Introduction to APNIC and Regional Internet Registries (RIRs)

Srinivas (Sunny) Chendi
Senior Advisor – Policy and Community Development
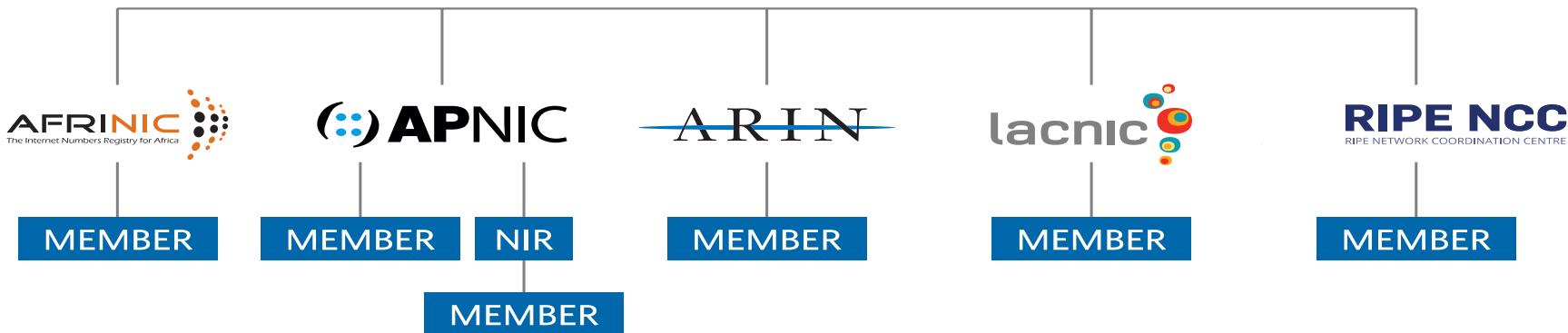
APIGA 2018
24 July 2018

Internet Registry Structure

What is APNIC?

- The Regional Internet address Registry (RIR) for the AP region

- Manages Internet number resources
  - Including IPv4 and IPv6 addresses

- Supports training, education and internet development

- A neutral, independent, not-for-profit, open membership-based organisation, since 1993

www.apnic.net

Where is the APNIC Region?

APNIC Region

- APNIC covers the entire Asia Pacific, comprising 56 economies throughout Asia and Oceania.

- APNIC classifies these economies into four regions: South Asia, South East Asia, East Asia and Oceania.

South Asia
Afghanistan
Bangladesh
Bhutan
British Indian Ocean Territory
India
Maldives
Nepal
Pakistan
Sri Lanka

Eastern Asia
China
Dem. People's Rep. of Korea
Hong Kong SAR
Japan
Macau
Mongolia
Republic of Korea
Taiwan

Polynesia
American Samoa
Cook Islands
French Polynesia
Niue
Pitcairn
Samoa
Tokelau
Tonga
Tuvalu
Wallis and Futuna Islands

South-eastern Asia
Brunei Darussalam
Cambodia
Christmas Island
Cocos (Keeling) Islands
Indonesia
Lao People's Dem. Republic
Malaysia
Myanmar
Philippines
Singapore
Thailand
Timor-Leste
Vietnam

Micronesia
Fed. States of Micronesia
Guam
Kiribati
Marshall Islands
Nauru
Northern Mariana Islands
Palau

Melanesia
Fiji
New Caledonia
Papua New Guinea
Solomon Islands
Vanuatu

Australia & New Zealand
Australia
New Zealand
Norfolk Island

Antarctic
French Southern Territories

APNIC – Vision

A global, open, stable, and secure Internet that serves the entire Asia Pacific community.

How we achieve this:

- Serving Members

- Supporting the Asia Pacific Region

- Collaborating with the Internet Community

What does APNIC do?
APNIC services
Members

Resource distribution

- IP addresses
- AS numbers

Registration services

- reverse DNS
- Internet routing registry
- resource certification
- whois registry

What does APNIC do?

APNIC supports the Asia Pacific region

Policy development

Capacity building

- training
- workshops
- conferences
- fellowships
- grants

Infrastructure

- root servers
- IXPs
- engineering assistance

What does APNIC do?
APNIC collaborates with the Internet community

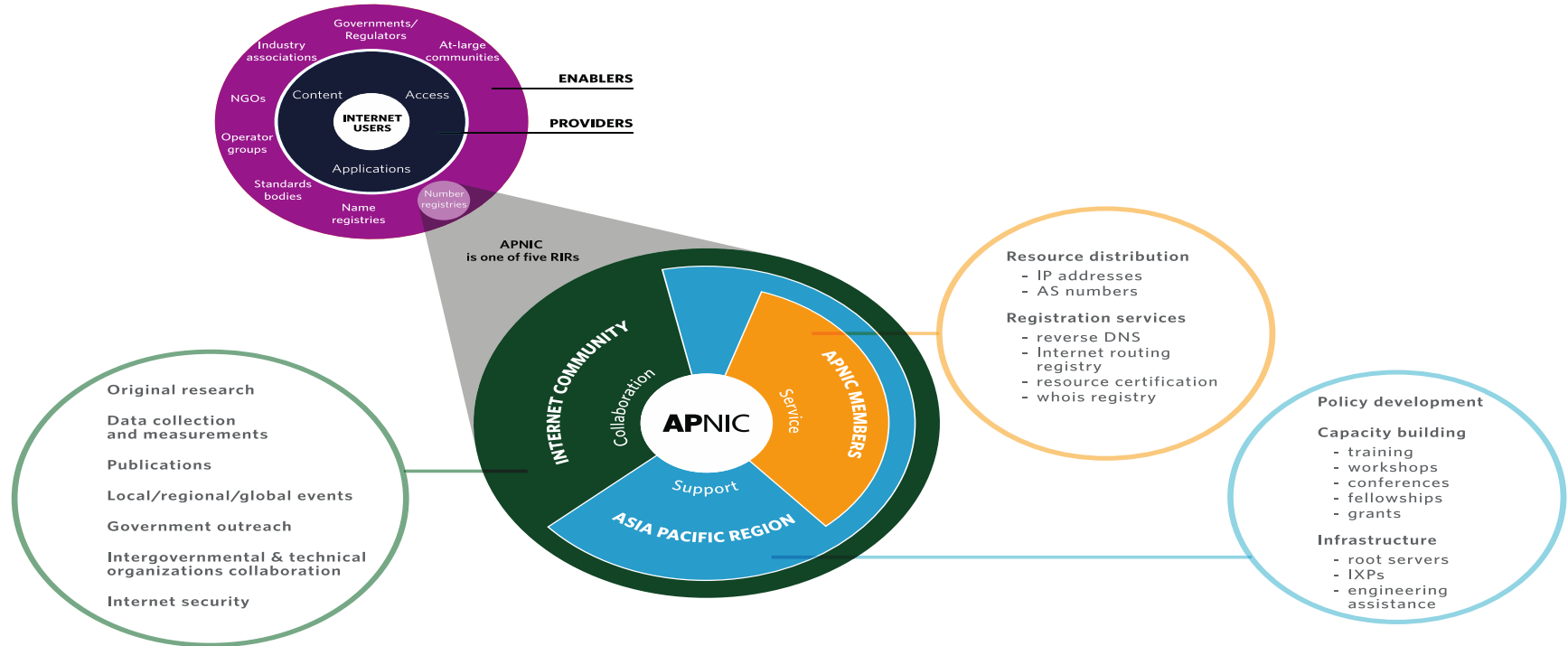Original research

Data collection
and measurements

Publications

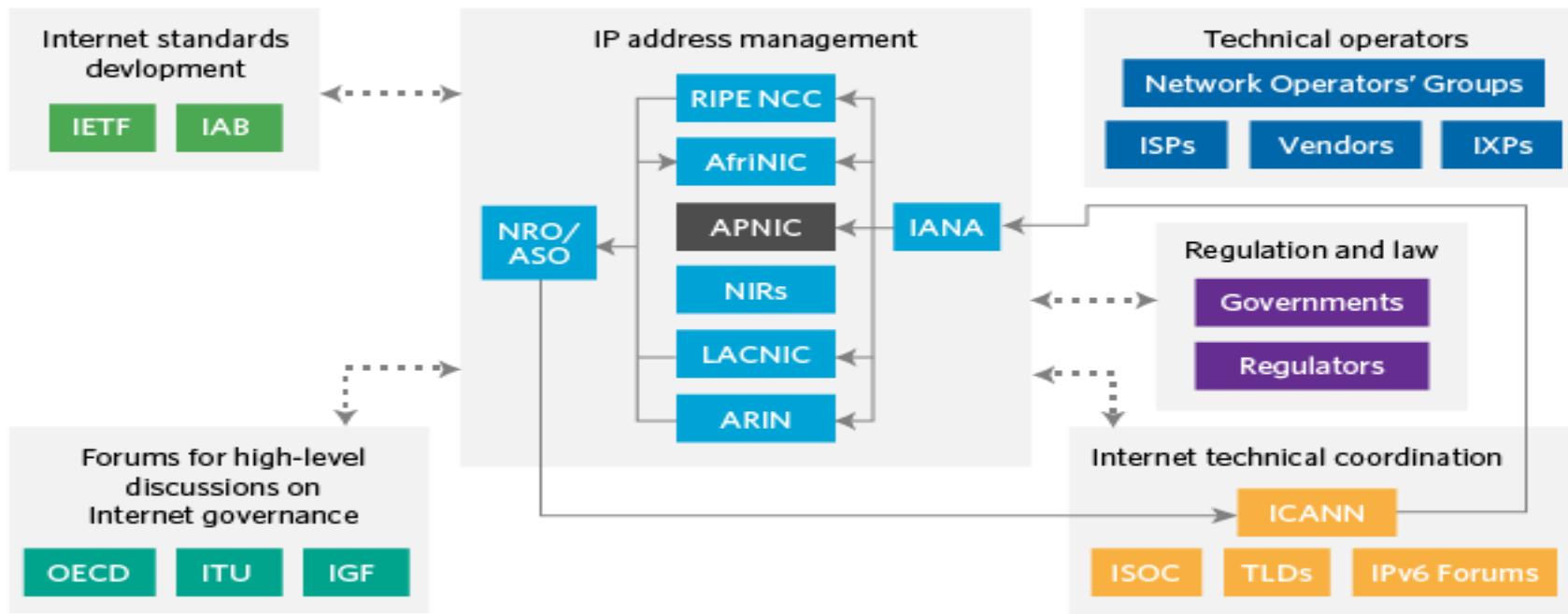Local/regional/global events

Government outreach

Intergovernmental & technical
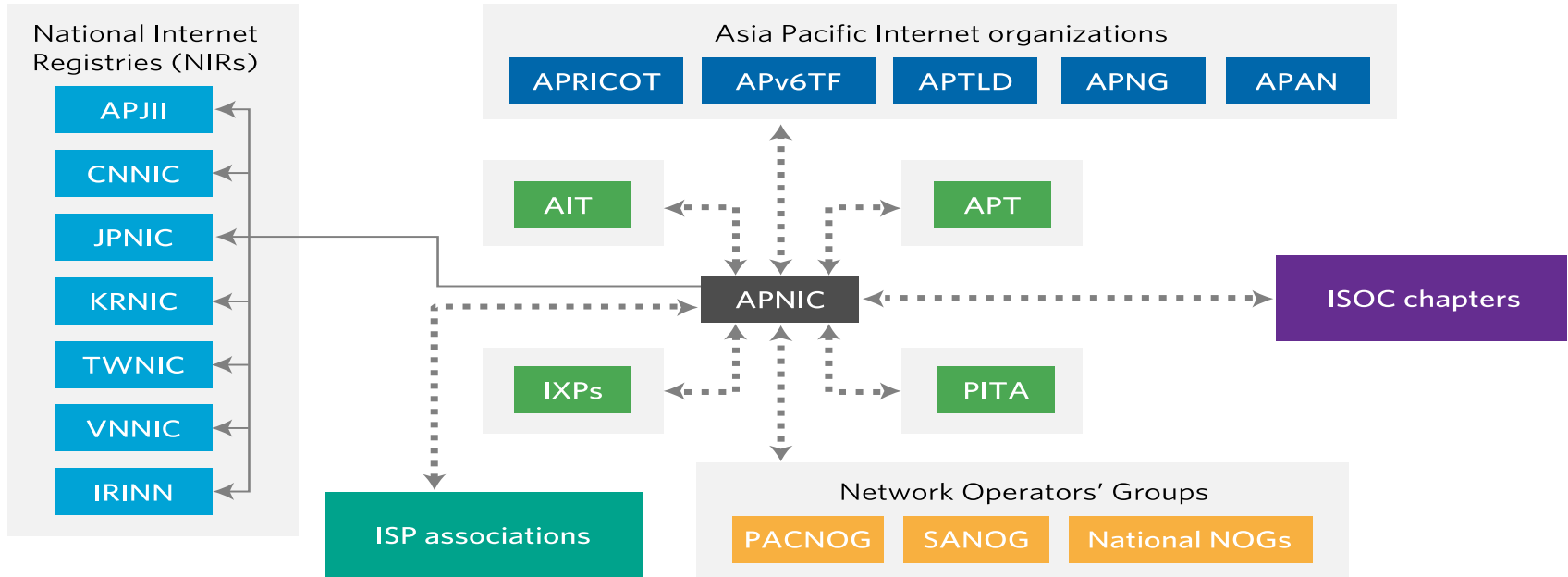organizations collaboration

Internet security

APNIC in the Internet Ecosystem

# APNIC from a Global Perspective

APNIC in the Asia Pacific

National Internet Registries (NIRs)
- APJII
- CNNIC
- JPNIC
- KRNIC
- TWNIC
- VNNIC
- IRINN

Asia Pacific Internet organizations
- APRICOT
- APv6TF
- APTLD
- APNG
- APAN

AIT
APT
APNIC
ISOC chapters
IXPs
PITA

ISP associations

Network Operators' Groups
- PACNOG
- SANOG
- National NOGs

Policy Development

- Creating a policy environment that supports the region's Internet development

- Developed by the membership and broader Internet community

You are part of the APNIC community!

Open forong in the Asia Pacific
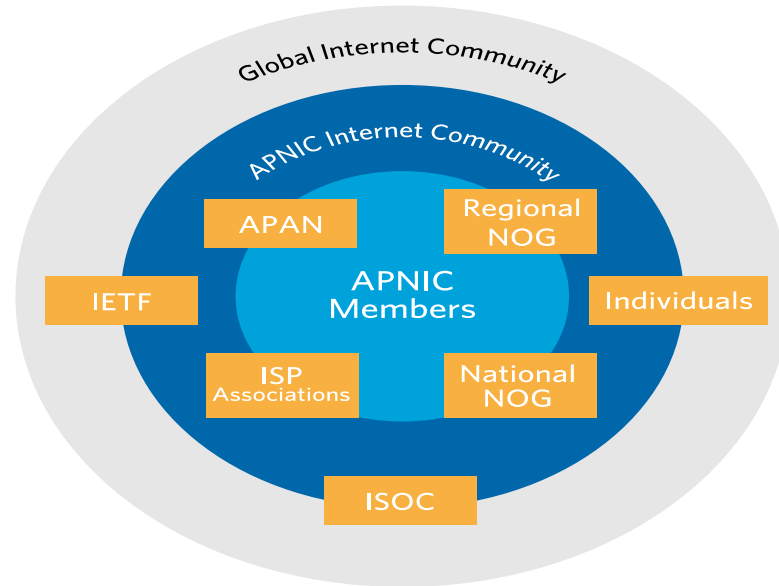
A voice in regional Internet operations through participation in APNIC

Global Policy Coordination

The purpose of the Address Supporting Organization (ASO) is to review and develop recommendations on Internet Protocol (IP) address policy and to advise the ICANN Board.

https://aso.icann.org/

Training and Technical Assistance

- 62 face-to-face courses in 25 locations to 1,934 trainees

- **Nine community trainers delivered 12 face-to-face courses in six locations**

- 883 trainees in 130 eLearning sessions

- Updated IRM, IRR, Network Security, MPLS, SDN, NFV courses with new hands-on exercises

- Technical Assistance provided to nine Members (ID, FJ, NC, BD, TL)

Training, Laos

Community Outreach

BKNIX 1

IXP workshop, Timor L'este

- Supported 13 NOG and IX events with presentations, hostmaster consultations, tech support and sponsorship

- IXP workshop and technical assistance provided in Timor L'este, resulting in test case IXP

- J-root instance in APNIC's co-location facility

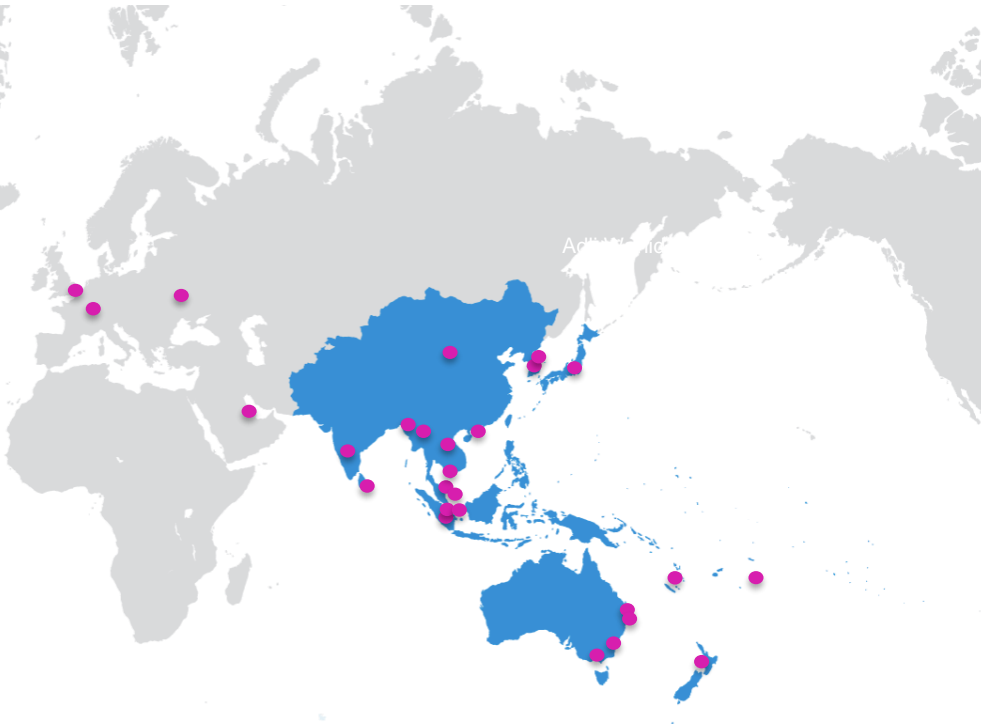- 3 RIPE Atlas Anchors deployed: BT, KH and PG (+4 underway NP, MM, IN, MN); 112+ Atlas probes

Internet Exchange Points

Internet Exchange Points

The Internet

ISP ISP

ISP ISP

**DNS root servers
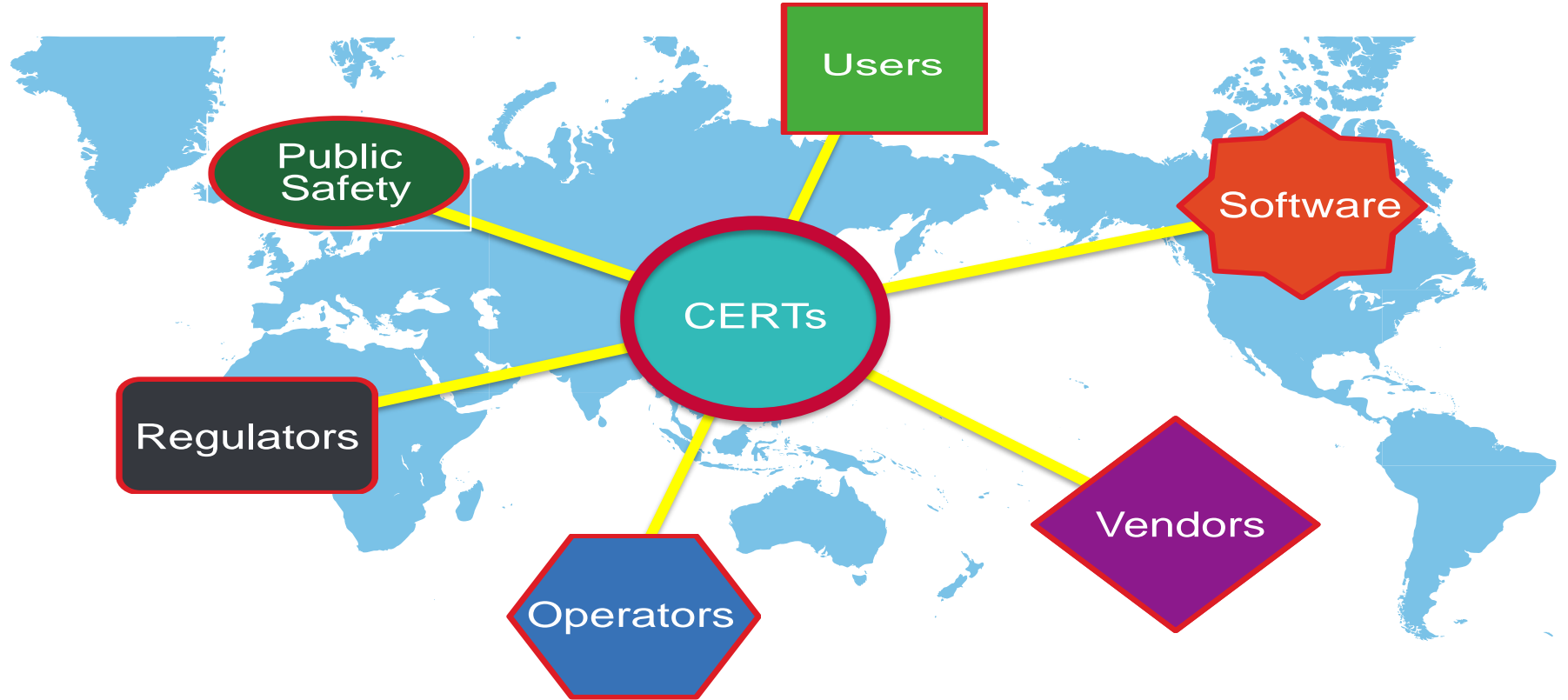Data centres
Caches
IPv6!!**
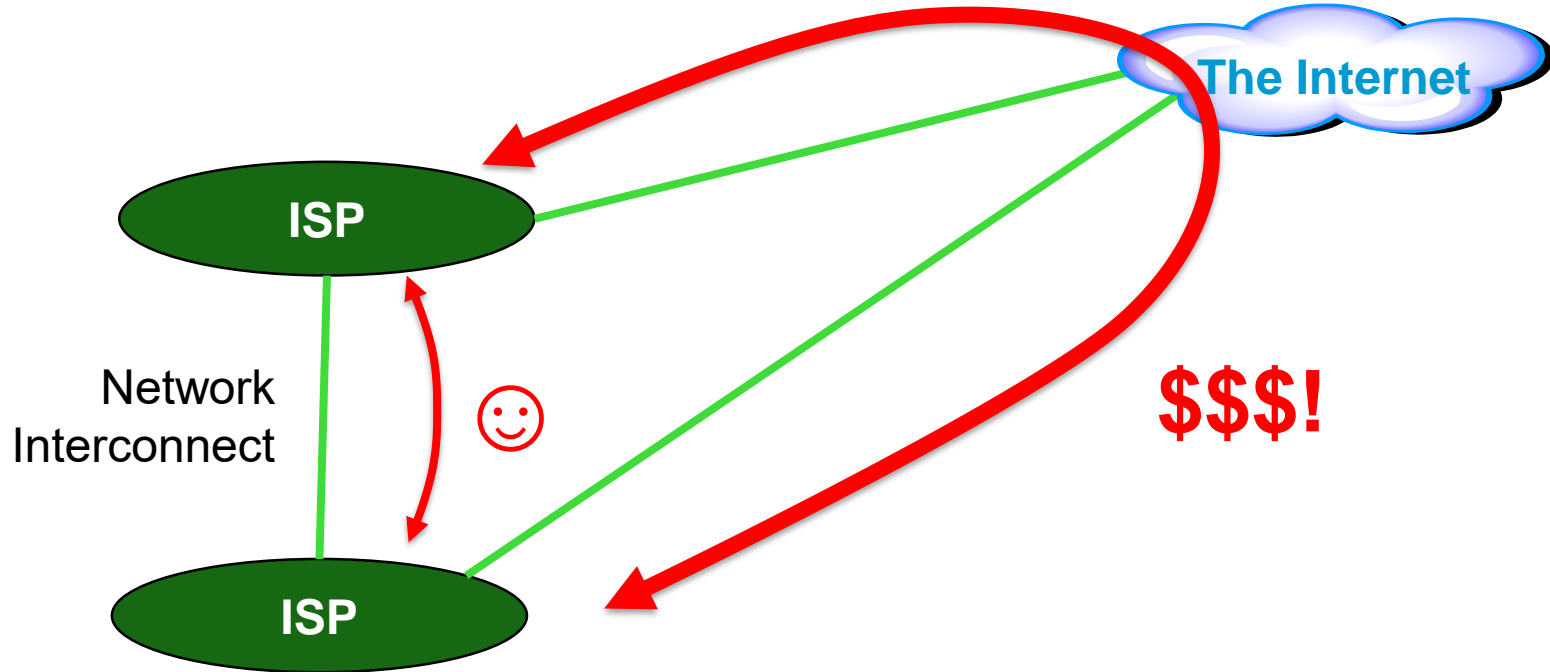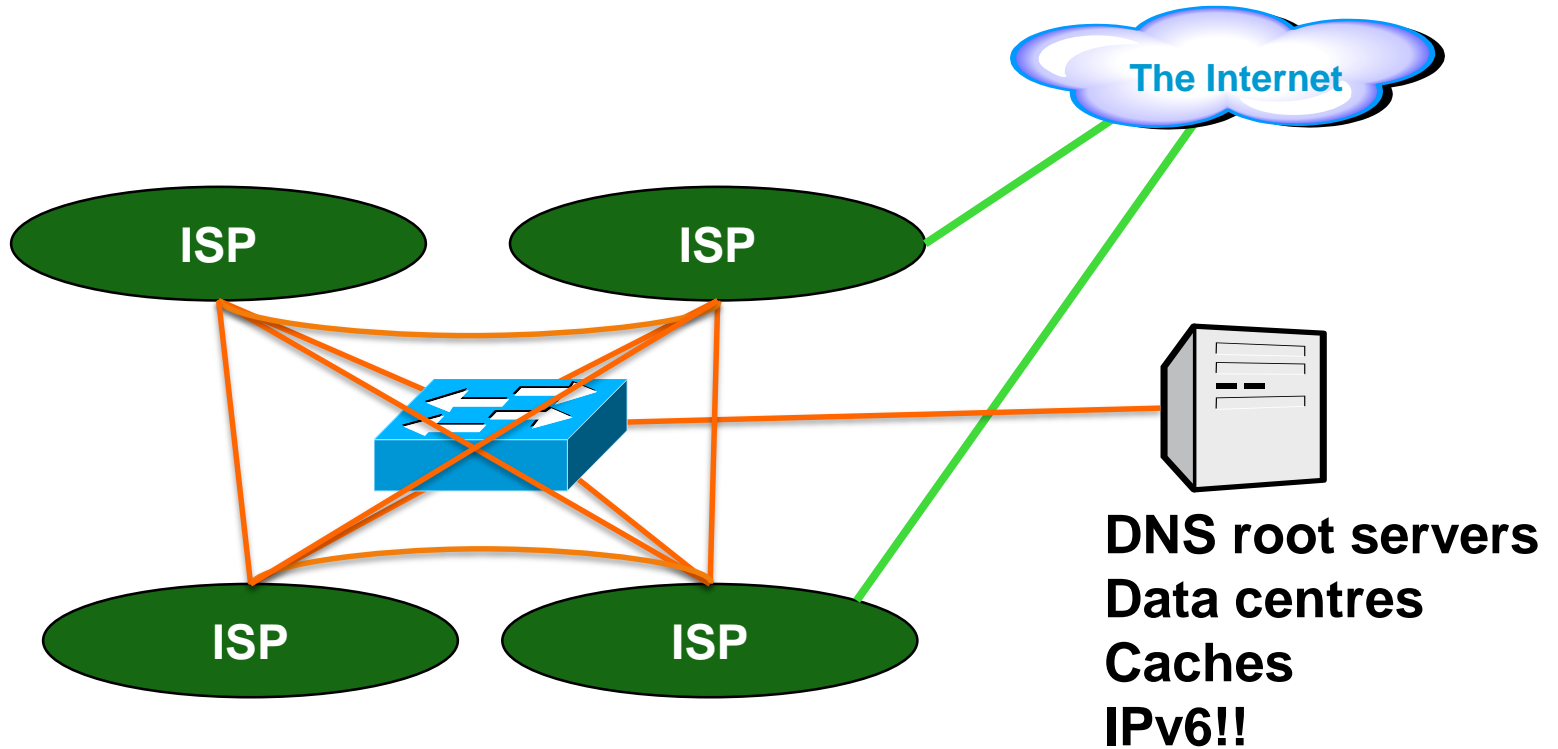
Security Outreach

- **Security training and participation at 27 NOG and CERT events**

- Training and support for creation of new Tonga CERT

- Exploring viability of CERT in Vanuatu

- FIRST Tech Colloquia with APRICOT 2016, SANOG 28, APNIC 42

- 62 security-tagged blog posts published

Internet Security Ecosystem

Users

Public Safety

Software

CERTs

Regulators

Operators

Vendors

APNIC

IPv6 Outreach

IDA IPv6 workshop

ITU/APNIC IPv6 workshop

- 18 face-to-face training sessions, 501 trainees including IPv6 workshop with ITU in TH

- 36 elearning sessions reaching 245 trainees

- Promoting IPv6 with presentations at 23 regional events

- Input to policy makers to include IPv6 in UN ESCAP's AP-IS plan

- Assisted Singapore IDA's IPv6 survey and ASEAN workshop

- Supported IGF IPv6 Best Practices Forum

blog.apnic.net

Binding to an IPv6 subnet
By Joao Luis Silva Damas on 14 Sep 2016

Category: Tech matters
Tags: IPv4, IPv6, subnet

The following was written by Joao Luis Silva Damas and Geoff Hu...

In the original framework of the IP architecture, hosts had netw...
and network interfaces had single IP addresses. The list of acti...
interfaces, and the manner in which they acquire IP addresses...
configuration or by some dynamic mechanism via a query to t...
specified in a boot-time configuration file.

For example, on a Debian Linux host system the configuration file /etc/netwo...
enumerates the host's active network interfaces the same in which they are c...
address. One might see in that file some elements to configure the interface a...

< Blog home

Women in ICT: Helping people communicate drives Indonesia's female network engineers
By Robbie Mitchell on 9 Sep 2016

Categories: Community, Development
Tags: capacity development, Indonesia, Women in ICT

1 Comment

Earlier this year, the Association of Internet Service Providers in Indonesia (APJII) announced that Internet penetration in Indonesia had now reached 40% of the population, or 100 million Internet users – up from 88 million in 2014.

Such growth has, in turn, led to more jobs in the industry, opening the door for a new generation of engineers and operators to build the network for the future. Although Indonesia's three biggest telecommunication network and service providers – Telekomunikasi Indonesia (Telkom), XL Axiata and Indosat – control 85% of the market share, this growth has also opened the door to multiple smaller providers, and with it, an increase in job opportunities.

	Views	Guest Posts
2016	198,715	80
	70%	86%
2015	116,892	43

- Inclusive source of APNIC community news and views – 352 posts including 80 guest posts in 2016

- Strong readership growth continues – monthly average unique views 16,560 in 2016 (9,741 in 2015)

- Community submissions welcome!

APNIC Foundation
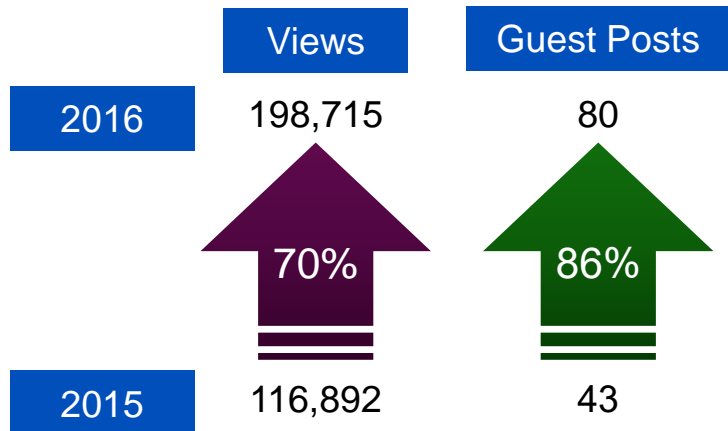
https://apnic.foundation

- Officially incorporated in Hong Kong in September 2016

- First year of operation to begin in 2017

Partner & Project	Amount
IDRC for Seed Alliance	500,000 CAD
JICA for APNIC Academy	20,000 USD
ITU for IPv6 Training	9,500 USD
ITU for IXP Training	4,300 USD

Asia-Pacific CERTs

coordination

incident response

info sharing

APNIC

Next Conference

NOUMEA, NEW CALEDONIA
6 – 13 September 2018

#apnic46

Register now
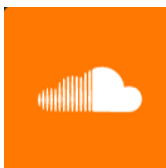https://conference.apnic.net/46/register/register

Stay in Touch!

blog.apnic.net

apnic.net/social

THANK YOU

sunny@apnic.net