

APIX association

Katsuyasu Toyama
Chairperson of APIX

Who is Katsuyasu Toyama?



- Chief Operating Officer (2015-)
- Director (2007- 2015)

*VP of Internet and Mobile Services,
NTT Communications (2012-2015)*

- Asia Pacific Internet Exchange (APIX) association
 - Chairperson
- IX Federation
 - Board member
- Global Peering Forum (GPF)
 - Board member



What is APIX association?

- “Asia-Pacific Internet Exchange”
 - An **association** of **Internet Exchange Providers** in Asia-Pacific region
 - Established in 2010
 - Objectives:
 - To share information about technical, operational, and business issues and solutions regarding Internet Exchange

5 IXP associations in the world



Reference: Euro-IX Update at Euro-IX forum

IX Federation

- “The Internet Exchange Federation (IX-F) acts as a platform for affiliated Internet Exchange Point Association (IXPAs). We are working together to build a global IXP community and help the development of IXPs throughout the world.”

APIX members

- Membership Criteria
 - *Any entity, enterprise, or organization in the Asia-Pacific region, possessing legal personality under the laws of a country or economy where the entity resides, providing services regarding **Layer 2** Internet Exchange Points, sustaining **a neutral position**, and does **not enforce the purchase of transit services**. The Asia-Pacific region is defined as the economies where APNIC serves.*
(from APIX bylaws)

APIX members

22 IXPs

- AMS-IX Hong Kong (HK)
- BBIX (JP)
- BDIX (BD)
- **BKNIX (TH)**
- CHN-IX (CN)
- DIX-IE (JP)
- Equinix (HK, JP, SG)
- HKIX (HK)
- IIX (ID)
- IX-Australia (AU, NZ)
- JPIX (JP)
- JPNAP (JP)
- KINX (KR)
- Mega-IX (AU, HK, SG, NZ)
- MyIX (MY)
- NIXI (IN)
- NP-IX (NP)
- NZIX (NZ)
- SGIX (SG)
- SOX (SG)
- TPIX (TW)
- VNIX (VN)

APIX Members

- 22 IXPs, from **15 countries and economies**



SOX



VNIX

NZIX



TPIX

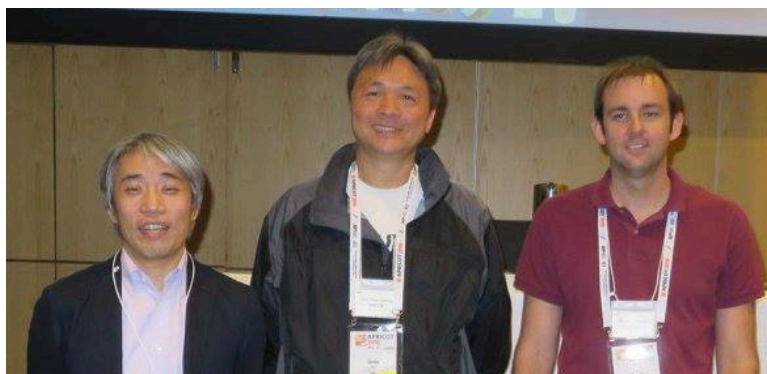


IIX



Steering Committee

- Steering Committee members
 - Chairperson: Katsuyasu Toyama –JPNAP (JP)
 - Secretary: Ajai Kumar --NIXI (IN)
 - Treasurer: Gavin Tweedie -- Mega-IX (AU/HK/SG/NZ)
 - Meeting Arrangement: Che-Hoo Cheng --HKIX (HK)
 - Website Management: Brian Kim –Twitch (KR)



Katsuyasu

Che-Hoo

Gavin



Ajai



Brian

Meeting history

#	Date	Place	Attendees	IXPs in AP
13th	21 Feb. 2016 Sunday	Auckland (New Zealand)	50 people (45 from IXPs)	14 IXPs in AP (1 remotely)
12th	6 Sep. 2015 Sunday	Jakarta (Indonesia)	20 people (18 from IXPs)	11 IXPs in AP
11 th	1 Mar. 2015 Sunday	Fukuoka (Japan)	61 people (38 from IXPs)	14 IXPs in AP
10 th	14 Sep. 2014 Sunday	Brisbane (Australia)	32 people (26 from IXPs)	11 IXPs in AP (2 remotely)
9th	23 Feb. 2014 Sunday	Petaling Jaya (Malaysia)	~50 people	14 IXPs in AP
8th	25 Aug. 2013 Sunday	Xi'an (China)	26 people (19 from IXPs)	13 IXPs in AP
7th	24 Feb. 2013 Sunday	Singapore (Singapore)	40 people (36 from IXPs)	14 IXPs in AP
6th	29 Aug. 2012 Wednesday	Phnom Penh (Cambodia)	26 people (24 from IXPs)	12 IXPs in AP (1 remotely)
5th	26 Feb. 2012 Sunday	New Delhi (India)	27 people (22 from IXPs)	11 IXPs in AP (2 remotely)
4th	30 Aug. 2011 Tuesday	Busan (Korea)	23 people (21 from IXPs)	12 IXPs in AP
3rd	20 Feb. 2011 Sunday	Hong Kong (Hong Kong)	31 people (23 from IXPs)	10 IXPs in AP
2nd	23 Aug. 2010 Monday	Gold Coast (Australia)	11 people (9 from IXPs)	7 IXPs in AP
1st	1 Mar. 2010 Monday	Kuala Lumpur (Malaysia)	15 people (14 from IXPs)	7 IXPs in AP
(Pre)	25 Aug. 2009 Tuesday	Beijing (China)	14 people (8 from IXPs)	

Topics discussed at APIX meeting

- **Technical session**

- PeeringDB update (PeeringDB2.0)
- Yet another route server software (GoBGP)
- Peering and interconnection market in Philippine
- Netflix strategy for global expansion

- **Administrative session**

- Membership fee (just decided 100 USD per year per member IXP)
- Election of the Steering Committee

IXPs in Asia Pacific Region

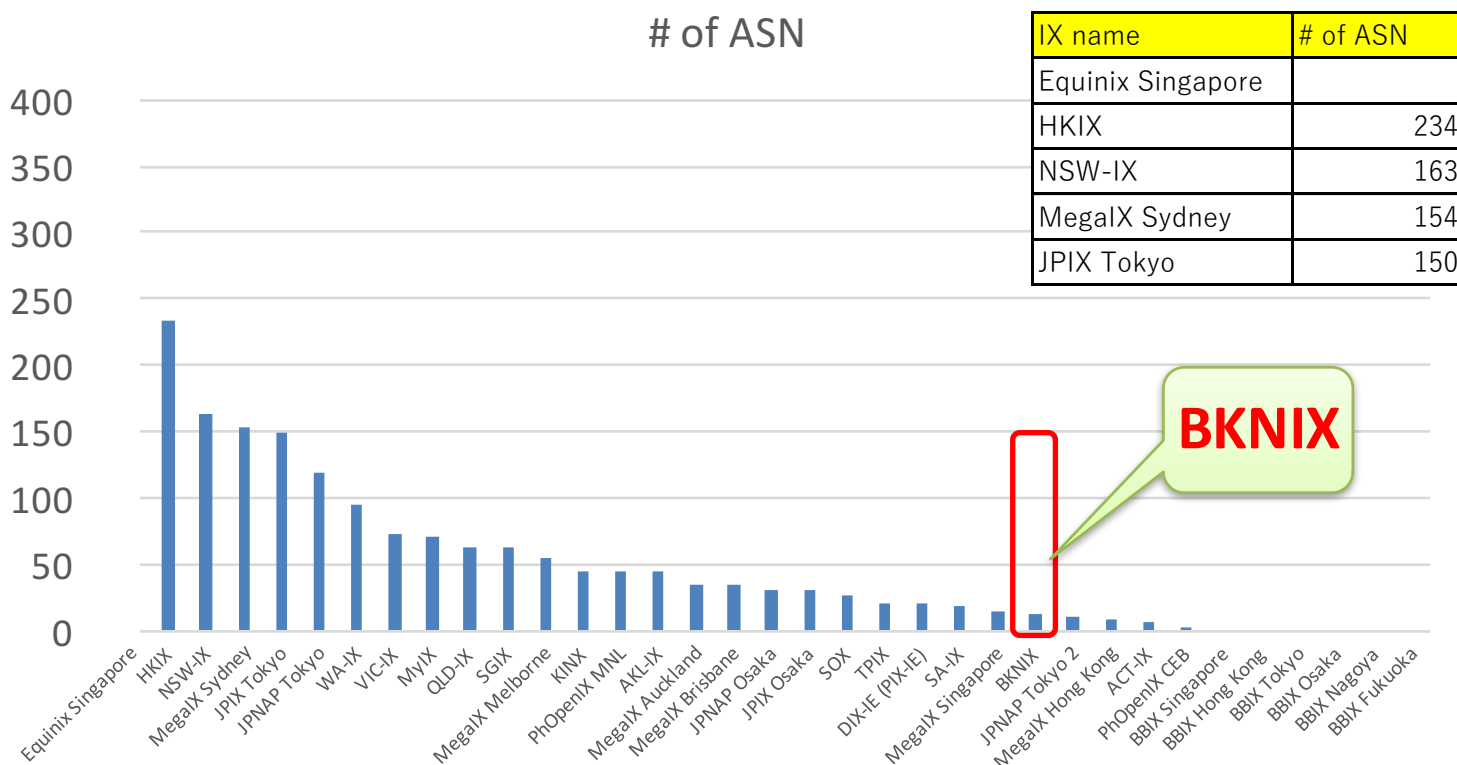
Key Performance Indicators for IXPs in APAC region

- **Number of ASN**
 - How many networks you can peer
- **Peak traffic**
 - How much traffic you can distribute
- **Average traffic per ASN**
 - = (peak traffic)/(number of ASN)
 - How big eyeball and content providers gather, or
 - How much broadband is penetrated in the market

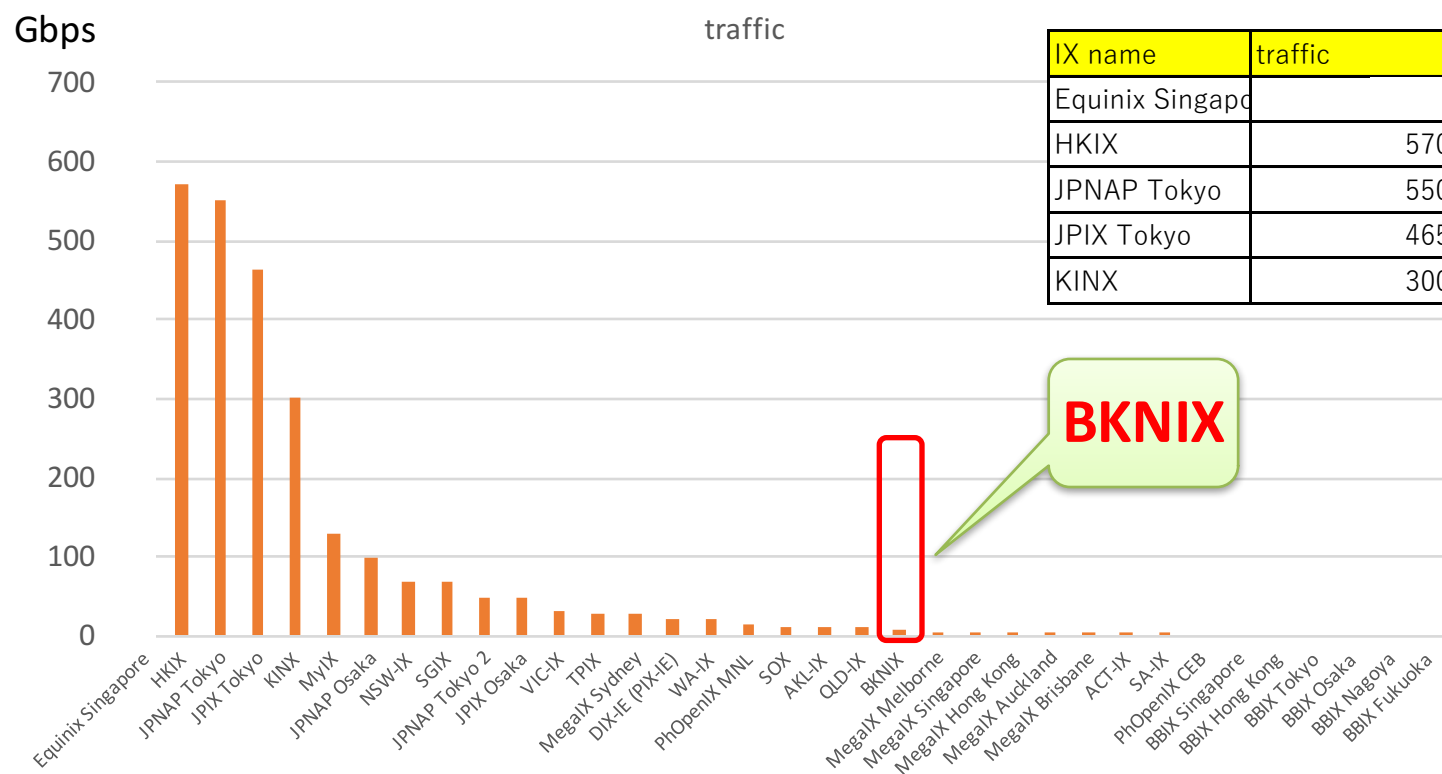
Information collected from:

- BBIX (SG, HK, JP)
- BKNIX (TH)
- DIX-IE (JP)
- HKIX (HK)
- IX Australia (AU),
Auckland Internet Exchange (NZ)
- JPIX (JP)
- JPNAP (JP)
- KINX (KR)
- Mega-IX (AU, SG, HK, NZ)
- MyIX (MY)
- PHOpenIX (PH)
- SGIX (SG)
- SOX (SG)
- TPIX (TW)

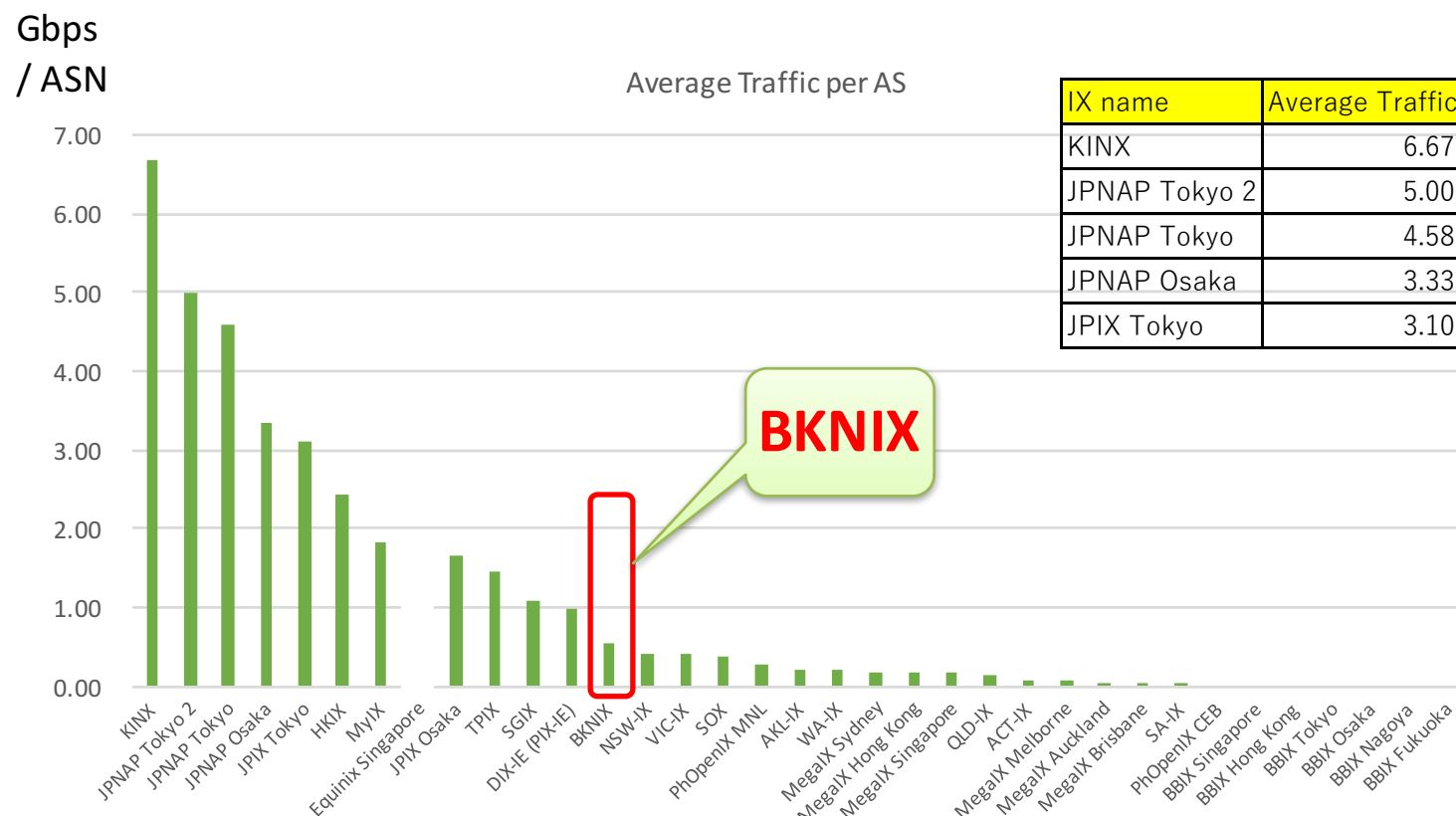
Number of ASN



Peak traffic



Average traffic per ASN



BKNIX and Thailand will grow rapidly!



- Thailand economy and the Internet here has a lot of potential to grow!

Thank you & Congratulations, BKNIX!



Contact: `sc_at_apix.asia`