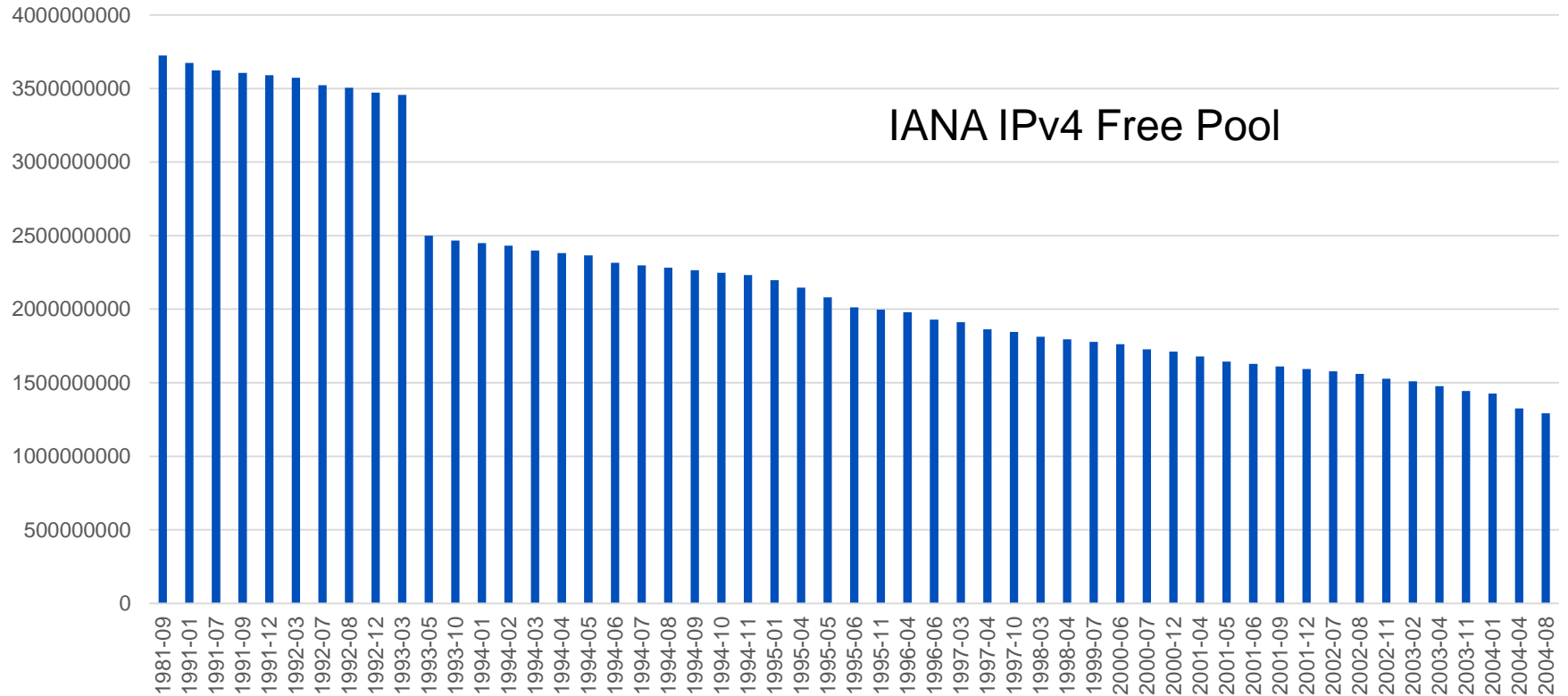


APNIC Policies that Changed the Internet

Srinivas (Sunny) Chendi
SANOG 32, Dhaka
sunny@apnic.net

Step back to the mid-2000s



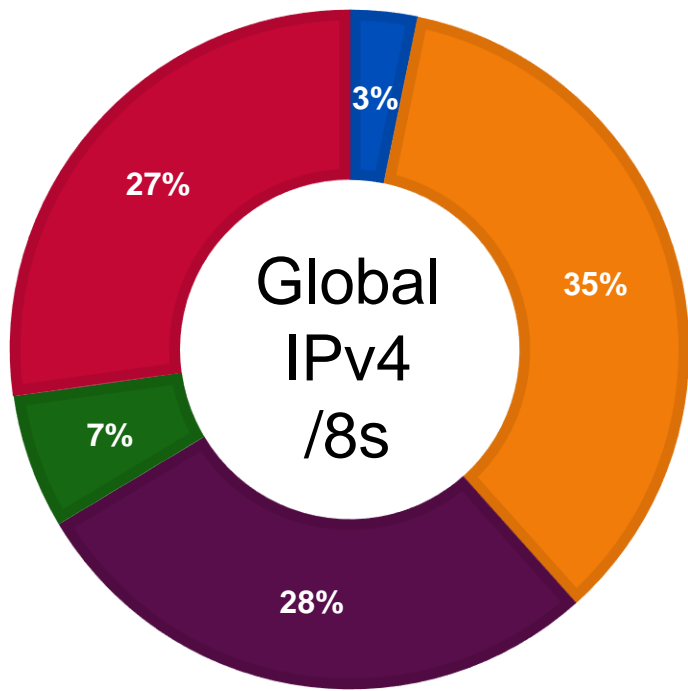
“ The community had become **complacent** about exhaustion.

It had been a case of the ‘boy who cried wolf’ where people had **stopped paying attention** to stories about IPv4 exhaustion... they had **not given much thought** to the eventual day when there would be **no more addresses left** for IANA to allocate.

”

Izumi Okutani
Former JPNIC Policy Liaison

First come, first served



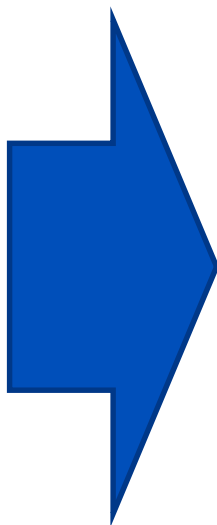
■ AFRINIC ■ APNIC ■ ARIN ■ LACNIC ■ RIPE NCC

- First come, first served was the norm
- If that continued, APNIC region would probably eaten most remaining space
- What about Africa?
- Was this fair?

A final /8 each



Internet Assigned Numbers Authority



102/8



103/8



104/8



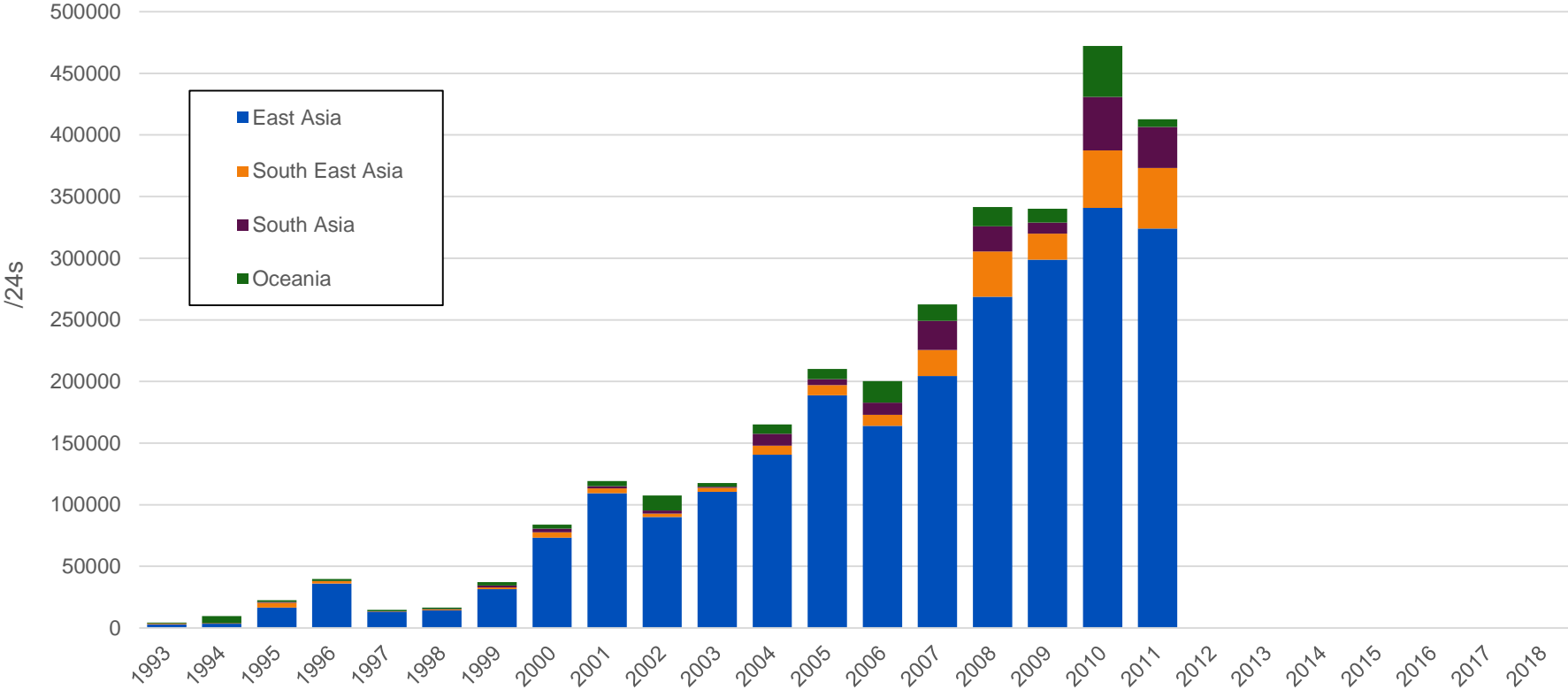
179/8



185/8



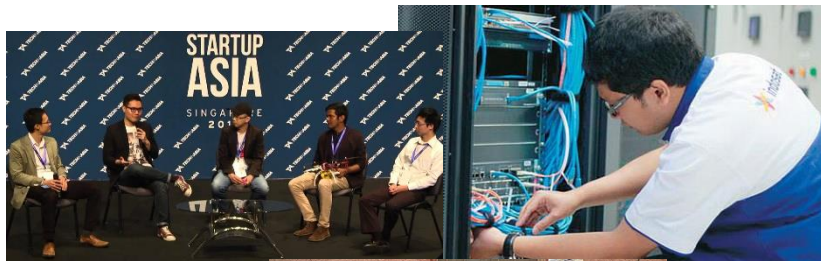
Heading to 103/8



A soft landing: /22 from the last /8

13,000+ delegations from 103/8 –
without this policy, addresses would
have exhausted long ago

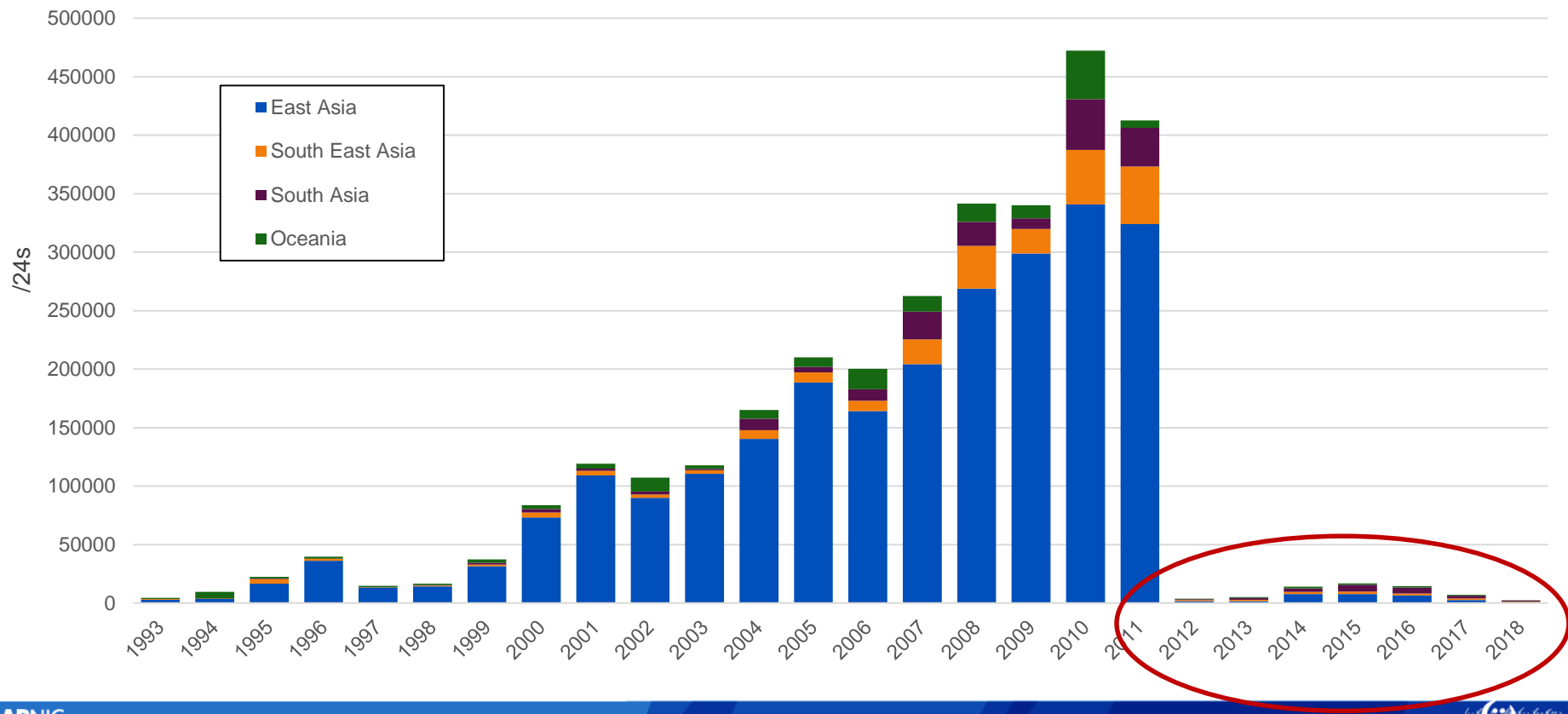
Innovation has continued in APAC:
1000s of new ISPs, data centres
and start-ups since 2011



Emerging economies have benefitted

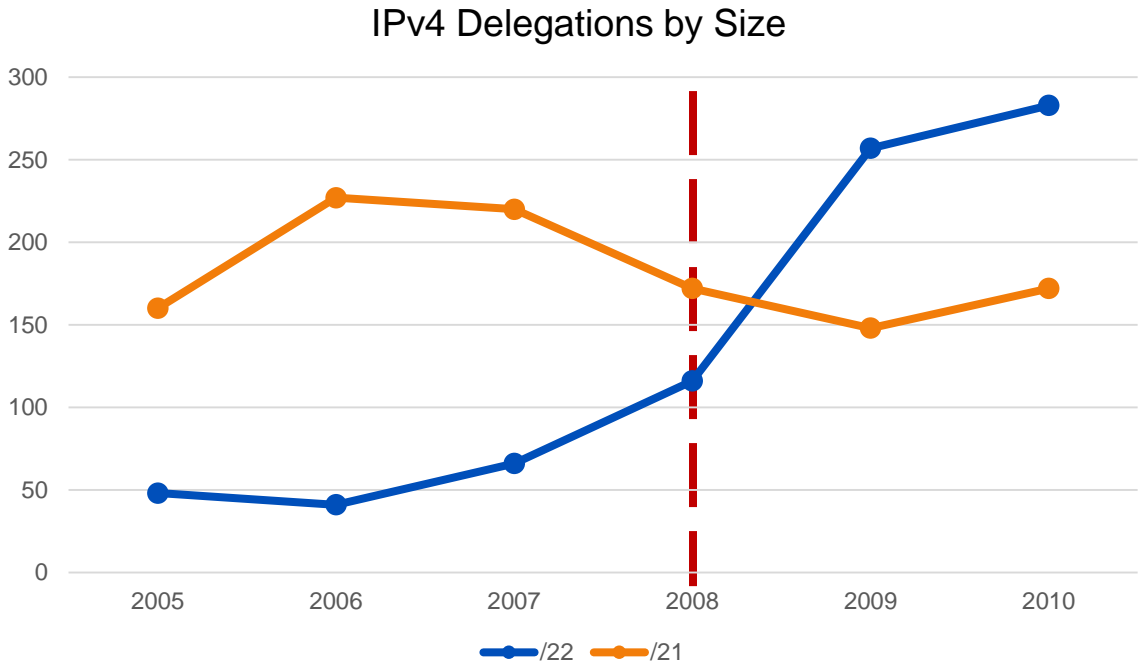
- BD: 68 members → 473 members
- PK: 51 Members → 146 Members
- KH: 25 Members → 74 Members
- MM: 2 Members → 53 Members
- PH 93 Members → 222 Members

Making it last: 103/8



A brief aside: How'd we get to /22?

- Minimum requirement set at /21, had to show use of /23
- Hard for start-up ISPs in emerging economies to do – stifling growth
- Policy changed the requirements and min allocation to /22
- Great example of community adjusting policy to its needs




Scarcity bites

 **APNIC**
103/8

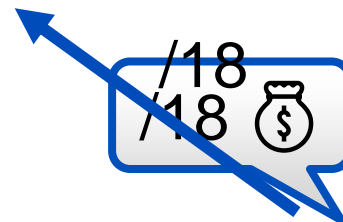
... /22



/18
/18 



/20 



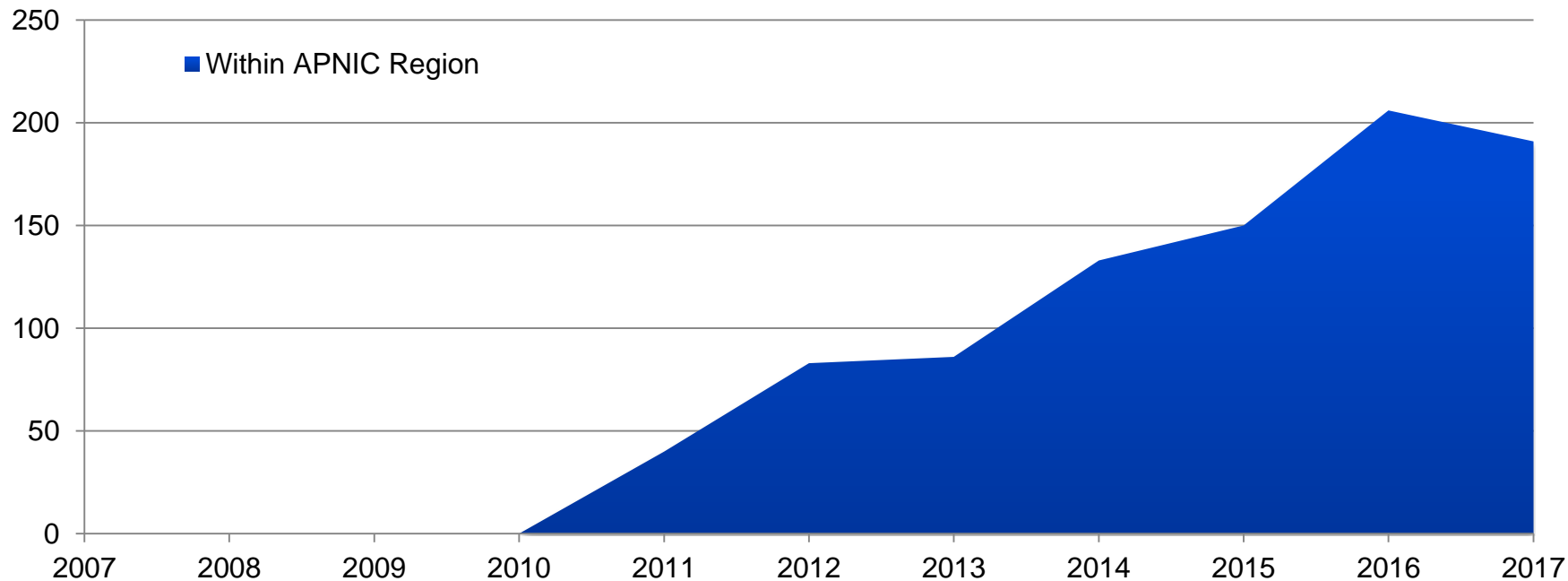
“ The policy was **deeply divisive** because it recognized that addresses were being transferred between parties for financial gain.

But the movement of addresses **wasn't going to stop**. If we didn't have this policy, the accuracy of the registry – which the community relies on – could be severely impacted.

”

Geoff Huston
APNIC Chief Scientist

IPv4 transfers take off



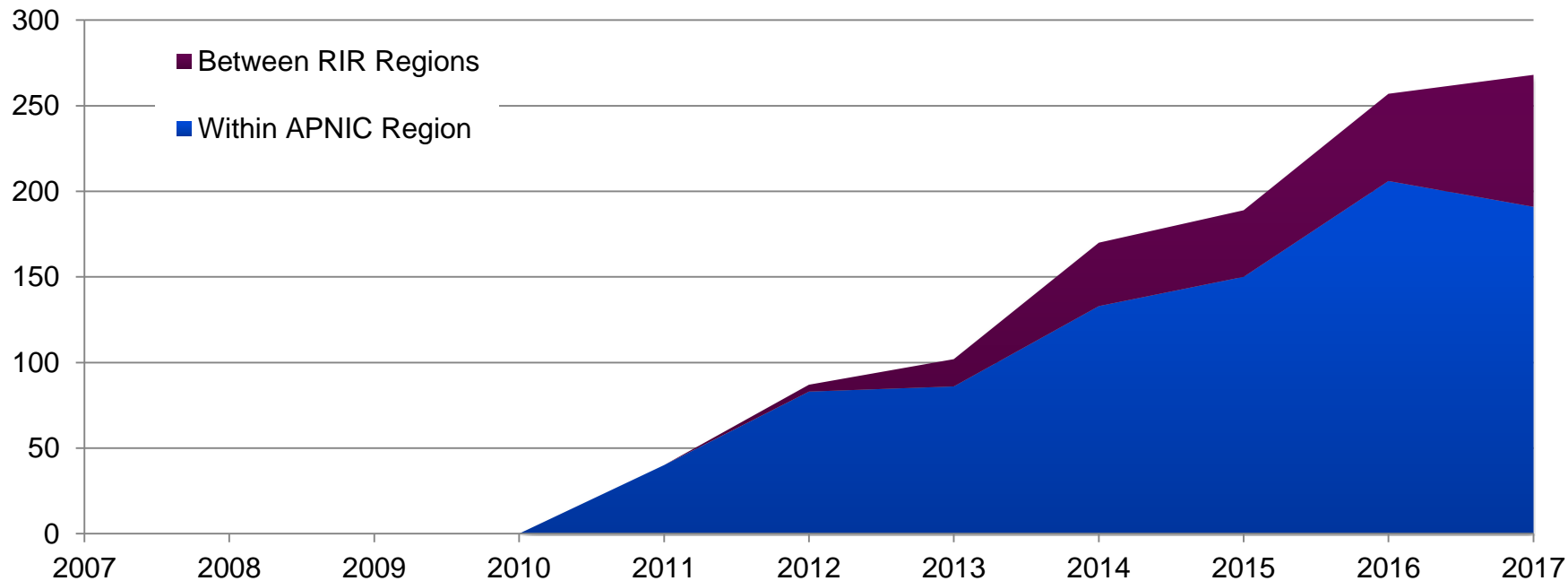
Accessing IPv4 in other regions

- DEC
- DOD HP
- GEC DNIC
- MIT IBM
- FORD XEROX
- INTEROP SITA
- APPLE ELLI LILLY CSS
- PRUDENTIAL SECURITIES
- CAP DEBIS CCS JTC
- DUPONT AT&T BOEING
- ARPANET USAISC JAPAN INET UK GOV
- STANFORD UNIVERSITY MERIT PSINET
- HALLIBURTON UK DEFENCE USPS
- BOLT BERANEK AND NEWMAN MERCK
- BELL-NORTHERN RESEARCH NORSK IANA
- AMATEUR RADIO DIGITAL COMMUNICATIONS

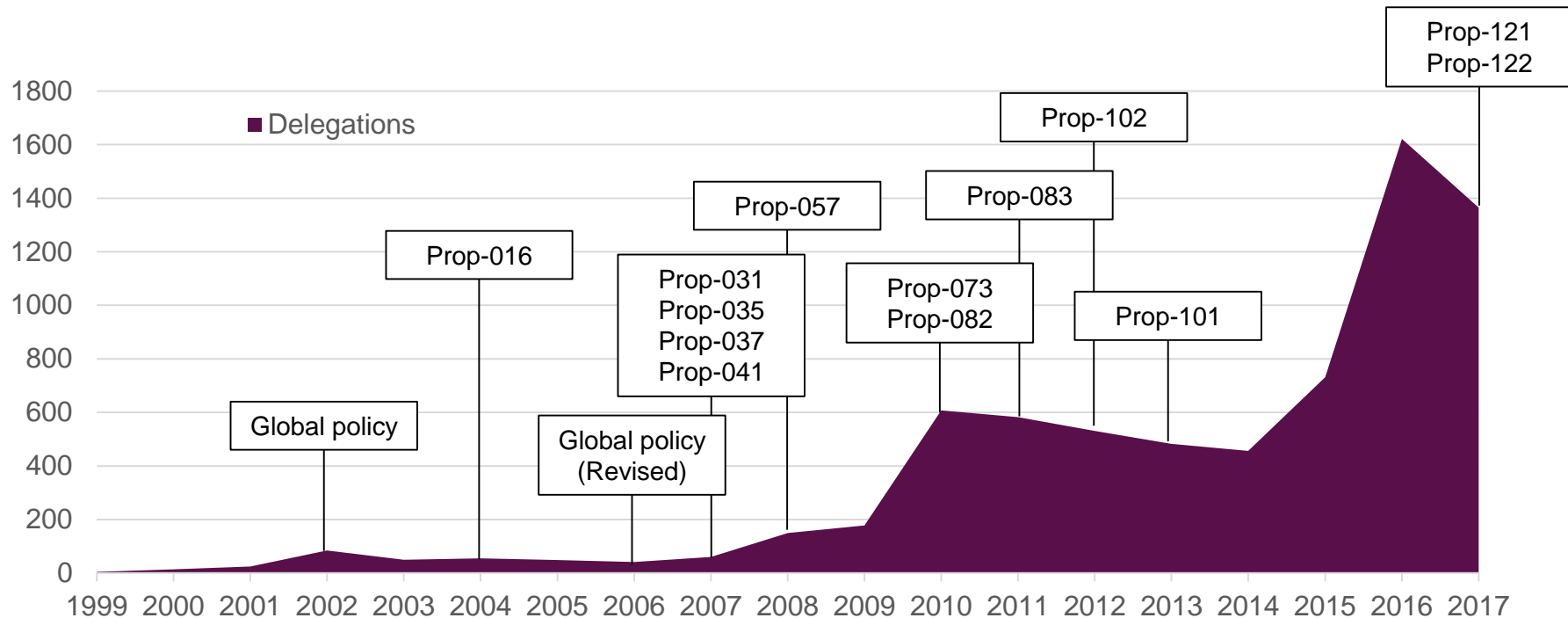
Legacy holders



IPv4 transfers take off



What about IPv6?



What's the common thread?



All these policies were created
by people just like you!



GET INVOLVED!

What is a Policy?

In the APNIC region, a policy refers to the rules and requirements or criteria that one must meet to be eligible to receive IP and ASN resources.

A policy **proposal** is a formal, written submission that outlines an idea for a new policy. If a policy proposal is successful it will become a policy.

Why do we need resource policy?

IP address and AS numbers are public shared resources. APNIC policies ensure that these **resources are managed** properly and distributed with the goal of fairness and consistency in mind.

The common aim of a policy is to **ensure proper usage of Internet number resources according to the technical and operational needs of the network**. This is vital for the continued stable growth of the Internet.

Policy change

Policies change constantly.

They evolve as the needs of the technical community change

Good policy relies on a range of opinions

APNIC policies are developed by Members and the Internet community in a bottom-up process of consultation and consensus.

What's APNIC's role?

- The APNIC Secretariat is the organization that manages resources, implements policy and provides a range of services to the community
- APNIC staff
 - Provide information and support to people who want to be involved in the policy development process
 - Provide support to the Policy SIG
 - Help authors to draft proposal wording
 - Manage the implementation of policy changes
 - Inform the policy changes to the community

Who can Participate?

Policies are developed **by and for** the Asia Pacific Internet community, which includes the APNIC membership.

Anyone can participate in the policy development process for managing and distributing IP addresses.

- Whether you are a seasoned network engineer, a decision maker, a student in the IT field, or a user of the Internet, you can join the discussion.

You are invited to be part of this development process.

Why participate?

- It is an opportunity to learn and share experiences and best practices in the Internet
- Policies affect your organization's operating environment and are constantly changing
- **Ensure your organization's needs are represented**
- It's a great way to build your profile and contribute to the Internet
- You can directly impact the way APNIC manages Internet number resources
- Make these policies work for your networks and future growth

Participate in APNIC Policy



www.apnic.net/community/policy/participate

Policy Special Interest Group (SIG) Charter

Develop policies and procedures which relate to the management and use of Internet address resources by APNIC, NIRs, ISPs and other organizations within the Asia Pacific region.

What is a SIG?

A SIG, or Special Interest Group, is an open forum for the community to discuss topics of interest. There are no entry requirements to participate in the activity of the APNIC Policy SIG.

You don't "join" a Special Interest Group, you participate in it. The first step to participation is usually to subscribe to the SIG mailing list.

Special Interest Group Guidelines
<https://www.apnic.net/community/participate/sigs/>

APNIC Policy SIG

Policy SIG Chair

Sumon Ahmed Sabir

Co-Chairs

Bertrand Cherrier

Ching-Heng Ku



Secretariat Support

Sunny Chendi

George Odagi

Elected by the Asia Pacific Internet Community

Policy Development Process

APNIC policies are developed by the community in a bottom-up approach. This approach is part of the Policy Development Process or commonly referred to as the 'PDP'.

PDP describes the process through which policy proposals are submitted, considered, and adopted by APNIC.



Policy Process

What are the key characteristics of the PDP?

Open

Anyone in the community - Member or not - can propose a policy. This can be a proposed change to an existing policy or a new one altogether. Anyone can participate from the beginning, during the discussion as well as in the decision-making process.

Transparent

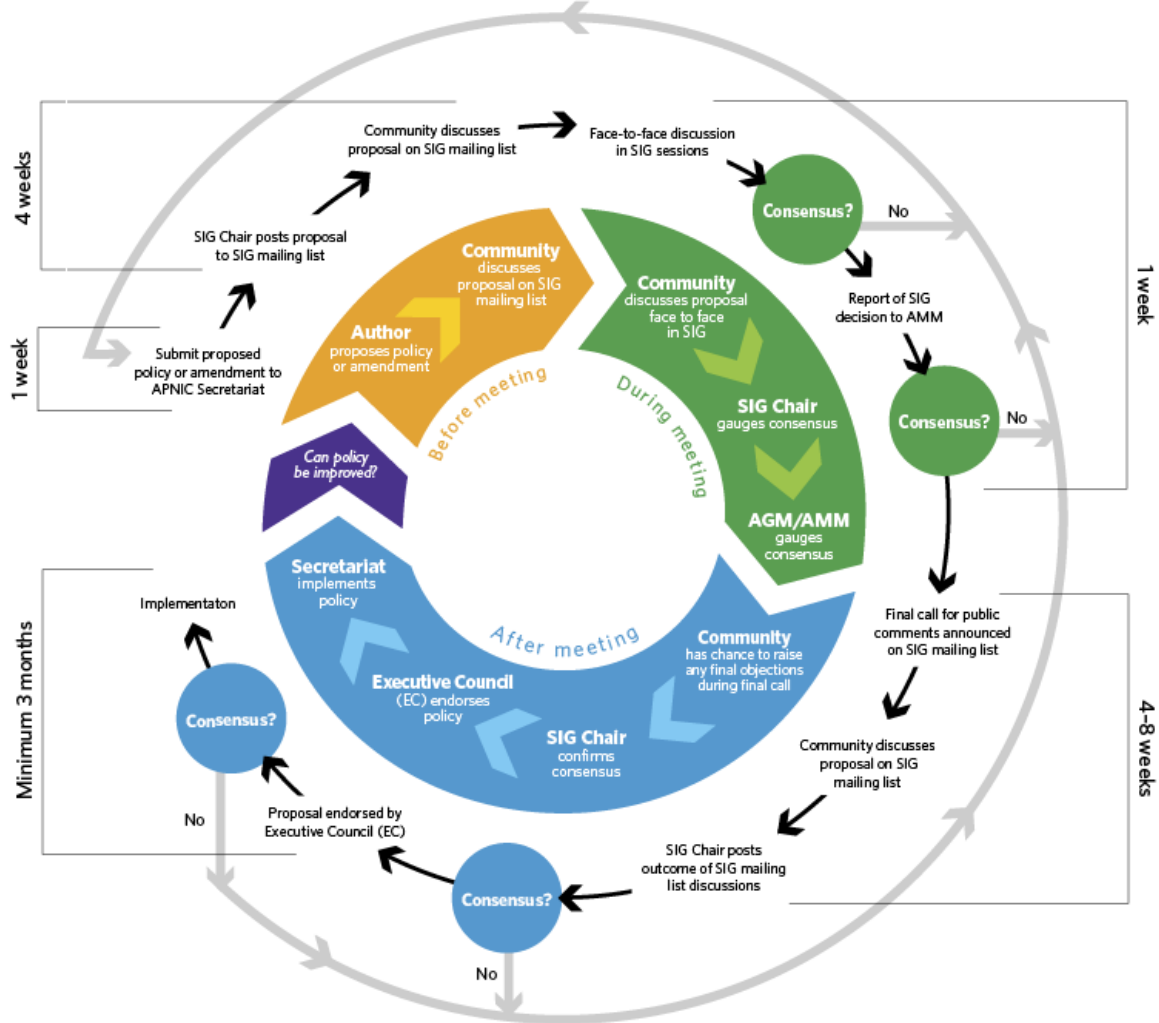
APNIC publicly documents all policy discussions and decisions to provide complete transparency of the policy development process. These documents, the associated discussion in the mailing list, and decisions are freely available for viewing at any time.

Bottom-up

The Policy Development Process is driven by the Internet community - by those who need and use these resources. It is catered to address the needs and requirements of the Asia-Pacific Internet community. APNIC stays neutral in the process.

Policy Development Process





It all starts with a Proposal

- Who can propose a policy idea?
- Why would you do it?
- What is required?
- Where do you start?

Complete the online form

<https://www.apnic.net/community/policy/proposals/submit-a-policy-proposal/>

Policy SIG Mailing list

- Some people think it's a great idea
- Others disagree
- The author tries to convince or compromise
- The Chairs monitor the discussions and participate as appropriate

Join the mailing list

<https://mailman.apnic.net/mailman/listinfo/sig-policy>

Policy SIG meeting

- Author presents
- People line up at the microphone
 - Ask questions
 - Express support
 - Explain their concerns
 - Argue and praise
- Remote participation is available so those not at the meeting in-person can still fully participate

Check the conference agenda

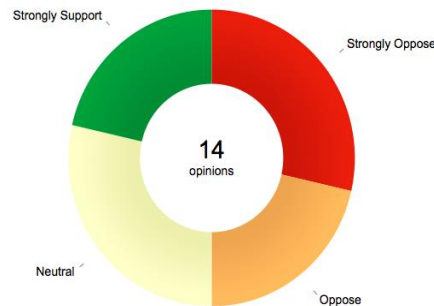
<https://conference.apnic.net/46/program>

Consensus Decision Making

- Consensus =
 - “general agreement” taking into consideration comments on the mailing list and at the meeting.
- Objections
 - Minor Objections:
 - some problems may occur for some members of the community
 - Major Objections:
 - major problems will occur for members of the community
- Participants should “work together” to resolve objections

Chairs consider many sources

- Mailing list discussions
- Discussions at the SIG meeting
 - Incl. remote participants
- Show of hands
 - Not a vote, a way of “broadly gauging opinion”
 - CONFER assists remote participation
 - Require one-off registration
 - The Chair will ask for both



Please select/unselect a button at the bottom to indicate your response.

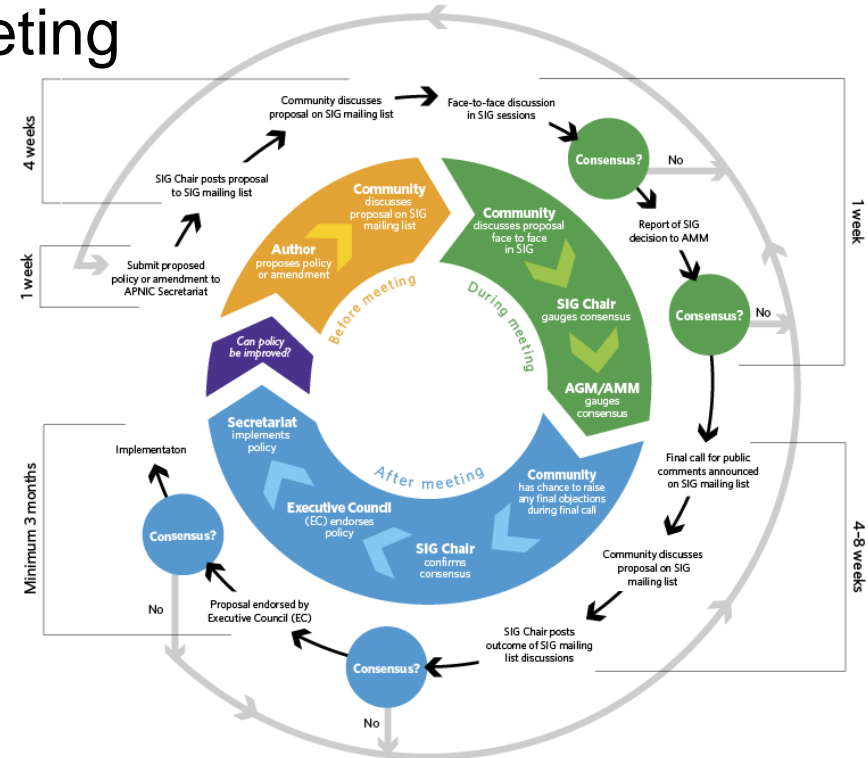
Strongly Oppose Oppose Neutral Support Strongly Support

Have your say remotely

<https://confer.apnic.net/>

After the Open Policy Meeting (OPM)

- Consensus at the Member Meeting
- Mailing List Comment Period
- EC Endorsement
- Editorial Comment Period
- Implementation



What's next?

- Subscribe to the mailing list
 - sig-policy@apnic.net
- Review the proposals
 - <https://www.apnic.net/community/policy/proposals/>
- Discuss with others
 - Morning and afternoon tea, lunch, dinner
- Participate in Policy SIG Meeting
 - Check conference program



APNIC Fellowships

- APNIC Standalone conference in September
- Encourages gender and economic diversity
- Professionals, Youth, and Returning Fellows
- Package Includes:
 - An economy class return flight ticket
 - Twin shared hotel accommodation with breakfast and Wi-Fi
 - A fixed cash allowance of AUD 100 for any incidentals
 - Complimentary registration to workshop, conference and social events
- Selection Committee - volunteers from the community

Next Conference



Register now

<https://conference.apnic.net/46/register/register>

PROPOSALS UNDER DISCUSSION

prop-118: No need policy in APNIC region

- **Proposal**

- Remove the requirement to demonstrate need when transferring IPv4 addresses into or within the APNIC region.
- Simplify transfer of IPv4 space between resource holders.
- Ease some administration on APNIC staff, increase database accuracy.
- Would not apply to AS number transfers.

- **Status**

- Initially discussed at APNIC 44
- No progress at APNIC 45
- Submitted new version for APNIC 46 and posted to mailing list

prop-124: - Clarification on IPv6 Sub-Assignments

- **Proposal**

- Clarifies the definition of assigned address space for IPv6 delegations under section 2.2.3 of [APNIC Internet Number Resource Policies](#) document.
- Allowing temporary sub-assignments from within existing IPv6 assignment

- **Status**

- To be discussed at APNIC 46
- Posted to Policy SIG mailing list for community discussion

prop-126: PDP Update

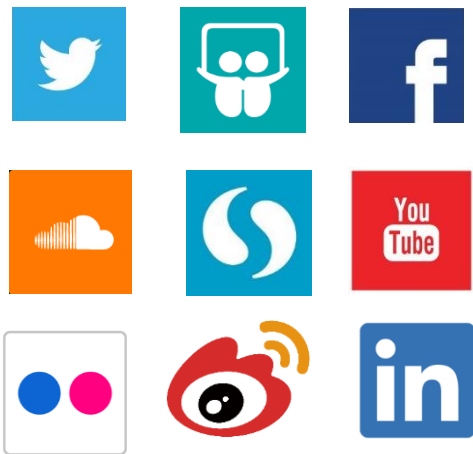
- **Proposal**

- To allow that consensus is determined also looking at the opinions of community members that are not able to travel to the meetings, adjust the time required before the relevant SIG to submit the proposals, not requiring “double” consensus with the APNIC members and facilitating a simple method for appeals.

- **Status**

- To be discussed at APNIC 46
- Posted to Policy SIG mailing list for community discussion

Thanks!



blog.apnic.net

apnic.net/social