APNIC update
APIA ISOC-AU meeting

Perth, Australia

27 February 27 2006

APNIC update

- Introduction
- Policy & governance
- Operational update
- Training & outreach
- Partnerships & collaboration

Introduction

What are RIRs?

- ## Regional Internet Registries
  - Manage the allocation and registration of IP addresses and related Internet resources
  - Operate under self-governance model in an open policy process
  - Provide technical services, training, and education…
  - Have no involvement in DNS name registration!

- ## First established in early 1990s
  - Voluntarily by consensus of community
  - To satisfy emerging technical/admin needs

What is APNIC?

- **Regional Internet Registry (RIR) for the Asia Pacific region**
  - Core function
    - Allocates and assigns Internet number resources (IPv4, IPv6 and ASNs)
    - Manages reverse DNS domains
  - Also involved in
    - Training, information, support, research
    - Regional development

- **Organisational structure**
  - Membership based, non-profit "natural" monopoly
  - Self-regulatory body governed by members and broader Internet community

Current status

1,157 direct members

- Much larger if you include NIR memberships

– 3,079 Autonomous System numbers (ASN)

– 13 /8s of IPv4 address space assigned

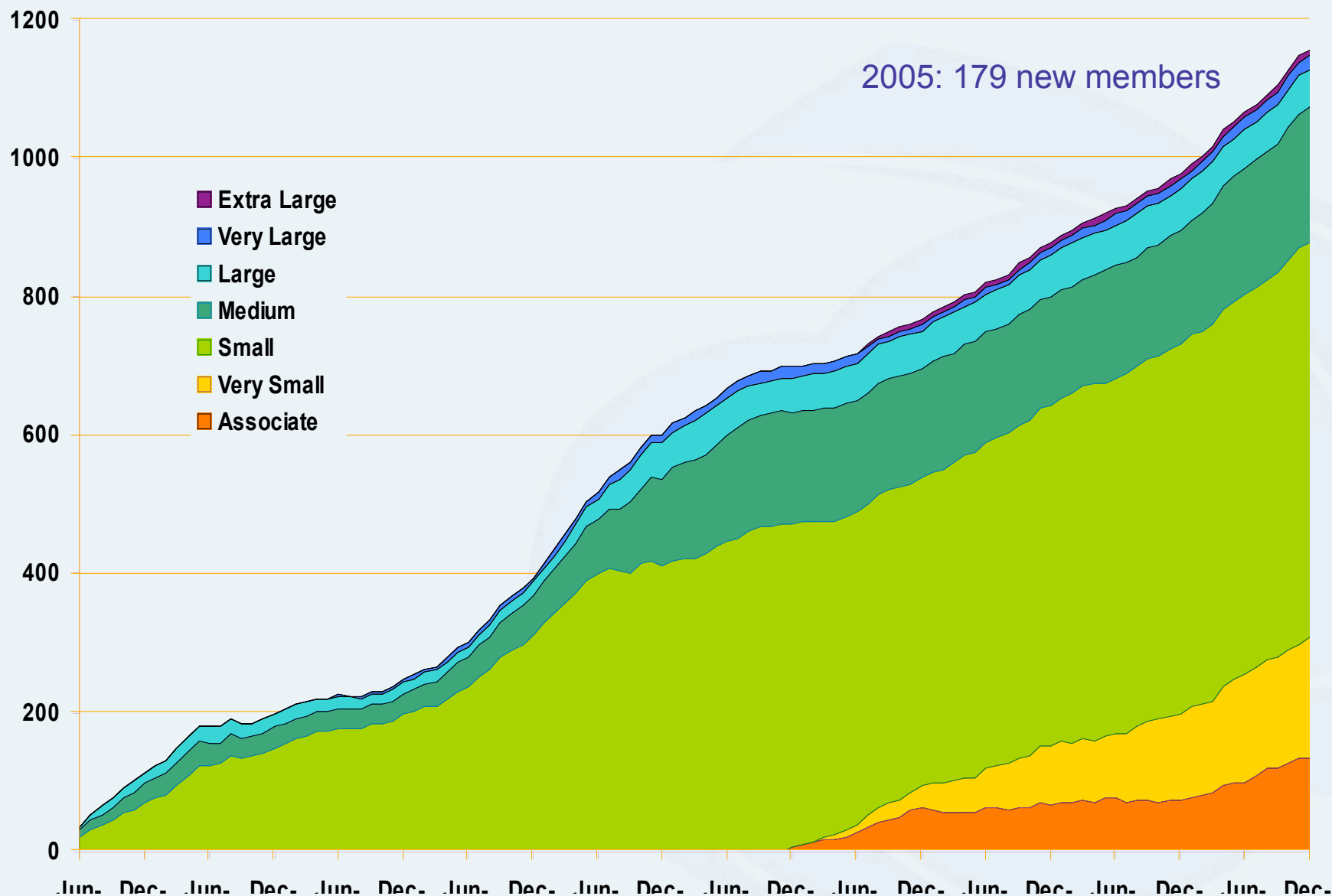- Management of historical assignments covers 18 /8s of IPv4

– /17 of IPv6 address space assignments

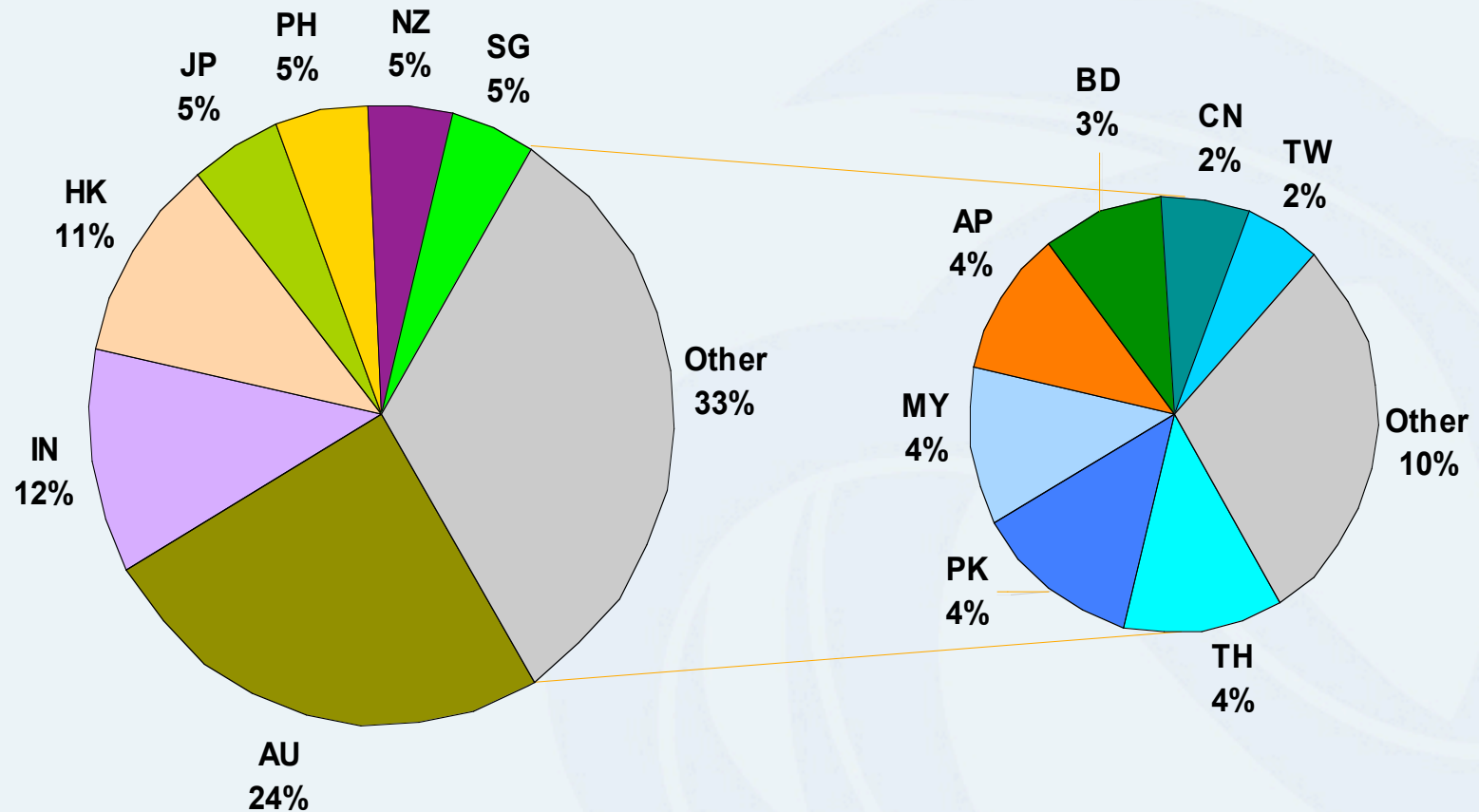– More detail presented at APNIC member meeting Friday 3 March 2006

- Our open-policy meeting is held twice each year

http://www.apnic.net/meetings/21/programme/amm.html

Membership status – 1,157 members

2005: 179 new members

Legend:
- Extra Large
- Very Large
- Large
- Medium
- Small
- Very Small
- Associate

Y-axis: 0, 200, 400, 600, 800, 1000, 1200
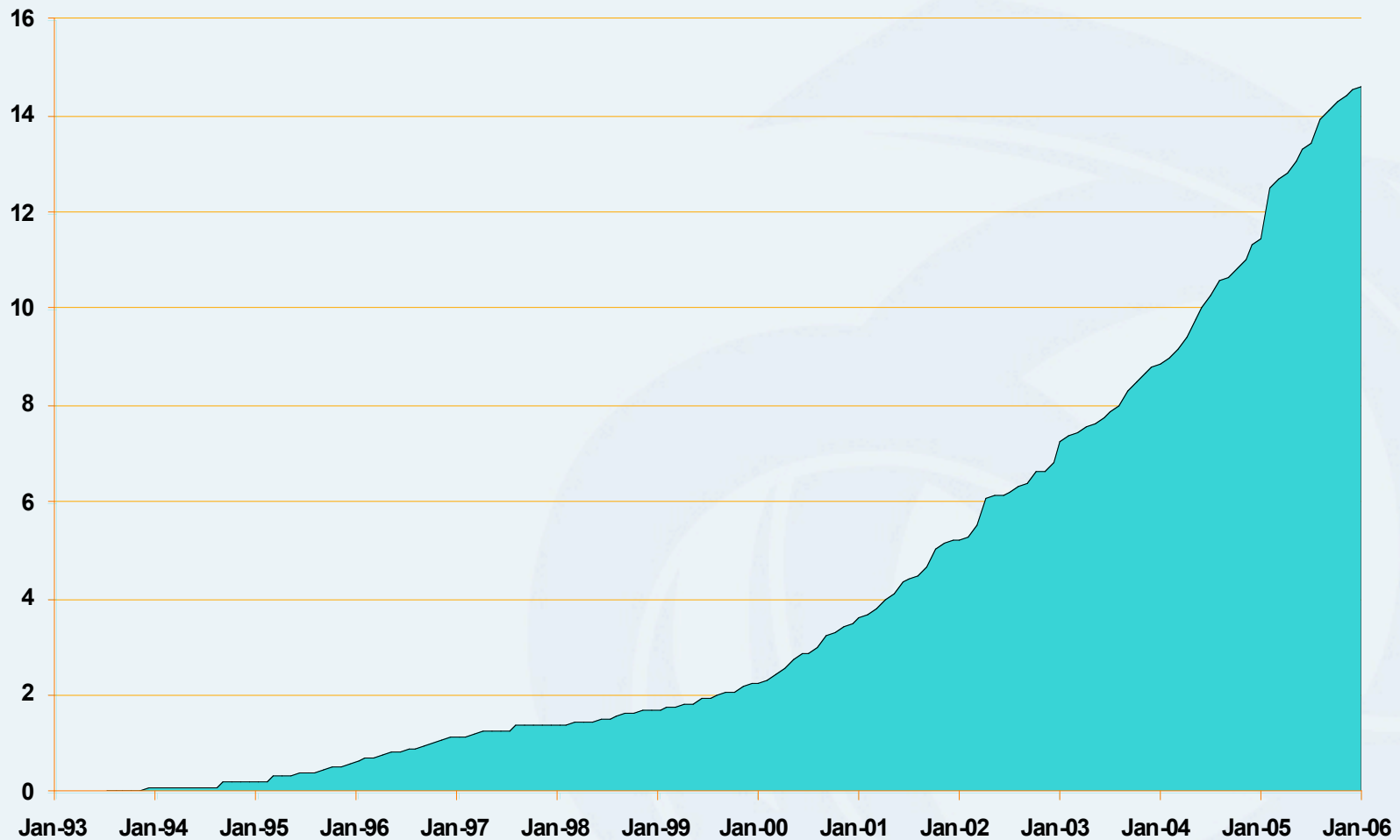
X-axis: Jun, Dec (repeating)

Membership distribution

Total IPv4 allocated

Total distribution of IPv4

Left pie chart:
- KR 16%
- TW 5%
- AU 5%
- IN 2%
- HK 2%
- Other 6%
- CN 30%
- JP 34%

Right pie chart:
- NZ 1%
- ID 1%
- PH 0%
- VN 0%
- AP 0%
- Other 1%
- TH 1%
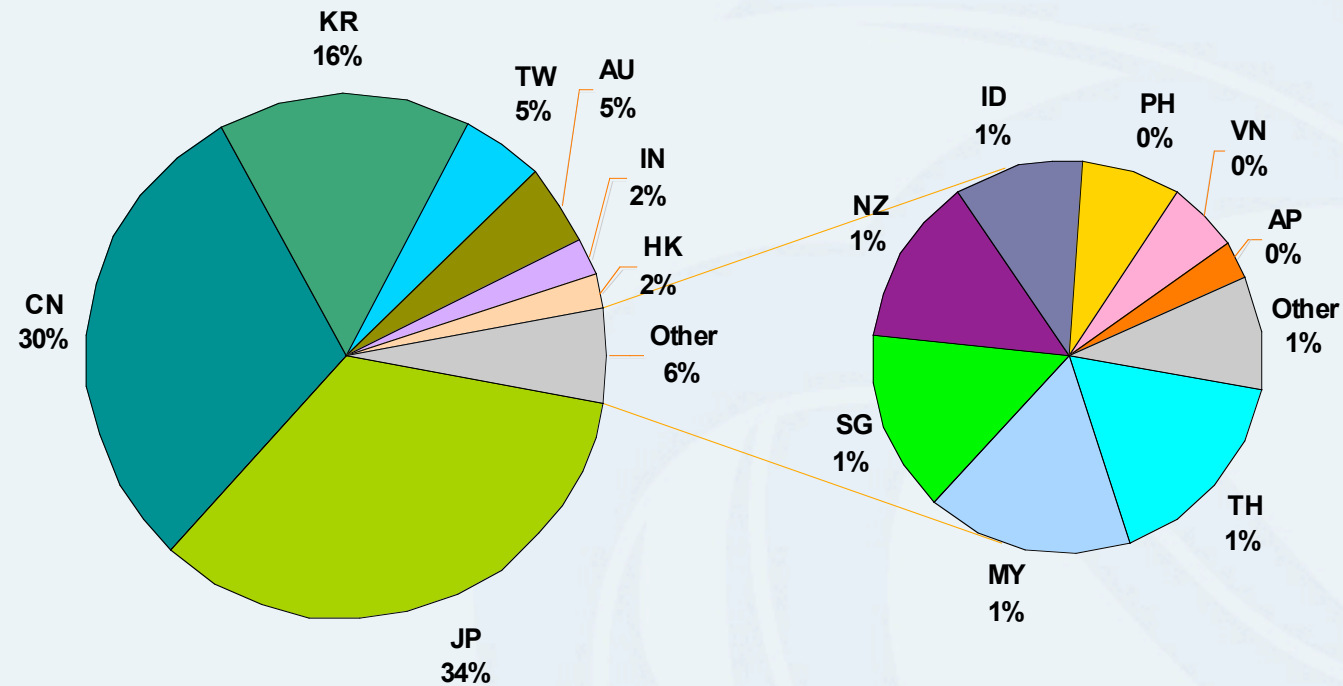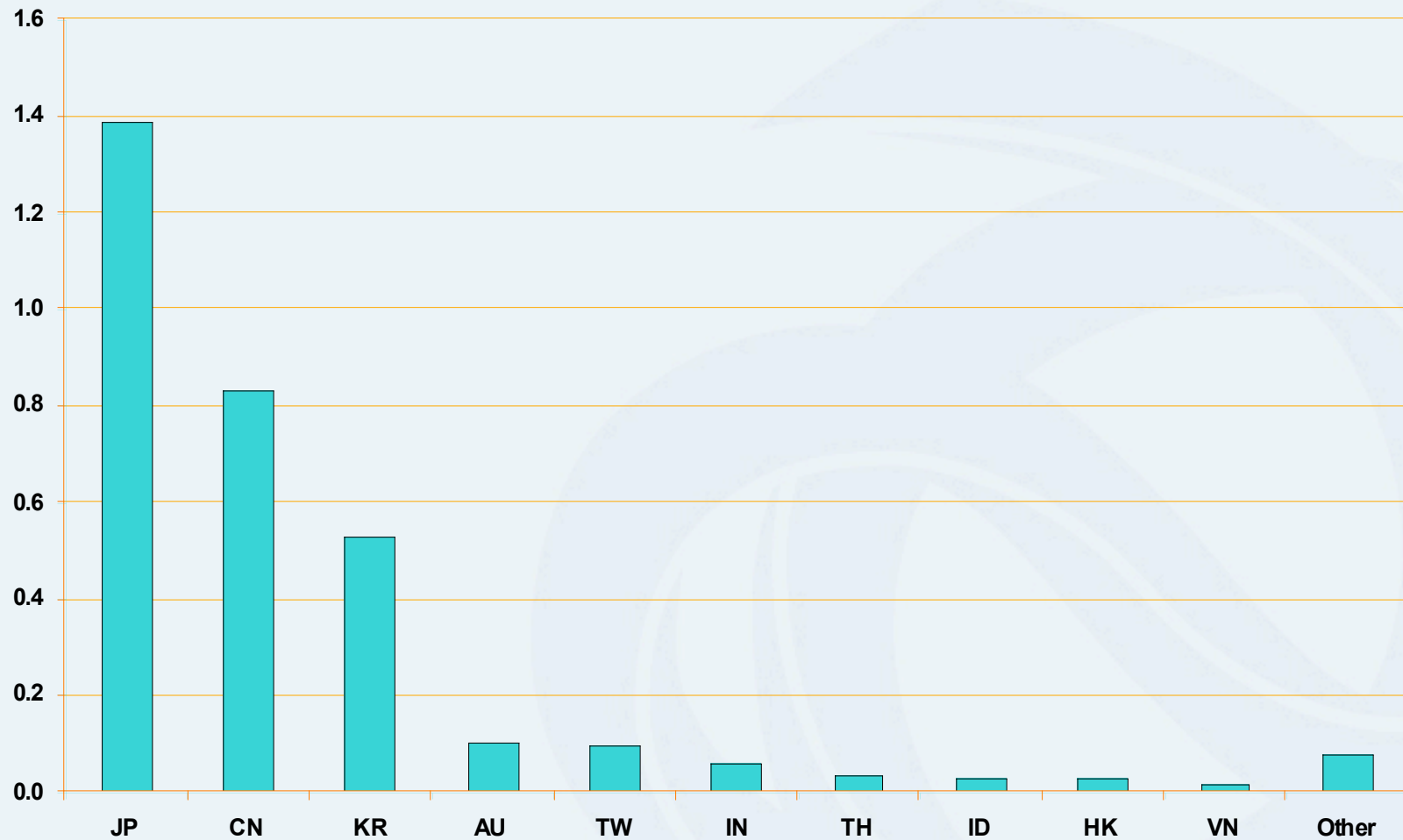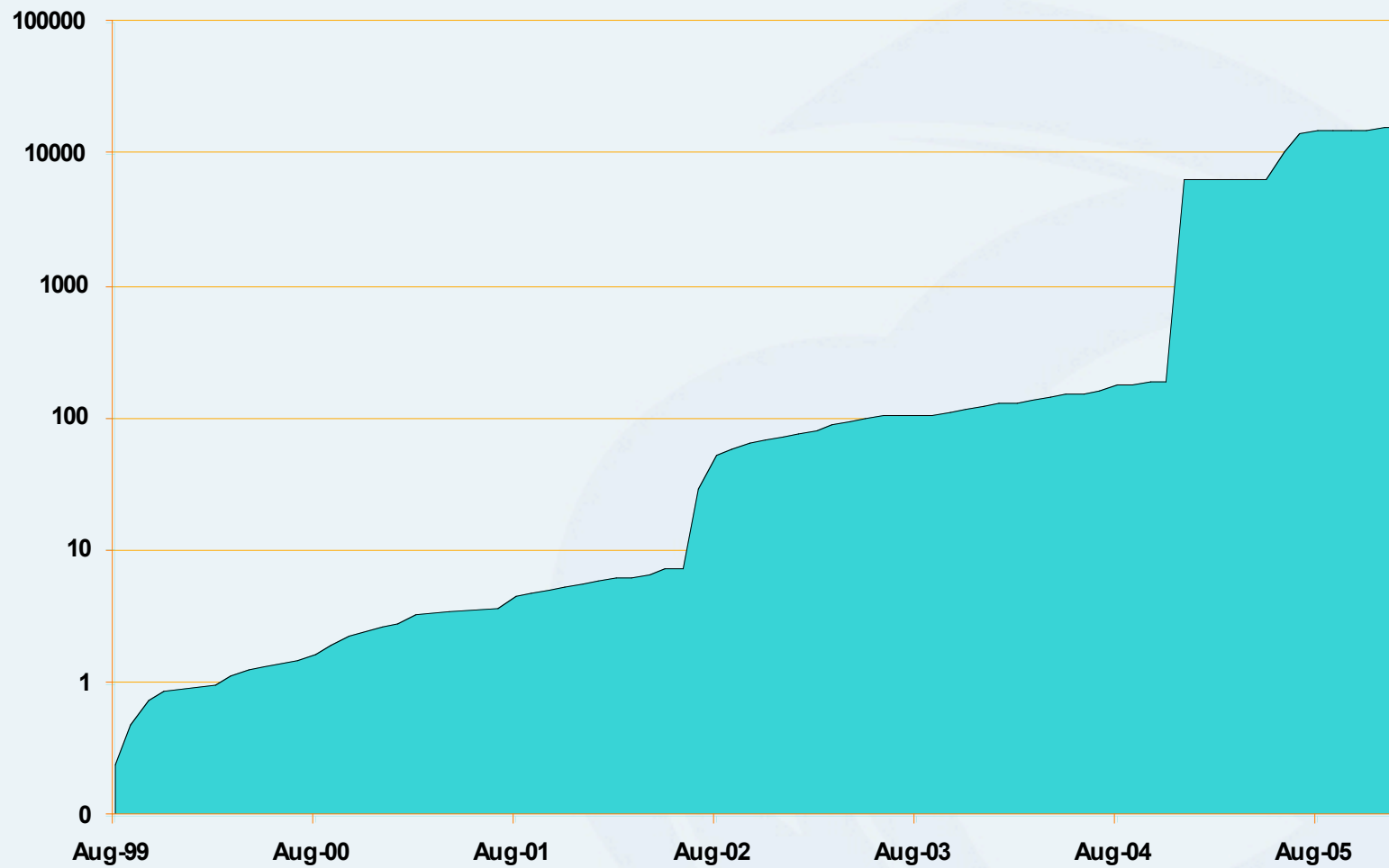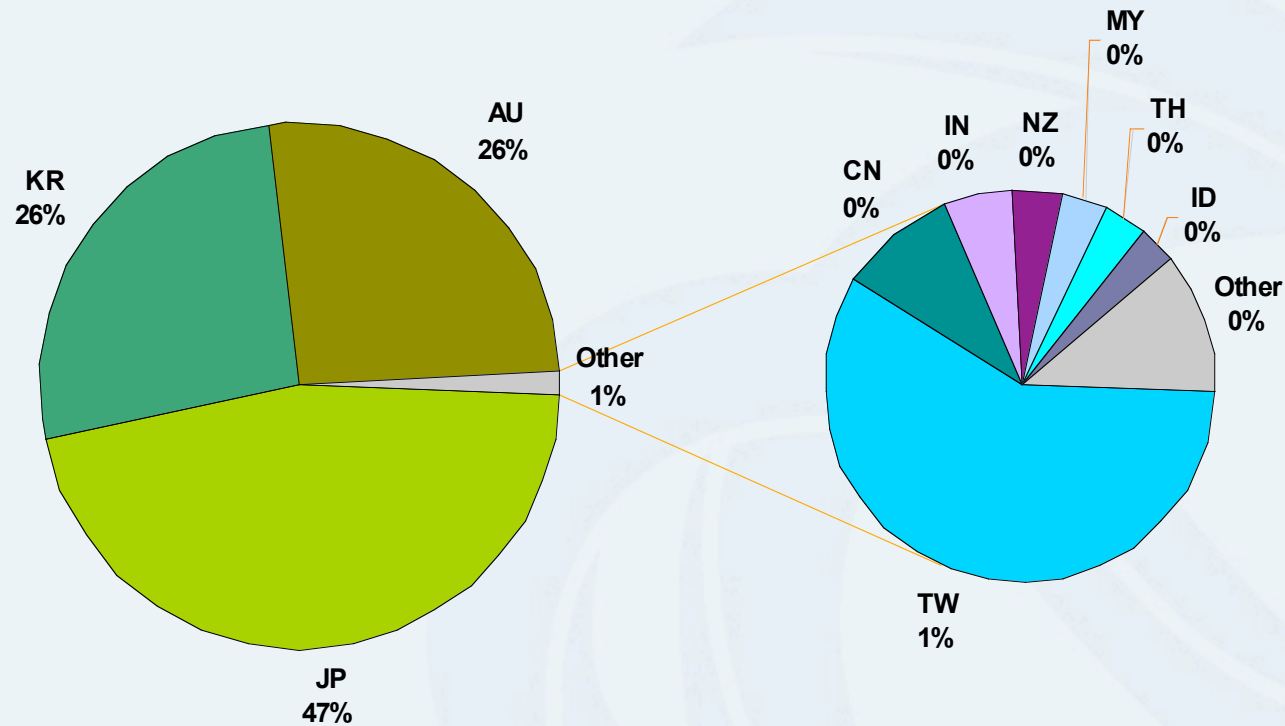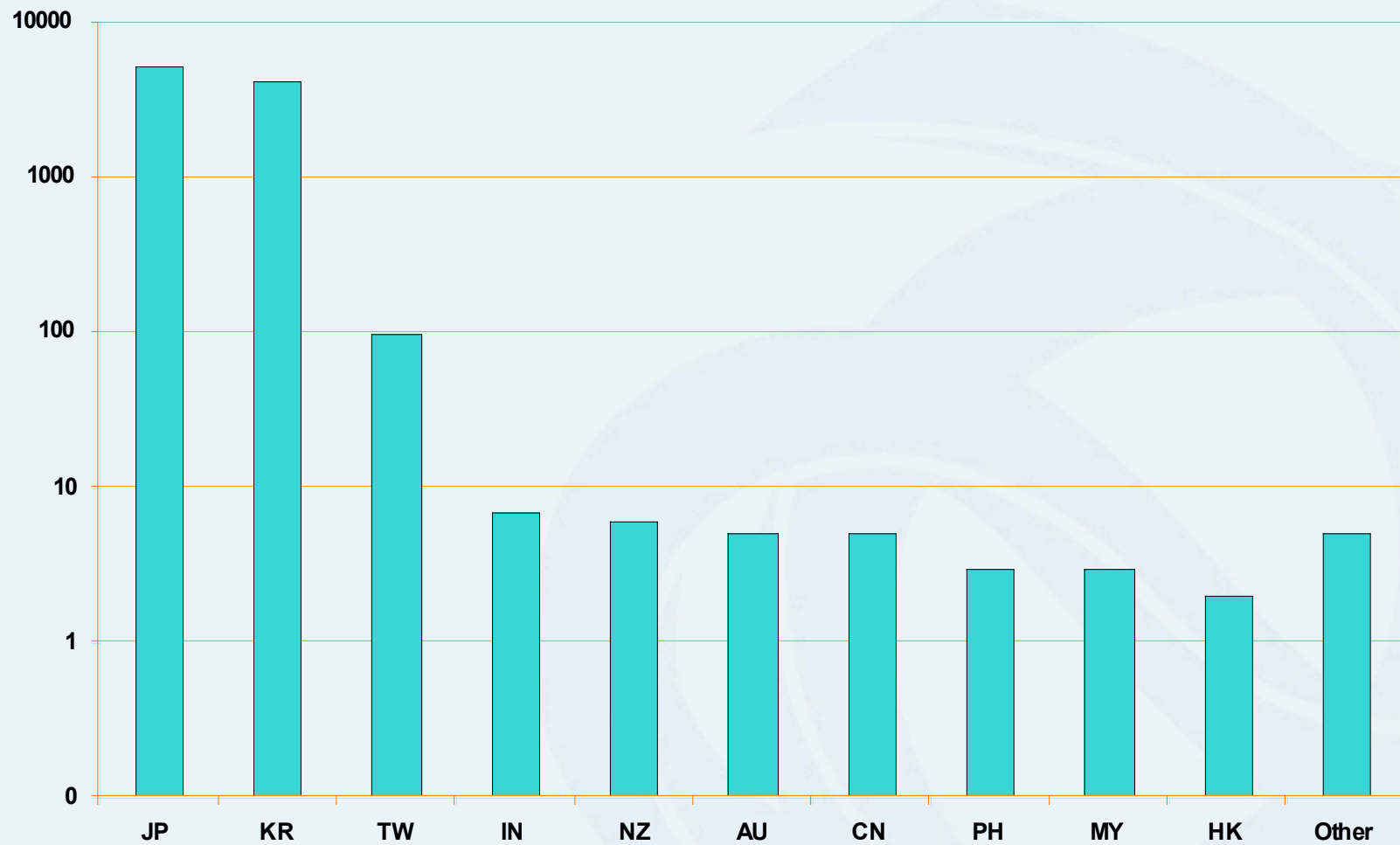- MY 1%
- SG 1%

IPv4 addresses allocated in 2005

Total IPv6 allocated

Total distribution of IPv6

IPv6 addresses allocated in 2005

Policy & governance

RIR Policy Development Process

Need

OPEN

Anyone can participate

Evaluate

Discuss

'BOTTOM UP'

TRANSPARENT

Implement

Consensus

Internet community proposes and approves policy

All decisions & policies documented & freely available to anyone
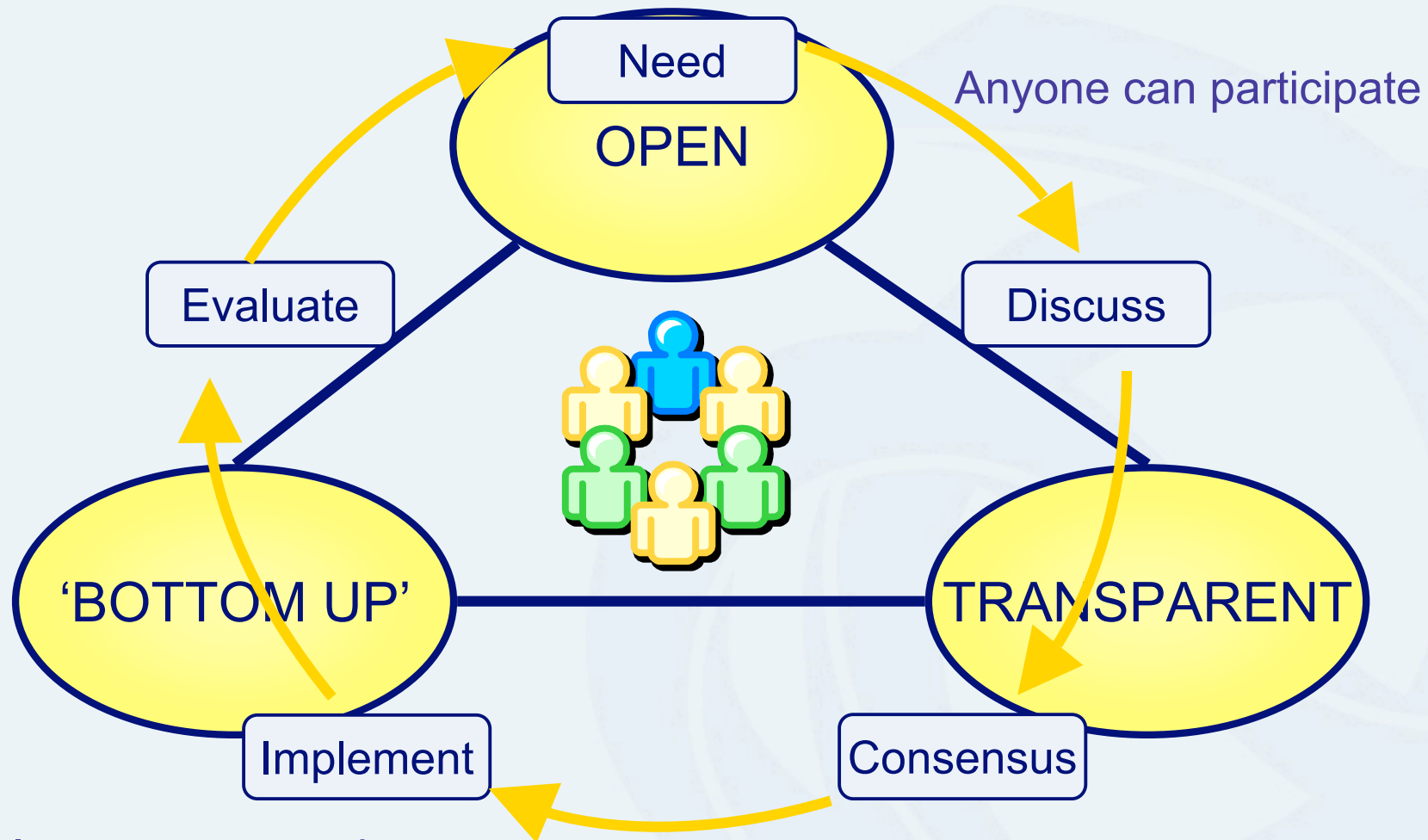
Policy Overview, 2005-2006

2005

IANA policy for the allocation of IPv6 blocks to RIRs
 (global policy)

Awaiting RIR convergeance

Address assignment statistics publication,
Large space IPv4 Trial phase 2 (future IPv6 deployments)

Both implemented

Proposal to amend APNIC IPv6 assignment and utilisation requirement policy
(Implementation subject to other RIR regions)

Changing HD ratio to 0.94 endorsed by EC

2006

Deprecation of ip6.in reverse DNS service in APNIC
(scheduled for June 2006 by IAB)
http://www.apnic.net/meetings/21/programme/sigs/dns.html

Presented in DNS Ops SIG
Thursday 2 March, 16:00-17:30

4-byte AS number policy proposal
 http://www.apnic.net/docs/policy/proposals/prop-032-v001.html

Presented at the Policy SIG
Thursday 2 March, 9:00 - 12:30

Internet governance & WSIS: regional concerns

- **AP concerns voiced during WSIS**
  - Outcomes of the system of Internet governance not fair
  - Dissatisfaction over US government oversight of ICANN
  - Concerns about access to resources

- **UNDP-APDIP survey on Internet governance**
  - APNIC loaned staff resources to APDIP & ORDIG project
    - Kapil Chawla and Sam Dickinson

- **UN ECOSOC**
  - APNIC contribution recognized
    - Awarded 'Special consultative status'
    - Status is as an NGO allowing participation in UN conferences and meetings

Operational update

Service improvements

Member Services Helpdesk

– One point of contact for all member enquiries!

Helpdesk hours
9:00 am – 7:00 pm (AU EST, UTC + 10 hrs)

ph: +61 7 3858 3188   fax: 61 7 3858 3199

- Range of languages available:

Cantonese	Filipino	Hindi	Lao	Persian	Thai
English	(Tagalog)	Japanese	Mandarin	(Farsi)	Telugu
					Vietnamese

- VOIP system under development
  - Handsets deployed for internal trials, will replace POTS pbx at APNIC in 2006
  - You can save on international call rates to helpdesk!
    - helpdesk@voip.apnic.net

- Live chat - online chat directly with the hostmasters!
  - Web-based (no need to install software)

icons.apnic.net

- ## Online Community of Networking Specialists
  - Articles, presentations, discussions, news

Internet infrastructure

- **DNS infrastructure**
  - Improving resiliency
    - Secondary DNS services for ranges delegated by APNIC
    - Also offered to ccTLD
  - Improving quality
    - "Cleaning up the reverse DNS" requested by community
    - Operational report at DNS SIG during APNIC 21
      - http://www.apnic.net/services/rev_del/lame-del/lame-del-response.html
      - Thursday 2 March, 16:00-17:30

- **Collaboration**
  - ICANN root server system advisory committee (RSSAC)
  - CAIDA - workshops and research
    - Participate in workshops
    - Provide statistics & measurement points

Internet infrastructure

- **Debogon project**
  - Purpose is detect and reduce filtering & blacklisting of assignment ranges
  - *Work in progress, deployment in 2006*

- **Certifying resources**
  - IETF (PKIX WG) extension of X.509 certificates
    - RFC 3779 model to certify internet resources
    - To ensure security of resource holdings
    - Trial began in 2005, full service plans for 2006
    - Update to be presented in Routing SIG during APNIC 21
      - Wednesday 1 March, 14:00-17:30
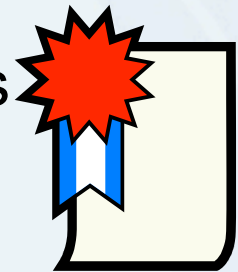
Strengthening APNIC infrastructure

- MyAPNIC
  - Secure portal
    - X.509 certificates to control access
  - Features
    - Online voting, resource management, training and billing records
  - "lite" version – released at APNIC 21
    - (Significant speed improvements, simplification)
- Fighting spam
  - Grey listing
    - 90% drop in spam received at Secretariat
      - Greylisting techniques info at http://icons.apnic.net

Rootservers supported by APNIC

More information at http://www.apnic.net/services/rootserver/

IETF support

- **Staff as WG chairs**
  - **CRISP (cross registry information service protocol)**
    - Co-chair: George Michaelson
    - Common framework with registries, structured data (XML)
      - Long term "whois" replacement
      - http://www.ietf.org/html.charters/crisp-charter.html

  - **GROW (Global routing operations)**
    - Chair: Geoff Huston
    - Examines operational problems of IPv4 and IPv6
      - http://www.ietf.org/html.charters/grow-charter.html

  - **Shim6 (Site multihoming by IPv6 Intermediation)**
    - Co-chair: Geoff Huston
    - Specifications for IPv6-based site multihoming
      - http://www.ietf.org/html.charters/shim6-charter.html

IETF support

- APNIC heavily involved in
  - PKIX
    - X.509 Extensions for IP Addresses and AS numbers
    - APNIC deployment of resource certificates (rfc3779)
      - http://www.ietf.org/html.charters/pkix-charter.html
  - DNSop (DNS operations)
    - Guidelines for DNS operations
      - http://www.ietf.org/html.charters/dnsop-charter.html
  - V6ops (IPv6 operations)
    - Guidelines for the operation of shared v4/v6 Internet
    - Operation guidelines on how to deploy IPv6 into existing IPv4-only networks
      - http://www.ietf.org/html.charters/v6ops-charter.html
  - IDR (Inter-Domain Routing)
    - Standardize and promote BGP-4 to support IPv4 & IPv6
    - Improving scalability of BGP
      - http://www.ietf.org/html.charters/idr-charter.html

Training & outreach

Training delivered in 2005

34 sessions
in 24 locations

UlaanBaatar
Sept

Guangzhou
Sept + Nov

Hong Kong
Oct +

Dhaka
Feb *

Kyoto
Feb

Karachii
April

Taipei
Nov

Delhi
January

Thimphu
Jul+*

Bangkok
June*

Makati
Mar

Kuala Lumpur
Aug* + Nov*

Vientiene + Hanoi
June + Sept+

Singapore
December *

Port Moresby
March

Jakarta
July

Sydney
May

Hamilton
Feb
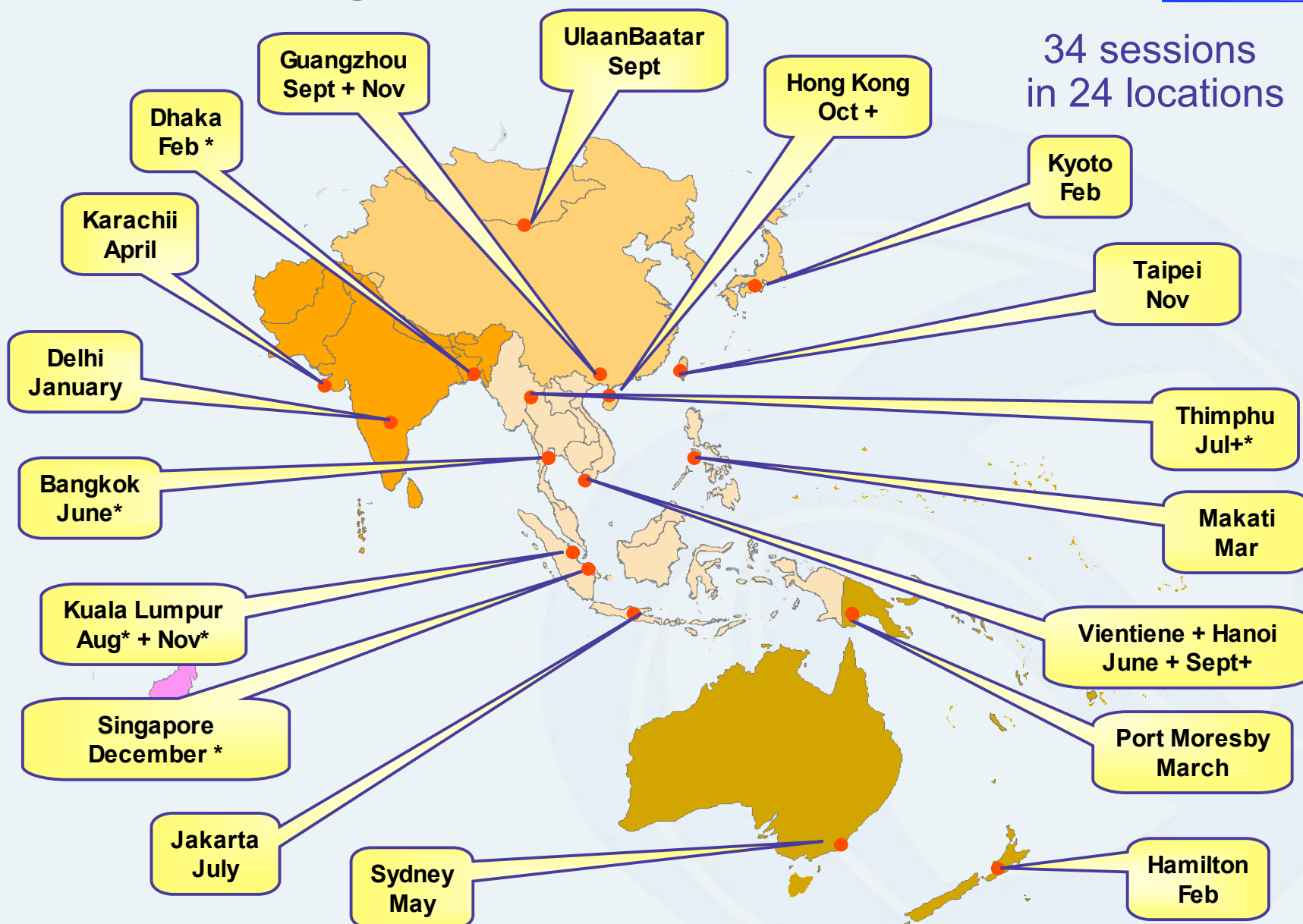
(*) with DNS workshop (+) with Routing Essentials workshop

Asia Pacific Network Information Centre

APNIC

APNIC training courses

- **Core courses**
  - Internet Resource Management
    - IRM I, IRM II
    - IRM Essentials

- **Technical workshops**
  - DNS
  - Advanced DNS
  - Routing essentials

- **Tutorials**
  - Security
  - IRR
  - Spam

- **Courses under development 2006**
  - IPv6 services workshop

- Material, information and schedules on website
  http://www.apnic.net/training

APNIC training and eLearning

- ## Taking it further…
  - ### Hired an eLearning officer
    - Sall'ee Ryman
  - ### Bringing APNIC training to your desktop
    - On demand training, self paced learning

- ## eLearners
  - ### Adult learners
    - Clear instruction and outline of objectives
  - ### English as a second language (ESL)
    - Visual clues, more time, reading vs listening

- ## Pilot available 2nd quarter 2006
  - ### 3 modules ready 3rd quarter

Outreach

NOGs

(Network Operator Groups

- Fashioned after NANOG)

- Technology transfer & education

- Workshops,training,conferences

- Outreach to 37 different events in 2005
    - NZnog, SANOG, PITA, NANOG, RIPE, LACNIC, AFRINIC, ARIN, PTC, IEEE, TWNIC, u-CONNECT, IPv6 Summit, ITU-T Workshop, AU IPv6 Summit….

Also…

- ISOC chapters

- IPv6 forums

- And much more..

Partnerships & collaboration

Partdnerships

- MoU with ISOC-AU
- MoU with the ISP associations of S. Asia
  - BD NP LK IN PK
- Rootserver operators
  - ISC (F) Autonomica (I) WIDE (M) RIPE-NCC (K)
- Participation in ITU, UN sponsored activities
- Collaboration with training partners
  - AIT, Cisco routing workshops, APTLD
  - ISOC and NSRC workshops

Support for Internet development

- ## Pan-Asia grants
  - ### ICT R&D grants programme
    - Practical technical research solutions to problems in developing world
      - http://www.idrc.ca/panasia/
  - ### APNIC funding partner
    - Also staff support on project committee
  - ### Projects
    - VClass SIP-based Mobile Classroom
    - IPv6 Tunnel Broker: a key for using next generation Internet in developing countries

- ## Other regional funding support
  - ### APstar, APng, APIA, AP*, SANOG, PACNOG, NZNOG

Questions?