



## **Short report**

# **APIX Workshop (APNIC56) & APIX booth (IGF2024)**

2023-10-31

# APIX Workshop

- New challenge; not the usual “APIX meeting”
  - It’s APIX members and invited only
- Open to IXPs’ members/customers
- Discuss IXP-related topics with them

# Agenda

## (1) Introduction of APIX

Speaker: Katsuyasu Toyama (APIX/JPNAP)

- To non-IXP attendees of this workshop, briefly introduce APIX

## (2) Internet and peering landscape of Japan

– from IXP perspective

Speaker: Katsuyasu Toyama (APIX/JPNAP)

- Japan is one of the most Internet penetrated countries since the commercial Internet started approximately 30 years ago. This presentation briefly covers the internet and peering landscape in Japan, including the trends of traffic, operations, markets, and regulations.

## (3) Discussion on the policy change in APNIC region regarding IPv4 assignment size to IXPs

Moderator: Masataka Mawatari (APIX/JPIX)

- Changing policy is now proposed in Policy SIG of APNIC that initial IPv4 assignment size to IXPs will be reduced from /23 to /26. IXP operators and IXP members/customers will discuss its pros and cons, and prepare comments for the Policy SIG meeting if necessary.

## (4) Collaboration between IXP and its members/customers

\* interactive free discussion

moderated by Katsuyasu Toyama (APIX/JPNAP)

- For IXPs, it is important to increase members/customers, but usually locally exchanged traffic is not so much, then local eyeball networks go to actual hubs of the country or the region. So, inviting Content/Cloud/CDN players to an IXP is crucial for the IXP and local eyeballs, but such players often decline the invite due to not cost effective from their perspective.
- This workshop is a good opportunity to discuss to explore the possibilities of collaboration because both IXPs and the members/customers join here.

## (5) Open Mic

# Policy change of IPv4 assignment size for IXP

- Discussion
  - Positive
    - Will save IPv4 space for future new IXPs
    - Small islands countries can save the cost for IPv4 address space (/24 costs much for them)
  - Negative
    - Renumbering by its members/customers is not so easy as people think (requires much resource)
      - For smooth migration, IXPs have to prepare and repeatedly announce in advance; route servers of the IXP have to be reconfigured
      - Its members/customers, Network side, have to prepare the reconfiguration (manually or by program)
      - If it grows more quickly than expected, IXP and members/customers have to repeat it three times (/26->/25->/24->/23)
- At the Policy WG meeting (on Thursday)
  - Comments were made by some attendees at the Workshop
  - As a result, the policy change was not accepted, but will be discussed on the mailing list

# Collaboration between IXP and its members/customers

- Discussion
  - IXPs need collaboration with Content/Cloud/CDN
    - They are important to attract and increase its members/customers
  - Some Content/CDN providers have cache servers for a small/medium IXP
    - They can provide it if their criteria meets (estimated total traffic, hit-rate, etc)



# Summary

- From both IXP attendees and Content/CDN/Network attendees, their reactions were positive
- In future, it will be possible to have both parts in APIX meeting; a closed part to IXP and open part to IXP members/customers

# **APIX BOOTH AT IGF KYOTO 2023**

# Background

- IGF = Internet Governance Forum
  - IGF is hosted by United Nations
  - The 18th IGF was organized by Japanese Government and held in Kyoto
    - MIC = Ministry of Internal affairs and Communications
      - taking charge of telecommunication market including the Internet
- The MIC provided some booths in IGF Village (exhibition area)
  - The purpose is to demonstrate the Internet business/technologies by Japanese company/ organization
  - We proposed that APIX could demonstrate their activities
  - JPNAP/JPIX/BBIX volunteered the exhibition

**APIX booth**



- Cost
  - Booth: 0 JPY (covered by MIC)
  - Panels: 50,000 JPY
  - Table&Chairs: 40,000 JPY
- Human resources
  - volunteers from BBIX/JPIX/JPNAP



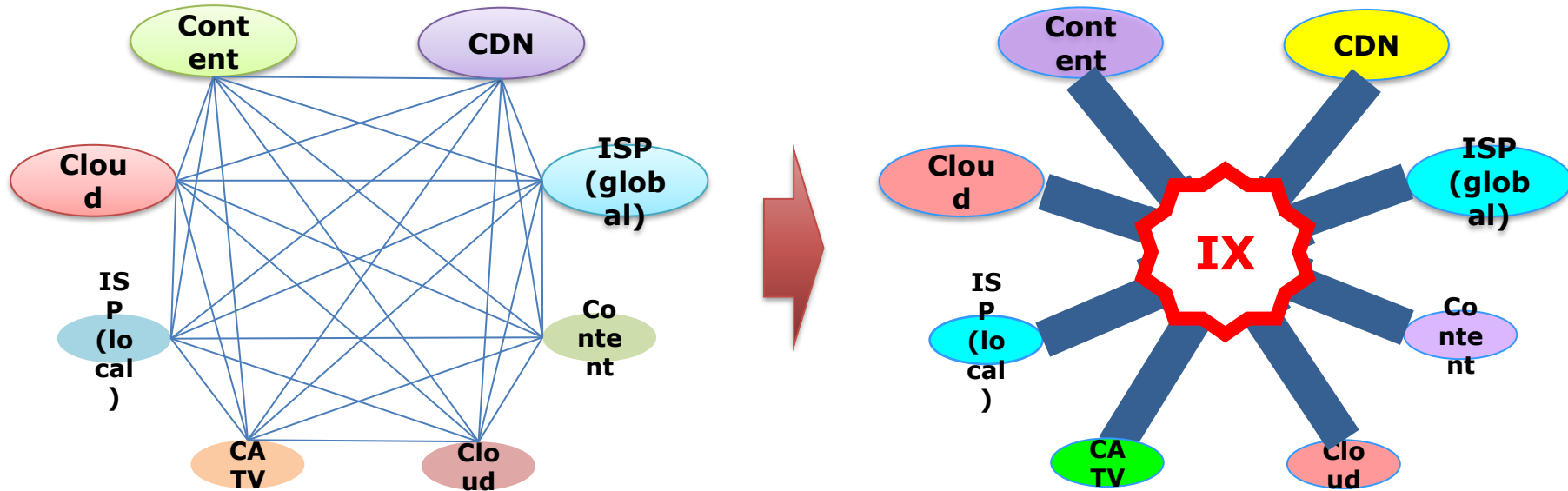
# APIX

Asia Pacific Internet Exchange association

*How do Internet Exchanges help  
the quality-improvement and cost reduction of  
the local Internet?*

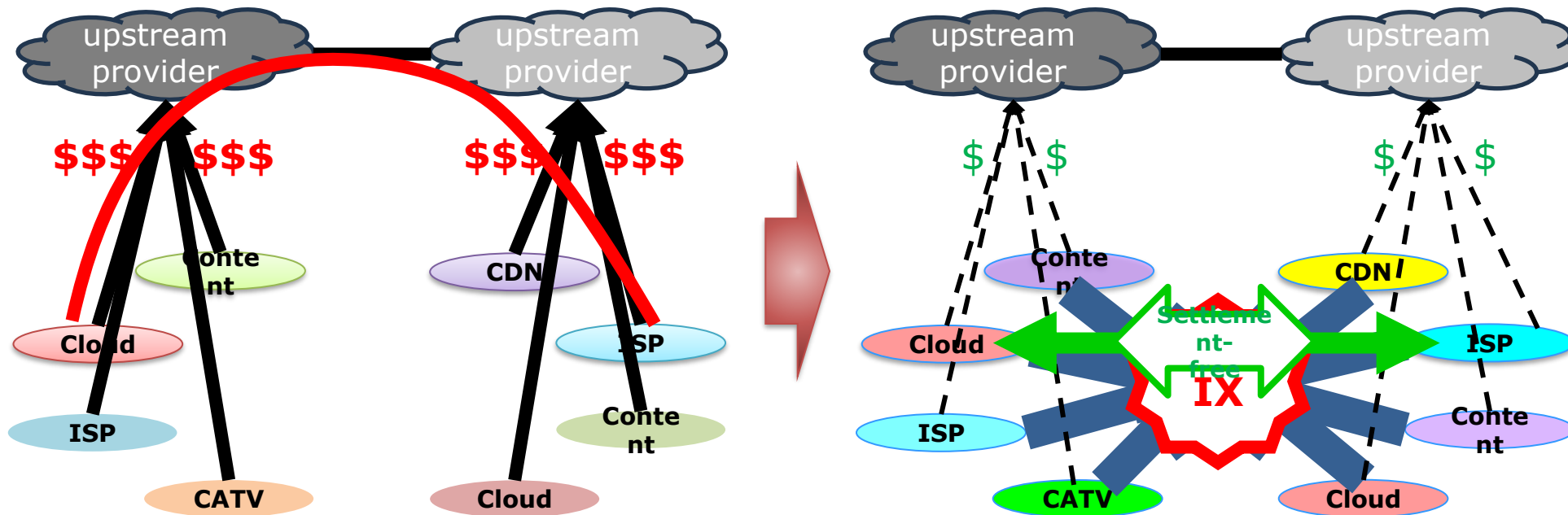
# What is an Internet Exchange?

- The Internet is a network of networks
- Networks need to interconnect each other
  - ISP, CATV, Content, Cloud, CDN, and so on
    - But one by one interconnections are too many
- Shared platform (Internet exchange = IX) is beneficial



# How is an IXP helping quality-improvement and cost-reduction of the local Internet?

- “Peering” on IX improves quality
  - Local traffic stays local -> network becomes more stable
  - Knowing direct contact of peer -> troubles can be solved more quickly
- “Peering” on IX reduces cost
  - Reducing traffic to an upstream provider -> reducing cost to pay them

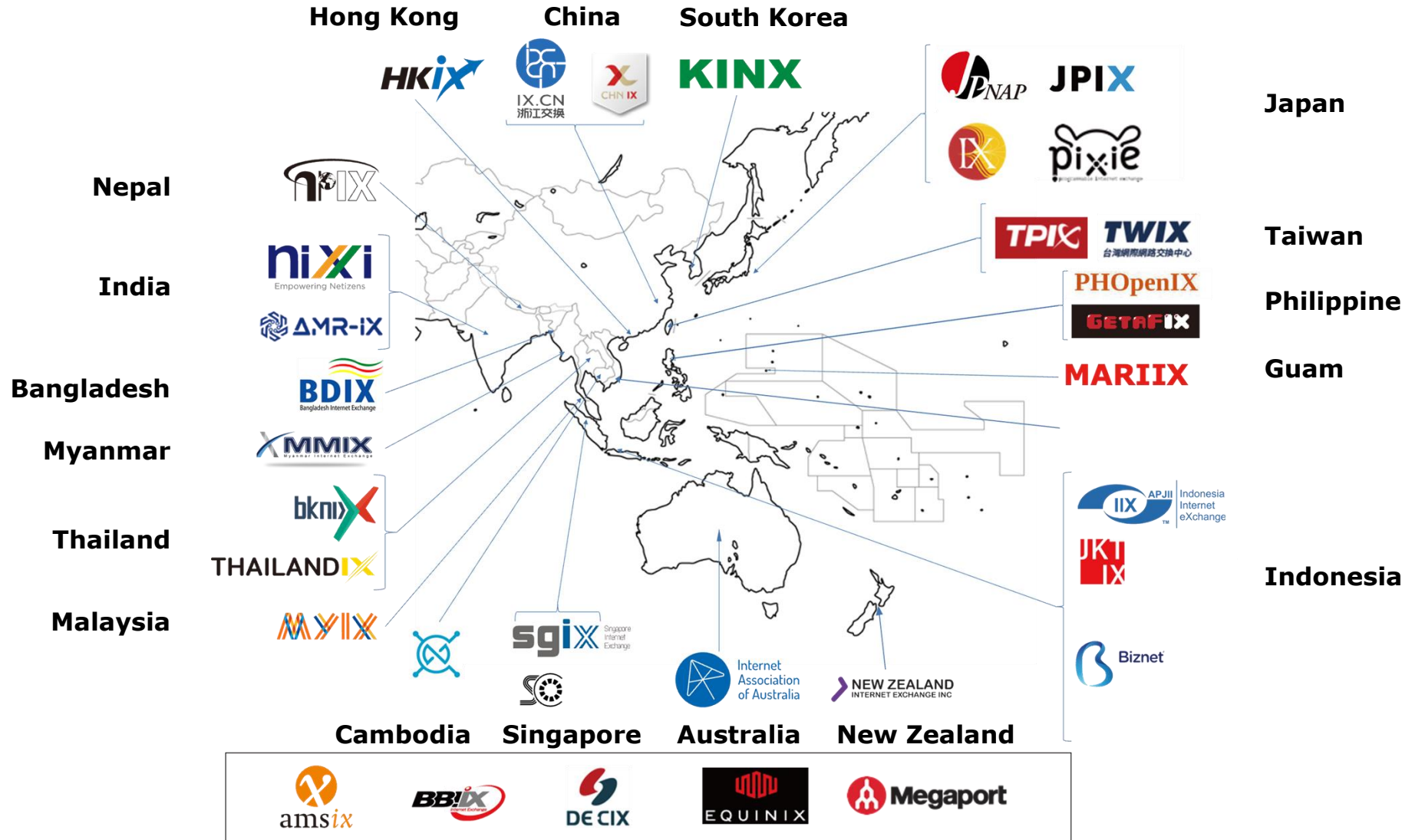


# What is APIX?

“Asia Pacific Internet Exchange”

- Association of the Internet Exchanges in Asia Pacific region
  - Established in 2010, 13 years history
  - 38 members from 19 economies in the Asia Pacific region
- Objectives
  - To share information and experiences about technical, operational, and business issues and solutions regarding Internet Exchanges (IX)
  - To announce opinions as IX operators/providers so that the Internet could serve as better global digital infrastructure

# APIX members



The IX operators which have IXPs in multiple economies in the Asia Pacific

# APIX members: 38

AMR-IX (IN)

AMS-IX Hong Kong (HK)

BBIX (HK/JP/SG/TH)

BDIX (BD)

BIX (ID)

BKNIX (TH)

CHN-IX (CN)

CNX (KH)

CXC (ID)

DE-CIX India (IN)

DE-CIX Malaysia (MY)

Dix-ie (JP)

EPIX (ID)

Equinix AP (AU/HK/JP/SG)

GetaFIX (PH)

HKIX (HK)

IIX (ID)

IX Australia (AU)

JKT-IX (ID)

JPIX (JP)

JPNAP (JP)

KINX (KR)

MARIIX (GU)

Mega-IX (AU/HK/SG)

MM-IX (MM)

MYIX (MY)

NIXI (IN)

NNIX (CN)

NPIX (NP)

NZIX (NZ)

PhOpenIX (PH)

Ryukyu-IX (JP)

SGIX (SG)

SOX (SG)

TH-IX (TH)

TPIX (TW)

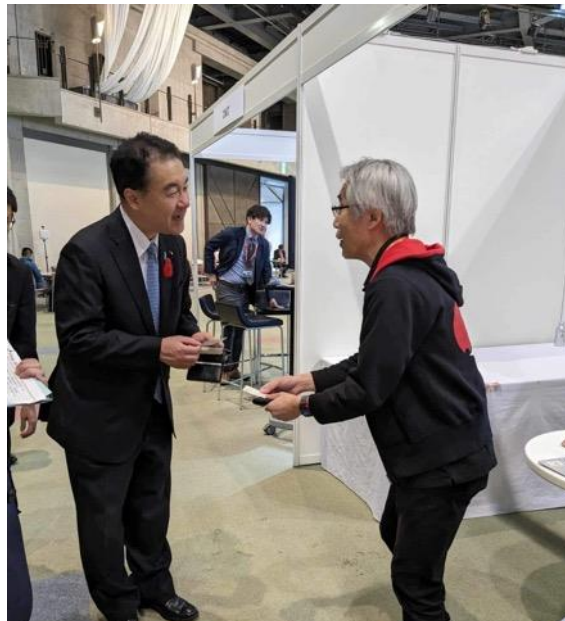
TWIX (TW)

VNIX (VN)

# Visitors to the APIX booth



- Government
  - Deputy Minister for Internal Affairs and Communication
  - Parliamentary Vice-Minister for Internal Affairs and Communication
- Local Government
  - Deputy Prefectural Governor of Kyoto
- Telecommunication policy makers/regulators
- People interested in Policy/regulation (RIR or NIR)
- ISP/IXP people all over the world
- International Students staying at colleges/universities in Kyoto



**Thank you!**

