

APNIC Update

ARIN XXVII

10-13 April 2011

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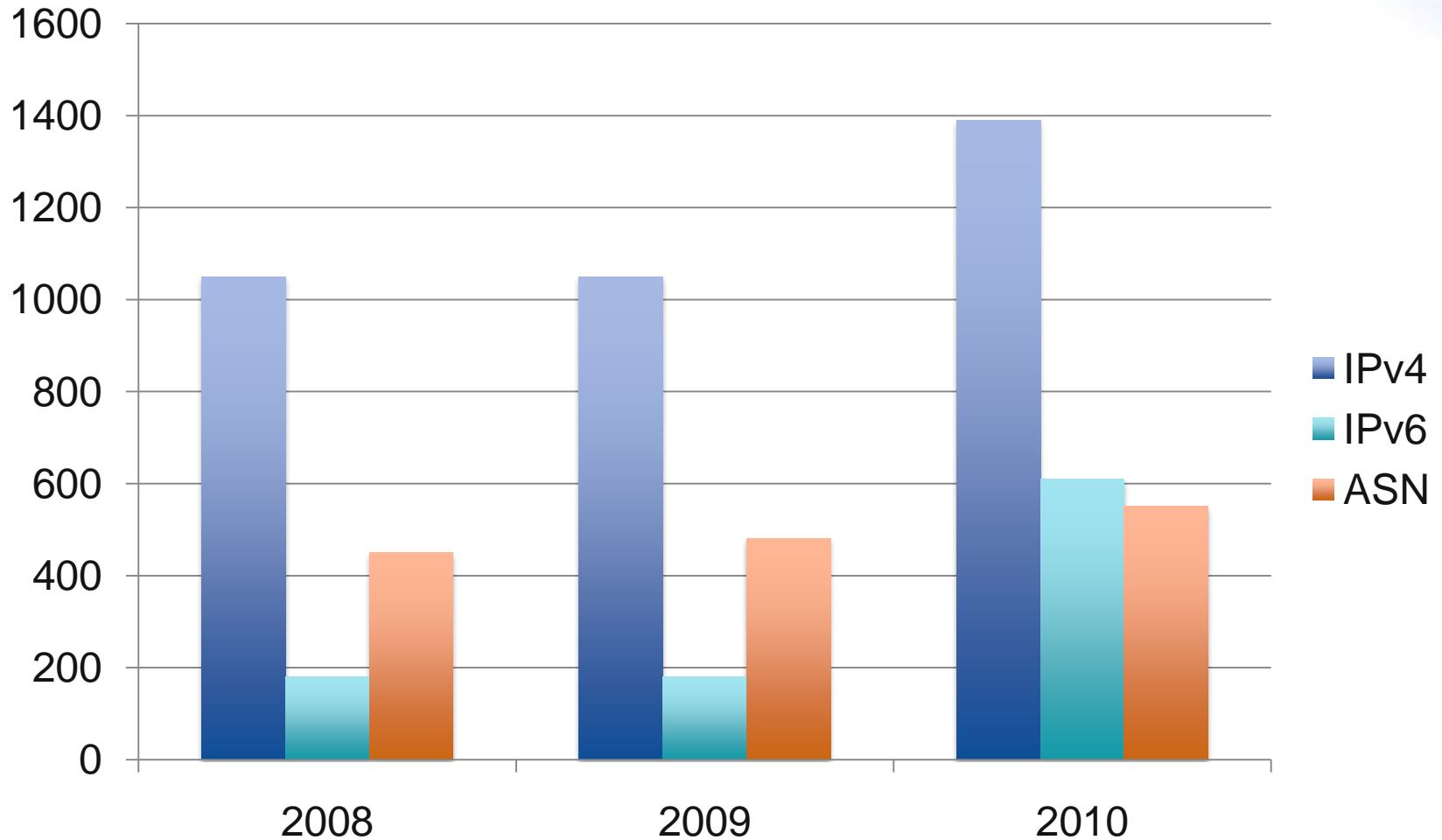
Chief Scientist, APNIC

Overview

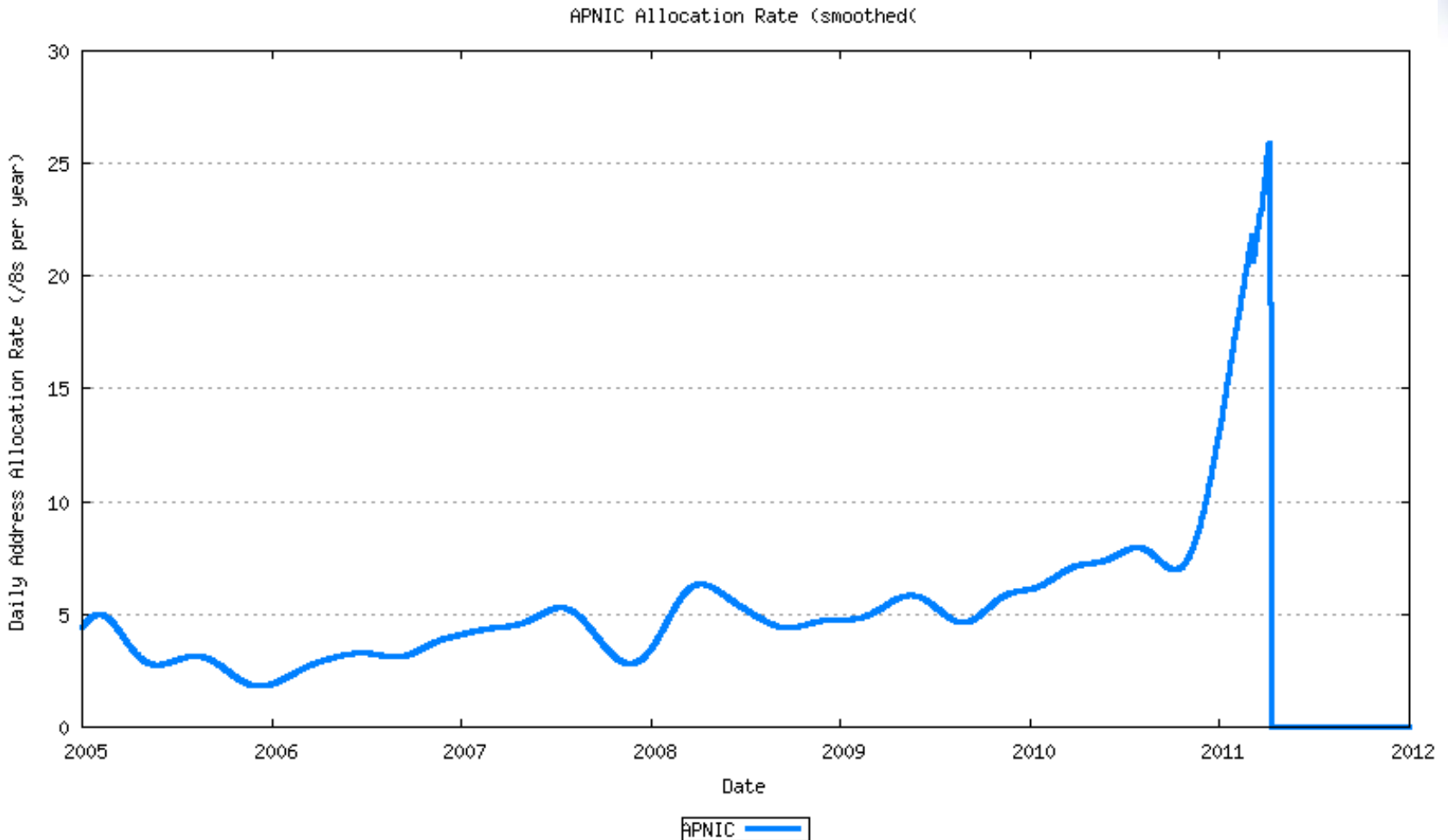
- Resource Services update
- APNIC policy updates
- APNIC activities
 - R&D
 - IPv6 program
 - 2011 Member and Stakeholder Survey
- New Building & Business Continuity Plan
- Upcoming Meetings

Resource Delegations

IP address & ASN delegation count

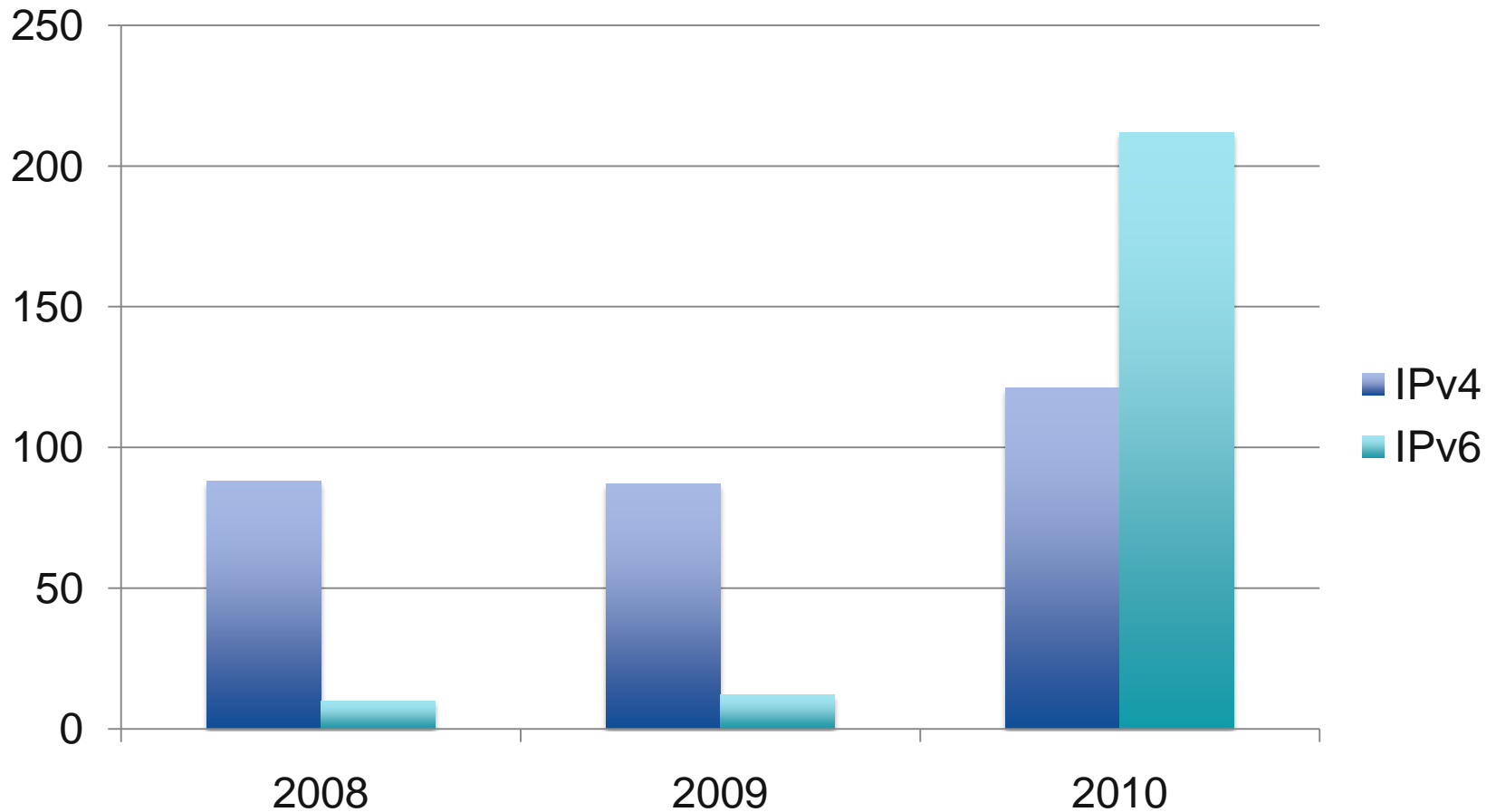


IPv4 Resource Delegations



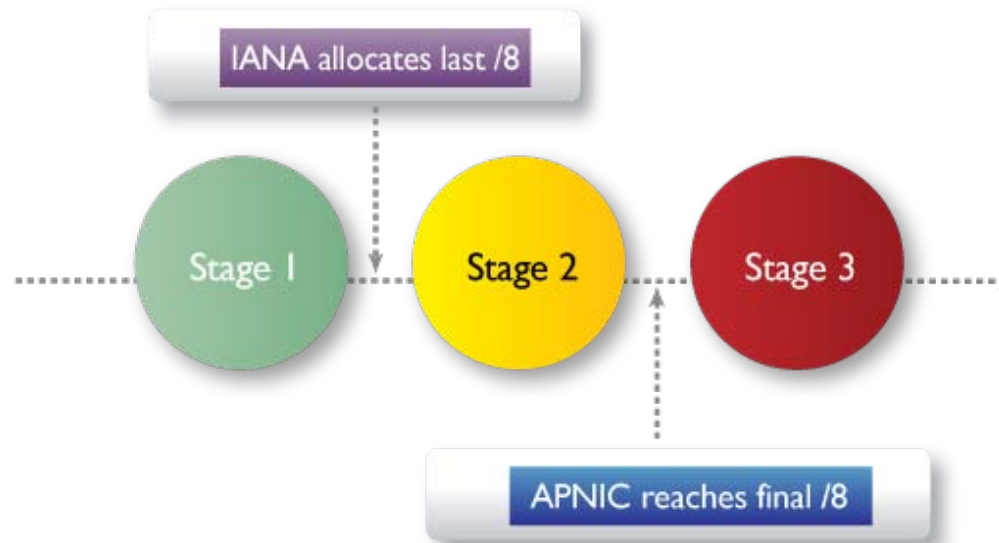
IP Address Delegations

IP address delegation size



Resource Services

- IPv4 exhaustion
 - Currently in stage 2, heading towards stage 3 when last /8 policy activates



- IANA handed out APNIC's last /8 block, **103/8**, on 3 February 2011

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



Kickstart your IPv6 network!

[Click here to find out how to get your IPv6 block](#)

Resource Services

- Resource Quality Assurance
 - Communication, training, and testing to minimize routability problems
 - RQA BoF held at APNIC 31
 - Reachability testing designed by APNIC R&D to identify problems with blocks
 - Responsible filtering – keeping ACLs and filters updated
 - Recently tested the last /8 block 103.0.0.0/8
 - Quarantined blocks retested every three months

Member Services

- Membership totals 2,498
 - New Members in 2010: 488
 - Growth by 15% compared to 2009
- Helpdesk support
 - Phone calls in 2010 – 1,955
 - Chat sessions in 2010 – 1,964

Member Services

- Abuse contact information implemented (IRT)
- Whois management enhancements
 - Bulk update form enabling bulk updates on inetnum, inet6num, and autnum objects, including IRT
- DNSSEC support
 - Users can update reverse DNS with their DS record (Third stage of three-stage plan - June 2011)

Policy Update

Implemented in 2010

Proposal	Title	Overview
Prop-079 <i>* Implemented November 2010</i>	Abuse contact information	A proposal to introduce a mandatory abuse contact field for objects in the APNIC Whois Database to provide a more efficient way for abuse reports to reach the correct network contact
Prop-080 <i>* Implemented July 2010</i>	Removal of IPv4 prefix exchange policy	A proposal to remove the policy that currently permits resource holders to return three or more noncontiguous IPv4 address blocks and have the prefixes replaced with a single, larger contiguous block.
Prop-082 <i>* Implemented July 2010</i>	Removing aggregation criteria for IPv6 initial allocations	A proposal to remove the aggregation requirement from the IPv6 initial allocation policy

Policy Update

Reached consensus at APNIC 31

Proposal	Title	Overview
Prop-083	Alternative criteria for subsequent IPv6 allocations <i>* Reached consensus on revised text</i>	A proposal to enable current APNIC account holders with existing IPv6 allocations to receive subsequent IPv6 allocations from APNIC for use in networks that are not connected to the initial IPv6 allocation.
Prop-088	Distribution of IPv4 addresses once the final /8 period starts	A proposal to handle any IPv4 address space received by APNIC after the final /8 policy is implemented as being part of the final /8 pool and to redistribute these resources according to the final /8 policies.
Prop-093	Reducing the minimum delegation size for the final /8 policy	A proposal to change the minimum size of IPv4 delegations to a /24 when the final /8 policy is activated.
Prop-094	Removing renumbering requirement from final /8 policy <i>* Reached consensus on revised text</i>	A proposal to remove the requirement for organizations receiving their initial allocation from APNIC to renumber out of their previously deployed space when they are allocated addresses under the final /8 policy.

Policy Update

Reached consensus at APNIC 31

Proposal	Title	Overview
Prop-095	Inter-RIR IPv4 address transfer proposal <i>* Reached consensus on revised text</i>	A proposal to allow and define a mechanism for the transfer of IPv4 address space between APNIC account holders and organizations in other RIR region(s), providing that the counterpart RIR has a policy that allows transfers of address space with APNIC account holders.
Prop-097	Global policy for post exhaustion IPv4 allocation mechanisms by the IANA	This proposal describes the process that IANA will follow to allocate IPv4 resources to Regional Internet Registries (RIRs) after the central pool of addresses is exhausted. The processes for how IPv4 space may be placed in the IANA Recovered IPv4 Pool is out of the scope of this proposal.

Policy Update

Did not reach consensus at APNIC 31

Abandoned:

Proposal	Title	Overview
Prop-092	Distribution of additional APNIC IPv4 address ranges after IANA exhaustion	A proposal for APNIC to distribute any IPv4 address ranges it receives after IANA exhaustion according to pre-exhaustion policies. This proposal applies to ranges defined to remain within APNIC's administration. This proposal would not apply to any address ranges that APNIC might identify to return to IANA in the future.
Prop-090	Optimizing IPv6 allocation strategies	A proposal to change how the size of IPv6 allocations and end site assignments are determined, allowing more room for LIRs to grow within their allocation, while also preventing excessive address consumption.
Prop-086	Global policy for IPv4 allocations by the IANA post exhaustion	This policy provides a mechanism for the RIRs to retro-allocate the recovered IPv4 address space to the IANA and provides the IANA the policy by which it can allocate it back to the RIRs on a needs basis. This policy creates a new global pool of IPv4 address space that can be allocated where it is needed on a global basis without a transfer of address space between the RIRs.

Policy Update

Under discussion on the Policy SIG mailing list:

Proposal	Title	Overview
Prop-087	IPv6 address allocation for deployment purposes	A proposal to add alternative criteria for receiving a larger than /32 initial IPv6 allocation during the initial IPv6 deployment phase (from now until 2013). Under this proposal, a network can justify more than a /32 if the network is using deployment protocol described in a RFC.
Prop-084	Frequent whois information update request	A proposal for APNIC to regularly contact all APNIC current account holders with resources in the APNIC Whois Database to ask them to actively check that all their details in whois are up to date.

Returned to the mailing list for further discussion:

Proposal	Title	Overview
Prop-096	Maintaining demonstrated needs requirement in transfer policy after the final /8 phase <i>* Race condition imminent between policy and implementation</i>	A proposal to maintain the requirement for recipients of IPv4 transfers to justify their need for address space beyond the current allocation phase and into the final /8 phase.

Technical Developments

- IANA delegated one of 6 reverse DNS in-addr.arpa labels to APNIC in February 2011
 - APNIC serving in-addr.arpa nameservers for our parent zone
 - ip6.arpa in Japan node.
 - Providing e.in-addr-servers.arpa in Hong Kong, Brisbane, and Japan. Running this server as 3 anycast nodes
- New co-lo facility - triangle architecture for redundancy

Research and Development

- Traffic measurements of RQA
 - R&D Team developed and executes the test process
- DNS-OARC measurement activities
 - DNSSEC deployment
 - in-addr.arpa and ip6.arpa transition
- DNSSEC stale key threat identified
- RPKI – Fully operational since 2009
 - Shared source code and expertise with AfriNIC

Research and Development

- IPv6 transition technology analysis
- Plug-in for Google analytics to measure clients' IPv6 capability - targeted at content providers

<http://labs.apnic.net>

IPv6 Program

- Spreading the IPv6 message at over 20 events in 2010
- APECTel – TELMIN 8 Okinawa Declaration, paragraph 9
 - Statement on IPv4 exhaustion and importance of IPv6 deployment
- APNIC serves as the Secretariat for the Asia Pacific IPv6 Task Force (APIIPv6TF)

Member Survey

- 2011 Member and Stakeholder Survey conducted by Prof. Ang Peng Hwa on behalf of the APNIC Executive Council
- Overall, membership generally satisfied with APNIC services. Rated 8.09 out of 10.
- 794 valid responses from 47 economies
 - Increase of 32% from previous surveys
 - 40% support IPv6, but interestingly, only 20% have the budget for it

Member Survey – Top Ten

A.1.1. Overall, the services provided by APNIC are satisfactory.	8.09
A.1.3. APNIC communicates in a way that meets my needs.	7.83
A.2.4. APNIC should provide 24/7 Helpdesk operation for critical services.	7.79
A.3.1. The APNIC Helpdesk provides timely and appropriate responses for billing and administration enquiries.	7.76
A.2.3. The APNIC Helpdesk provides timely and appropriate responses to technical and service enquiries.	7.74
B.4.3. APNIC should establish more partnerships to support training and education for organizations in need.	7.71
A.2.8. APNIC should spend more effort informing network operator communities on routability/reachability issues.	7.67
A.2.2. APNIC resource allocation services (IPv4, IPv6 and ASNs) are adequate in response time and relevance.	7.63
B.1.3.1. The APNIC Whois Database operates at a high level of quality, usability and reliability.	7.63
B.1.3.2. The APNIC Reverse DNS service operates at a high level of quality, usability and reliability.	7.63

Member Survey – Bottom Ten

B.5.5. There are suggestions that a Government-Advisory Committee, similar to ICANN's, be formed for APNIC. Do you agree?	6.28
B.5.1. Should governments in the Asia Pacific region be more involved in APNIC?	6.35
A.1.4. APNIC should provide support in more languages than it currently supports.	6.37
B.1.1.2. APNIC needs a Policy Development Process that allows policies to change more frequently.	6.49
B.4.7. APNIC eLearning contents are relevant to my organization.	6.60
B.5.2. APNIC's current level of engagement with governments in the Asia Pacific region is fine.	6.61
B.4.2. I am satisfied with the cost of APNIC training.	6.70
A.2.7. APNIC should provide consultancy services specific to individual Member's needs on a user-pays basis.	6.84
B.1.2.2. The remote participation options (video and audio streams, live session transcripts, chat rooms and archived media) at APNIC Meetings are easy to use.	6.93
A.3.2. The APNIC fee structure is reasonable and justified.	6.97

Member Survey – Top Ten Resourcing Priorities

A.4.2.2. Support IPv6 deployment.	1.85
A.4.3.3. Routing and registry security improvements.	2.17
A.4.3.1. Do more research and development activities, such as network monitoring and measuring.	2.25
A.4.3.2. Publish statistics, analysis, and articles about Internet development and use.	2.40
A.4.1.4. Support network engineering education in the Asia Pacific region.	2.41
A.4.1.1. Expand APNIC involvement in the support and development of regional operator forums (eg, NOGs, IPv6 groups etc.).	2.42
A.4.1.2. Represent the needs of the Asia Pacific Internet community (including governments, regulators and technical organizations) in Internet Governance.	2.46
A.4.2.1. Streamline resource requests and allocation processes.	2.48
A.4.1.3. Expand training activities in scope, geographical coverage, and online options.	2.48
A.4.2.3. Enhance the reliability and availability of APNIC services.	2.64

APNIC moved...



12 Jan 2010

New Building

- Moved into new premises at end of 2010



Old



New

... just in time!



13 Jan 2011

APNIC BCP Incident

- Flood event in Brisbane, 10-14 January 2011
- BCP Team engaged
- Staff safety priority
- In monitoring mode as no disaster declared
- Continued communication with Members throughout
- Post-evaluation and assessment



Next Meeting – APNIC 32

Where: Busan, South Korea

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



Following Meetings

- APNIC 33, Delhi, India, 21 February - 2 March 2012, New Delhi (with APRICOT)
- APNIC 34, TBD
- APNIC 35, Singapore, 20 February – 1 March 2013, Singapore (with APRICOT)