



APNIC

Asia Pacific Network Information Centre

APNIC Internet Resource Management and Internet Infrastructure Support

PITA Members Meeting

10 January 2004

Honolulu, Hawaii

Save Vocea, APNIC

Mission statement

*Addressing the challenge of
responsible Internet resource distribution
in the Asia Pacific region.*



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What are “Internet Resources”?

- Internet Protocol **addresses**
 - A number
 - IPv4: 32 bits (4.2 billion)
 - IPv6: 128 bits (a lot more)
 - Belongs to a network interface
 - Not to a person
 - Globally unique
- Autonomous System Numbers – **ASN**
 - A number used for routing to identify networks
 - Globally unique

IP addresses and domain names

Welcome to APNIC | Asia Pacific Network Information Centre - Microsoft Internet Explorer

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Training
Meetings
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Internet community
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Asia Pacific Network Information Centre
Addressing the challenge of responsible Internet resource distribution in the Asia Pacific region.

News	Search	Training
APNIC news [07-01-04] Internet resource statistics available in new format [06-01-04] Nominations for APNIC Executive Council now open [23-12-03] APNIC 17 meeting registration now open [07-11-03] APNIC and ISC install the first root nameserver in China [05-11-03] APNIC 17 details are now available [31-10-03] RIR open letter to ICANN regarding the NRO	Whois search <input type="text"/> Go Site search <input type="text"/> Go ◦ Sitemap	◦ Training schedule January 15-18: Bangalore, India 19: Bangalore, India 28: Hamilton, NZ February 18-24: Kuala Lumpur ◦ Most recent training course ◦ Previous training courses
	Meetings	Contact APNIC

Internet

APNIC - Regional Internet Registry

- APNIC is the RIR for the Asia Pacific
 - Regional authority for Internet Resource distribution
 - IP addresses and AS numbers
 - Founded in 1993 in the 'Internet tradition'
 - Long history of successful operations
 - Supported Internet growth to date
 - Non-profit, neutral, independent
 - Facilitates pursuit of goals
 - Operates in 62 economies in AP region
 - 24 are in the Pacific

APNIC members in the Pacific

- Blue Sky Comm-AS
- Telecom Cook Is
- FINTEL
- Telecom Fiji Ltd
- Mana-PF
- Guam Telephone Authority
- IT&E Guam
- Kuentos Comm, Inc-Guam
- Startec & PCI Global
- UUNET Guam
- Telecom Services Kiribati
- FSM Telecom
- Tuvalu Telecom Corp
- Cenpac-NR
- Micro Logic Sys -NC
- Net Outremer -NC
- Offratel -NC
- OPT-NC
- Palau NCC
- Datec-PNG
- Pacific Mobile Comm-PG
- PNG University of Tech
- Samoa Tel
- Solomon Telekom
- Tonga Communications Corp
- Telecom Vanuatu

RIR regions



Address management objectives

Conservation

- Efficient use of resources
- Based on demonstrated need

Aggregation

- Limit routing table growth
- Support provider-based routing

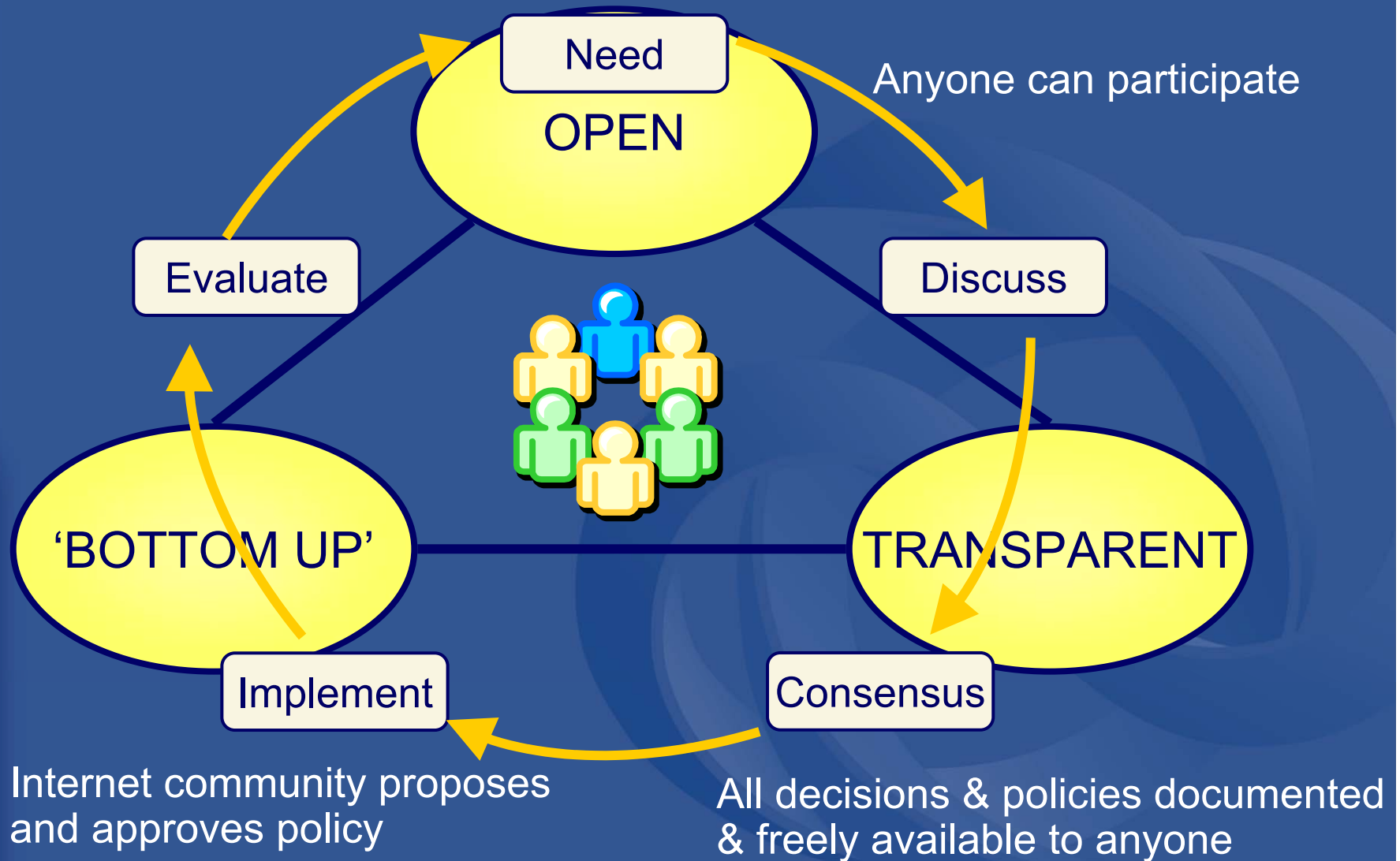
Registration

- Ensure uniqueness
- Facilitate trouble shooting

Internet resource management

- APNIC is industry self-regulatory body
 - Consensus based decision making
 - ‘Bottom up’ driven by users
 - Open and accessible to anyone
 - Ensures equal access for all without bias
 - Stable well-understood system
 - Operating for 10+ years

Policy development cycle



APNIC responsibilities

Provides critical infrastructure services

- Internet resource management
 - IP address allocation and assignment
 - AS number assignments
- DNS management
 - Delegate reverse DNS zones/domains
 - Authoritative DNS servers
 - *in-addr.arpa*, *ip6.arpa* (*ip6.int*)
- Resource registration
 - Authoritative registration server: *whois.apnic.net*
 - Internet Routing Registry: *irr.apnic.net*

APNIC responsibilities

- Policy development and coordination
 - APNIC Open Policy Meetings: 2 per year
 - ASO and ICANN processes
 - Liaison: IETF, ITU etc
- Training and outreach
 - Frequent regional training courses, seminars etc
- Publications
 - Newsletter, web site, mailing lists etc
 - Regional and global resource reports
- Facilitates development of infrastructure services in region (new!)
 - F-root server



Facilitating Internet Infrastructure Services in the AP region

F-root server

What is F-Root?

- DNS is name to numbers mapping
 - www.apnic.net mapped to 202.12.29.20
 - Sometimes known as forward DNS
- Hierarchically distributed system
 - Root server at top of tree
- 13 root servers
 - Located in different places
 - Operated by different people

F-Root anycast

- Agreement with “F” (Internet Software Consortium, Inc)
 - APNIC provides equipment
 - Local sponsor provides facilities
 - Equipment managed by ISC
- HK, KR, CN, TW, SG operational
- More information
 - <http://www.apnic.net/services/rootserver/>

DNS root server mirror service

- Benefits of root server mirror service
 - National infrastructure protection and self-sufficiency
 - Performance
 - Costs
 - Resilience
 - Emergency response



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Thank you

Save Vocea

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<http://www.apnic.net>

Next APNIC Open Policy Meeting



17th APNIC Open Policy Meeting
23-27 February 2004 Kuala Lumpur - Malaysia

Next meeting in conjunction with

APRICOT 2004

Kuala Lumpur, Malaysia, 18-27 February 2004

2nd round Fellowship application: 11-17 Jan 04

- Participate in policy development
- Attend workshops, tutorials & presentations
- Exchange knowledge and information with peers
- Stay abreast with developments in the Internet
- View multicast online
- Provide your input in matters important to you

<http://www.apnic.net/meetings>