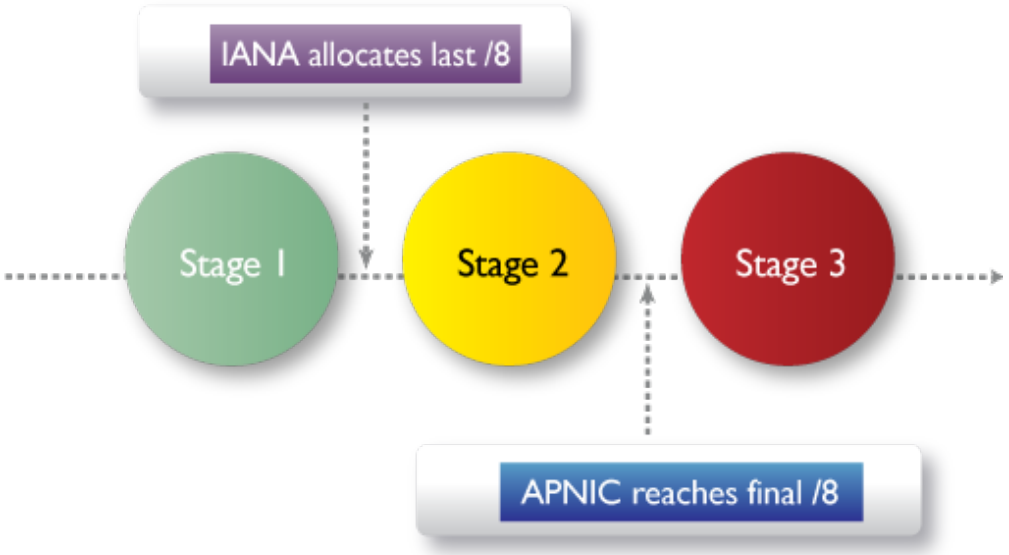


What Do the Stats Say?

- The Internet in the Asia Pacific region is still growing at an accelerated rate, particularly in access networks
- APNIC IPv4 requests will continue because networks are still growing to meet the population demand while IPv6 is being deployed
- IPv6 is being deployed globally!

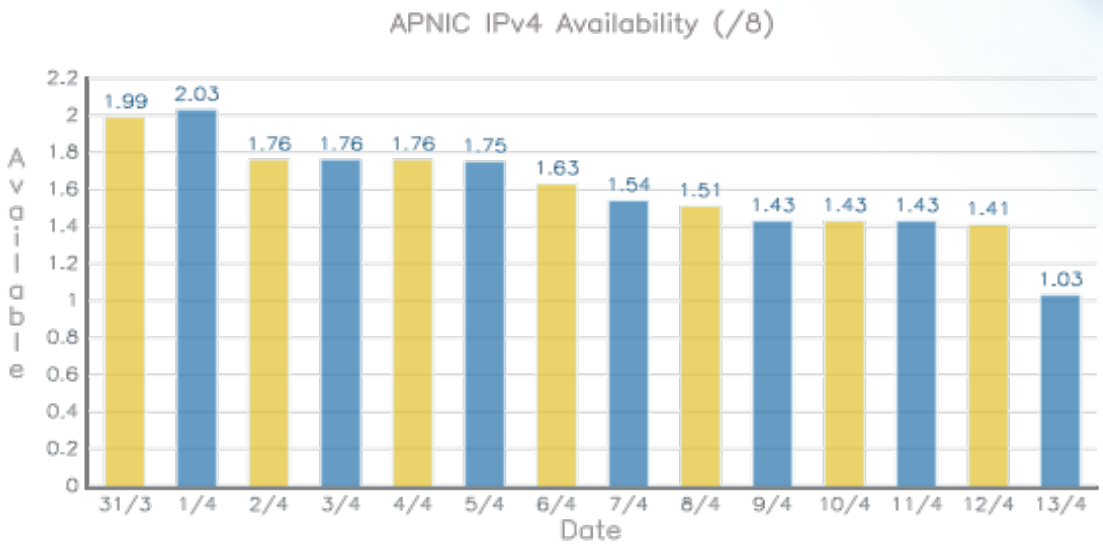
IPv4 Exhaustion

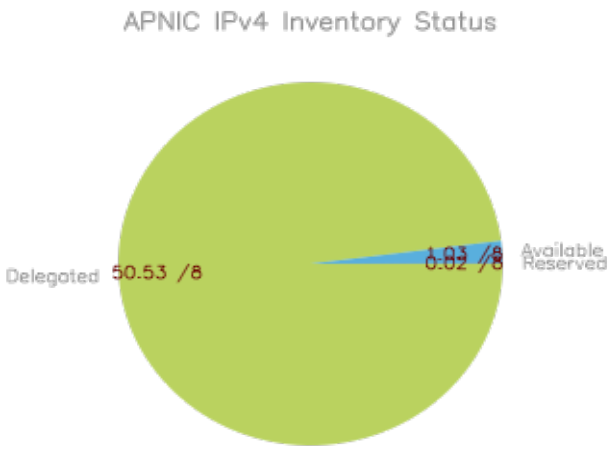
- IPv4 exhaustion management
  - http://www.apnic.net/ipv4-exhaustion
  - 3 stages – currently in stage 2



Probably May 2011 if not sooner

APNIC IPv4 Consumption





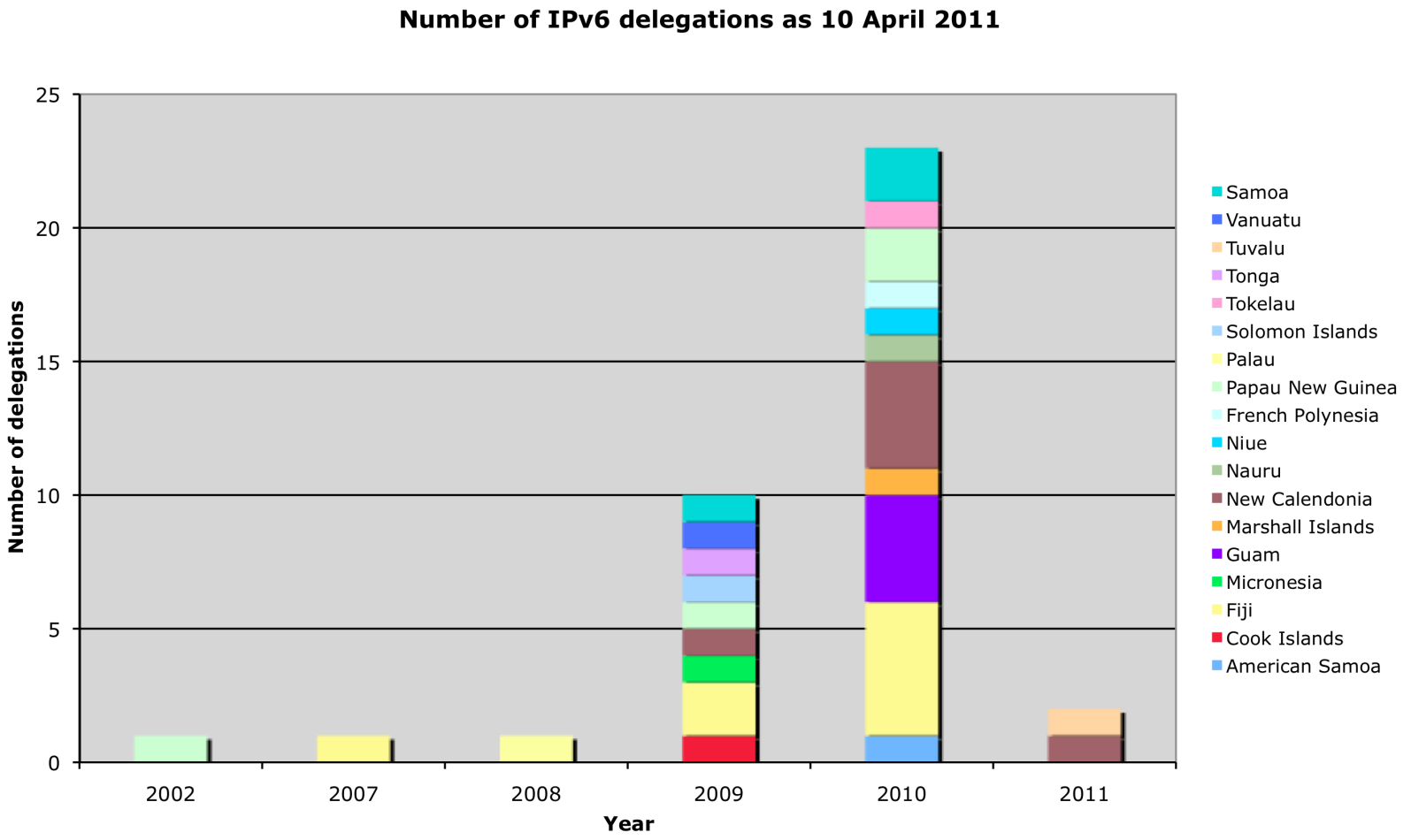
Policy Changes

- IPv4 policy during Stages 1 and 2
  - Address policy remains the same until APNIC reaches the final /8
- IPv4 policy during Stage 3
  - To extend the life of APNIC's last /8, each organization can only receive a limited size from it
    - Current policy: limited to a single /22
    - Policy refinements pending APNIC EC endorsement

Resource Services

- 2010 IPv6 delegations more than tripled
  - 650 delegations in 2010
  - Strong response to “Kickstart IPv6” with over 402 new applications
    - Members with existing IPv4 allocations or assignments may instantly qualify for an IPv6 block

IPv6 within the Pacific



IP Address Availability Impact

- Strategic
  - How to maintain growth post IPv4 depletion
  - IPv6 business pressures
- Operational
  - Extending IPv4 life
  - IPv6 deployment stages

Strategic Considerations

- How to maintain growth post IPv4 depletion
  - Will IPv4 be available from other sources?
  - Deploy public IPv4 selectively
  - How much to invest on migration technologies
- IPv6 business considerations
  - Transit provisioning
    - You will need to handle IPv6 traffic
  - Content providers
    - You will be asked to provide IPv6 connectivity
  - Consumer access
    - You will need to use IPv6 to expand your network

IPv6 Capacity Building

- APNIC remains committed to providing Training, focusing on IPv6 topics
  - Face-to-face
  - eLearning
- Streamlined IPv6 request processing
  - 1-click IPv6 request in MyAPNIC
  - 1-click IPv6 membership sign-up
  - Much lower cost per IP address compared to IPv4

Conclusions

- APNIC's IPv4 is running out; stage 3 will be in May 2011 or earlier. Sticking with an IPv4 only network is no longer an option
- Start considering your IPv4 life extension and IPv6 deployment options
  - There is no single answer; find the one that fits your business strategy
- Commit resources (staff and budget) to address this issue. Establish deadlines and regular reporting to senior management

Next Meeting – APNIC 32

Where: Busan, South Korea

When: Sunday, 28 August - Thursday, 1 September 2011

Thank You

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