

Asia Pacific Network Information Centre  
APNIC

## APRICOT/APNIC 27

### Newcomers Introductory Tutorial

Manila, Philippines

22 February, 2009

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## Agenda

- Introduction
- The Context: The Internet management and operational structure.
- APRICOT and APNIC– Background and Operations
- The APRICOT/APNIC meeting
- Program and events
- Policies and policy discussion
- Hot technical topics
- The mentoring program

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## Review

"The Internet is a loosely-organized international collaboration of autonomous, interconnected networks; it supports host-to-host communication through voluntary adherence to open protocols and procedures defined by Internet Standards, a collection of which are commonly known as "the TCP/IP protocol suite".

RFC 1603

*In simple terms:  
A network of networks, enabling communication between connected computers, where-ever they may be, and making possible such services as email, web applications, peer connectivity and others not yet discovered even!!!*

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### Internetworking Concepts

- The concept of an internet defines the following objectives:
  - Universal interconnection
  - Network technology independent
  - modifiable (no need to configure a central switch when adding or removing networks)
  - hide underlying technology
  - use of intermediate networks not related to source or destination nodes

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### How does this happen?

- What makes the Internet work?
  - Physical network connectivity – to make communication possible - providers
  - Common “language” – to make communication meaningful – protocols
  - Common addressing mechanism – to make communication universal – addressing
  - Applications – to make the Internet useful

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### What is needed to make this happen?

- Network
  - Cable owners
  - Transit providers
  - Telcos
  - ISPs
    - Bandwidth wholesalers
- Protocols and standards
  - Standards process
    - IETF, IAB, IRTF – (RFCs)
    - Vendor implementations
- IP addresses, AS numbers
  - IETF, ICANN-IANA, RIRs
- Services
  - applications
  - Content

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### Who manages the Internet ?

- Based on cooperation, consensus and collaboration
- Numerous groupings of experts working together in a largely volunteer capacity.
- E-mail collaboration, meetings, working groups
- Member based organisations of Internet users and service providers – RIRs, NOGs (implement standards and policies)
- Combined effort to develop technologies, standards and policies

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### Major Internet Components

- Technical development and standards Bodies
- Management and policy bodies
- Infrastructure
- Services and Content Providers

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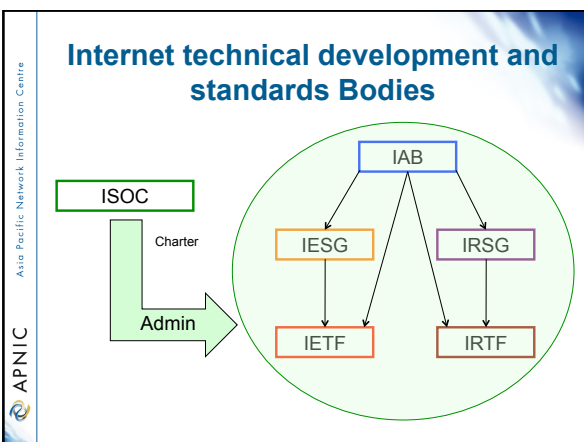
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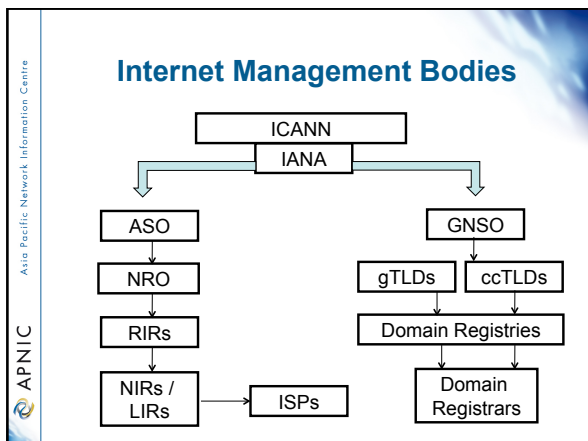
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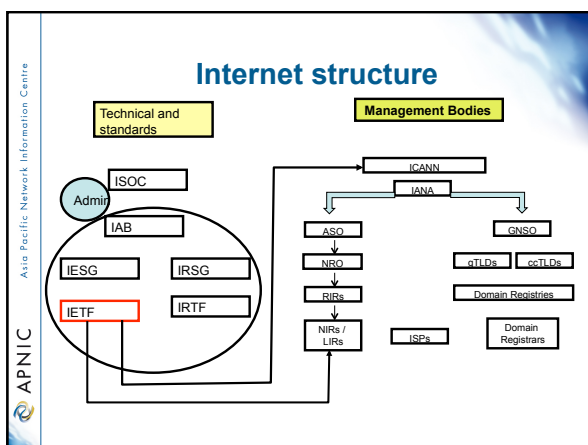
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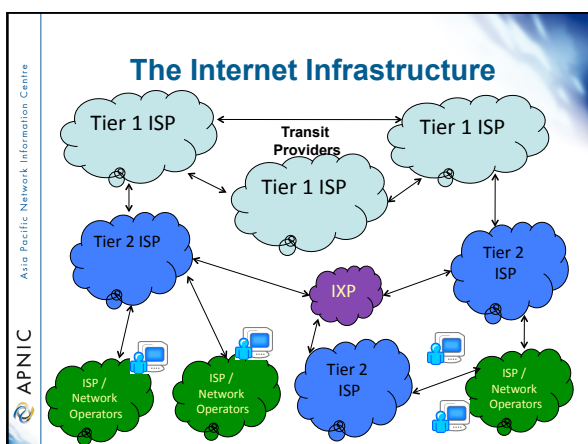
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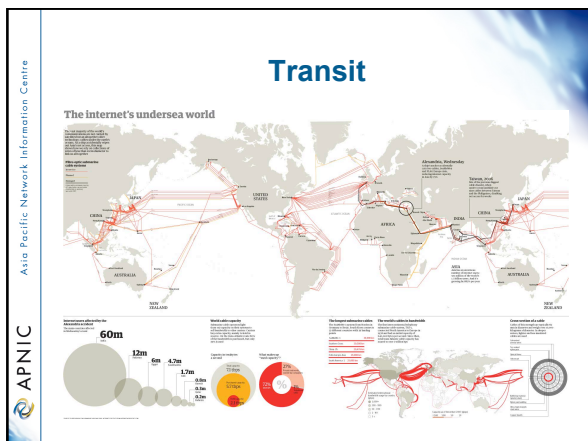
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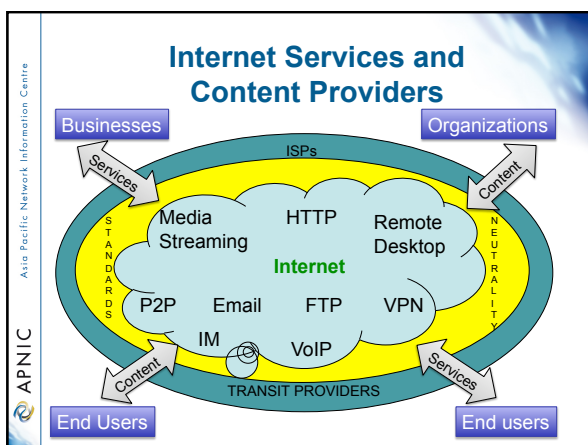
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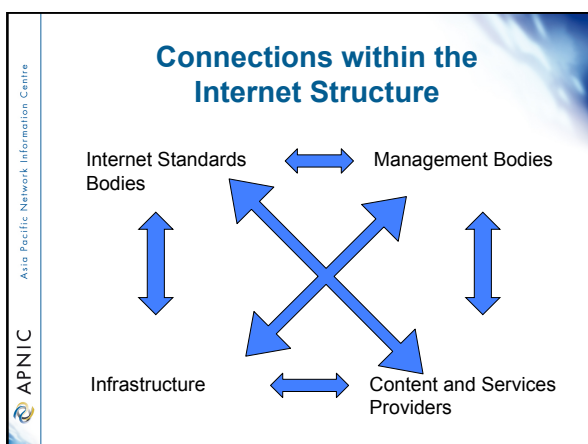
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## Internet resource management

### Role of Regional Internet Registry

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### What are RIRs?

- Industry self-regulatory structures
  - Open membership-based bodies
  - Representative of ISPs globally
  - Service organisations
  - Non-profit, neutral and independent
  - 100% self-funded by membership
- First established in early 1990s
  - Voluntarily by consensus of community
  - To satisfy emerging technical/admin needs
- In the "Internet Tradition"
  - Consensus-based, open and transparent

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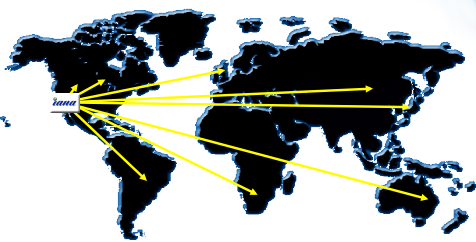
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### The early years: 1981 – 1992



1981:

"The assignment of numbers is also handled by Jon. If you are developing a protocol or application that will require the use of a link, socket, port, protocol, or network number please contact Jon to receive a number assignment." (RFC 790)



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**The boom years: 1992 – 2001**

**1992:**  
 "It has become clear that ... these problems are likely to become critical within the next one to three years." (RFC1366)  
 "...it is [now] desirable to consider delegating the registration function to an organization in each of those geographic areas." (RFC 1338)

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**Recent years: 2002 – 2007**

**2004:**  
 Number Resource Organization

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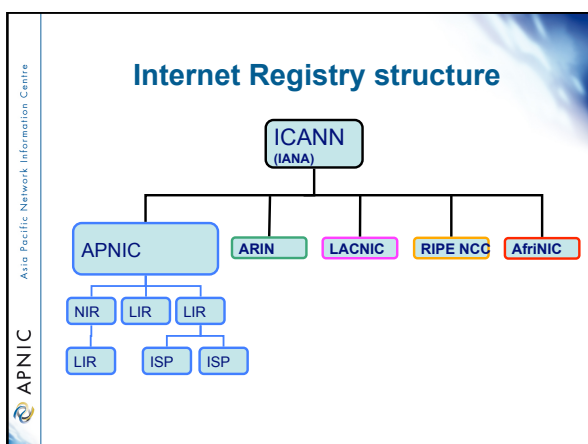
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**Global policy coordination**

The main aims of the NRO:

- To protect the unallocated number resource pool
- To promote and protect the bottom-up policy development process
- To facilitate the joint coordination of activities e.g., engineering projects
- To act as a focal point for Internet community input into the RIR system

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**Global policy coordination**

The main function of ASO:

- ASO receives global policies and policy process details from the NRO
- ASO forwards global policies and policy process details to ICANN board

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**What do RIRs do?**

- Internet resource allocation
  - Primarily, IP addresses – IPv4 and IPv6
  - Receive resources from IANA/ICANN, and redistribute to ISPs on a regional basis
  - Registration services (“whois”)
- Policy development and coordination
  - Open Policy Meetings and processes
- Training and outreach
  - Training courses, seminars, conferences
  - Liaison: IETF, ITU, APT, PITA, APEC
- Publications
  - Newsletters, reports, web site

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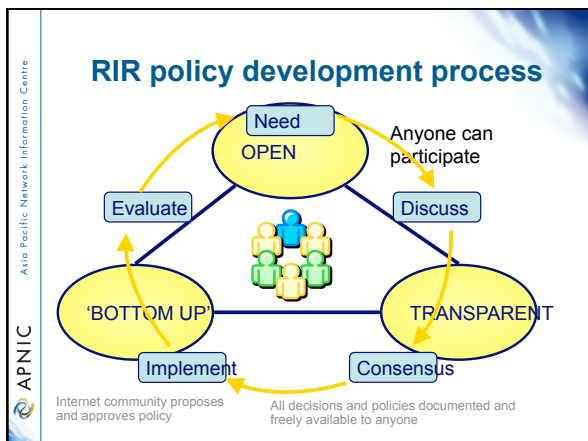
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**What is APNIC?**

- Regional Internet Registry (RIR) for the Asia Pacific region
  - One of five RIRs currently operating around the world
  - Non-profit, membership organisation
    - Open participation, democratic, bottom-up processes
  - Responsible for distributing Internet resources throughout the AP region
- Industry self-regulatory body
  - Consensus-based, open, and transparent decision-making and policy development
- Meetings and mailing lists
  - Open to anyone
  - <http://www.apnic.net/meetings/23/index.html>
  - <http://www.apnic.net/community/lists/index.html>

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**History of APNIC**

- APNIC was established in 1992 by the Asia Pacific Co-ordinating Committee for Intercontinental Research Networks (APCCIRN) and the Asia Pacific Engineering and Planning Group (APEGG) : "To facilitate communication, business, and culture using Internet technologies".
- In 1993 APNIC was established as an independent body.
- In 1995, the inaugural APNIC meeting was held in Bangkok.
- 1996 saw a proper fee structure introduced, the establishment of a membership, and the holding of the first APRICOT meeting.
- In 1998, after an extensive consultative process, it was decided to move the APNIC secretariat in Brisbane

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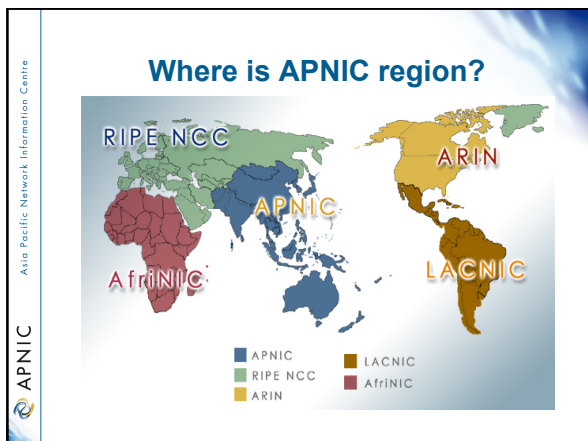
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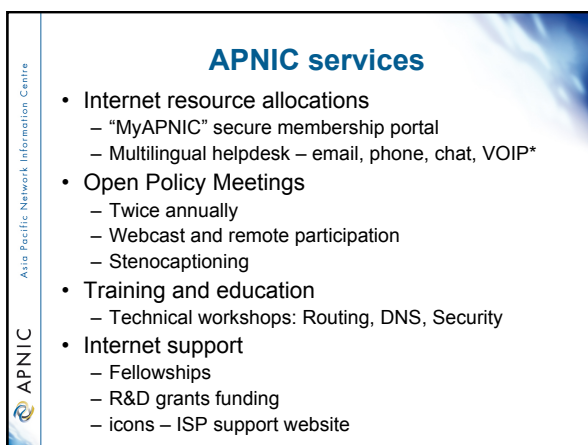
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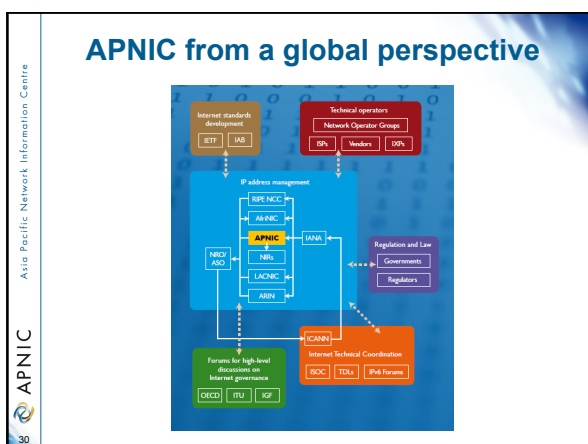
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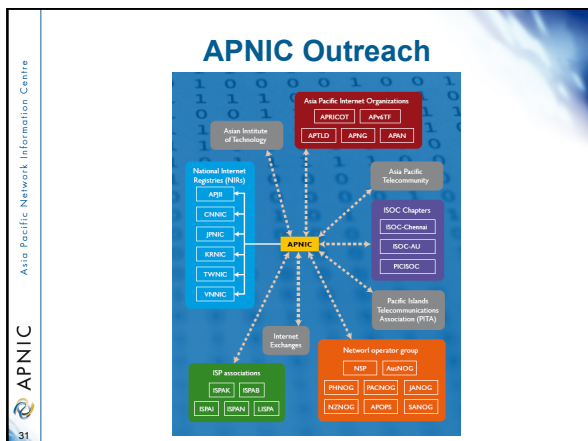
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- ### APNIC is NOT
- A network operator
    - Does not provide networking services
      - Works closely with APRICOT forum
  - A standards body
    - Does not develop technical standards
      - Works within IETF in relevant areas (IPv6 etc)
  - A domain name registry or registrar
    - Will refer queries to relevant parties

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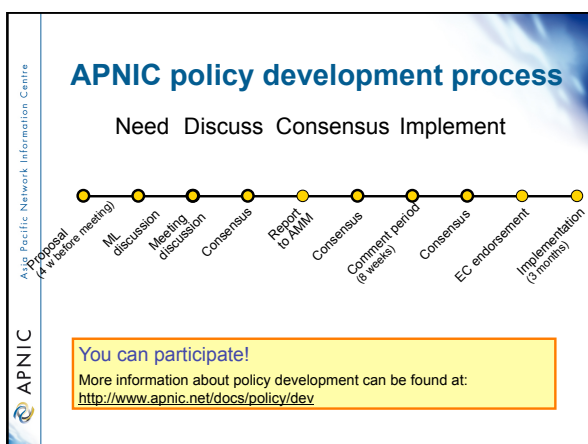
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### How does APNIC fit into the Internet Structure?

- What is APNIC?
- What does APNIC do?

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### Summary

- Internet Hierarchy
- APNIC involvement
- Interaction between organisations in the Asia-Pacific region

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### Questions ?

- **Thank you and enjoy the meeting!**

Social Event in Leyte  
Monday 5.30pm

Mentoring group updates  
Tues, Wed and Thur at 5.30pm in Davao

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