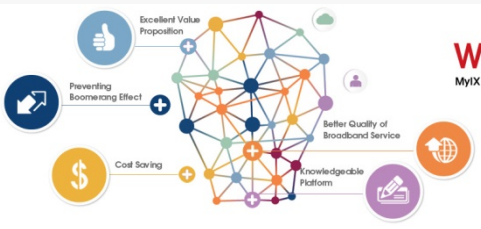
MyIX

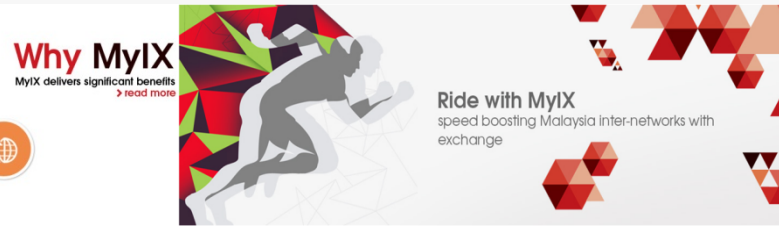
MALAYSIA INTERNET EXCHANGE

MyIX MyNOG Conference

26 October 2017

Kuala Lumpur

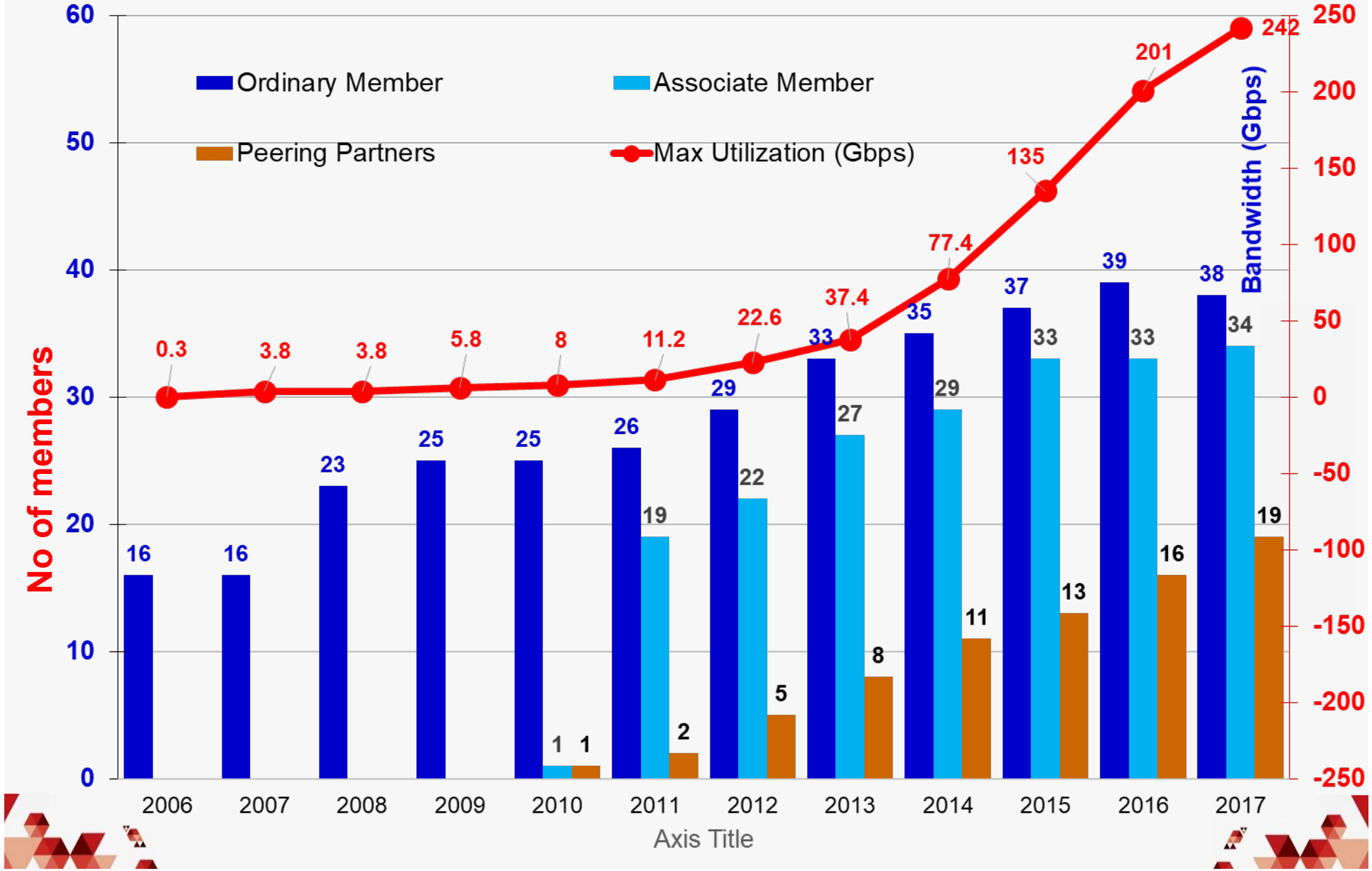




Who is MyIX

- Malaysia Internet Exchange (MyIX) established in September 2006
- Layer 2, IXP (Internet Exchange Point) where various networks interconnect and exchange traffic with one another
- The only IXP in Malaysia
- Non-profit, operated by the Association of Internet Service Providers in Malaysia
- Funded by Government (2006-2010)
- Support from regulator, MCMC

Growth in Members & Traffic (Sep 2017)



MyIX Today

- 77 different networks connected
- 135 physical connections in total
- ~240 Gbps (Max) traffic (Sep 17)
- Support Bilateral Peering Arrangement (BLPA) & Multi-Lateral Peering Arrangement (MLPA) over Layer 2
- Supports both IPv4/IPv6 dual stack
- ~ 4000 IPV4
- ~ 100 IPV6

MyIX Today

- Entire Malaysian Market is connected (Reported by Cloudflare in TPIX Peering Forum 2017)
- More and more non-MY participants
- We have almost all the top content networks

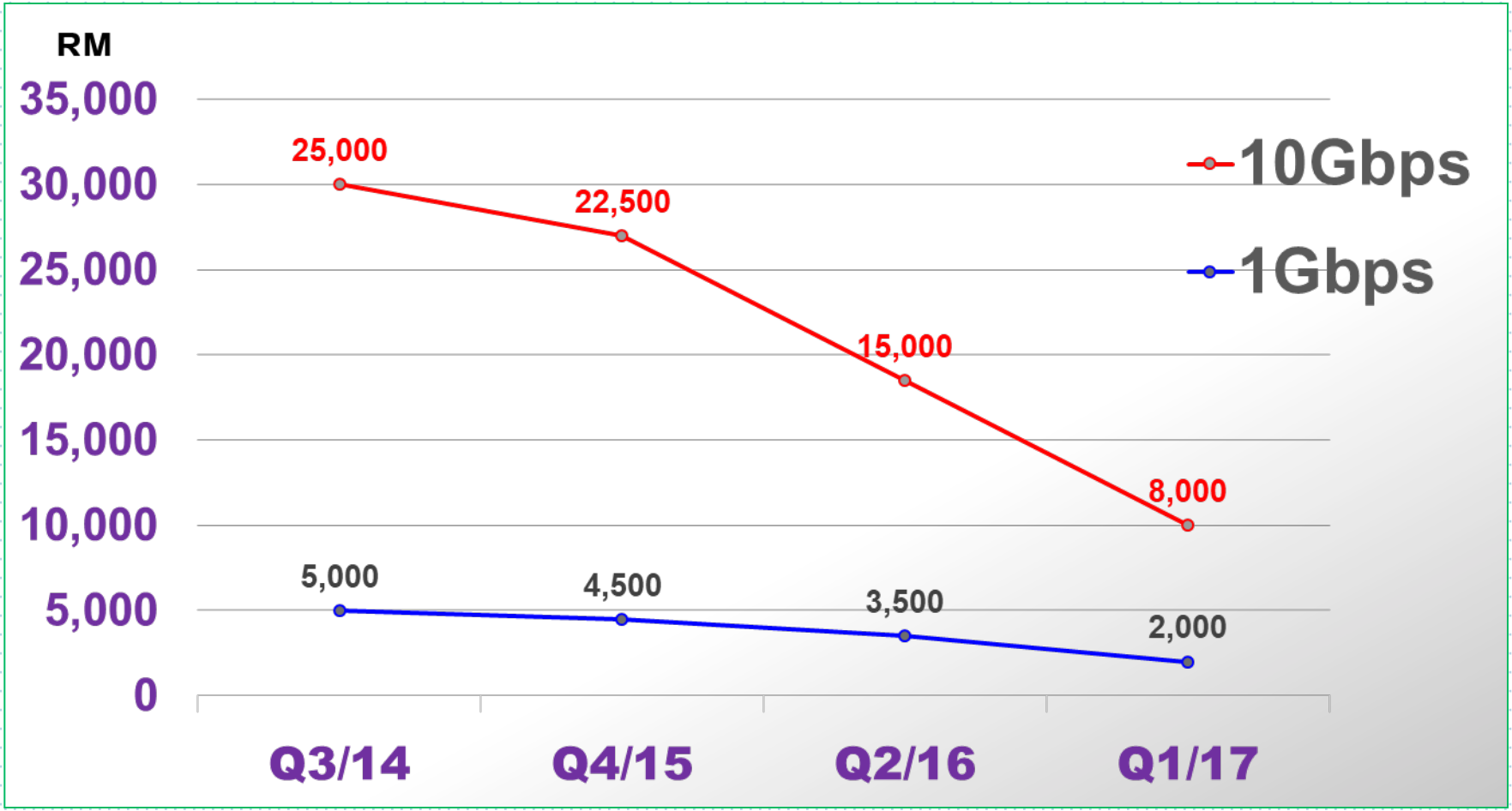
Membership

- Ordinary member
  - Local NSP
  - ASN
  - Voting Right
- Associate member
  - Local company
  - ASN
  - Non Voting Member
- Peering partner
  - ASN

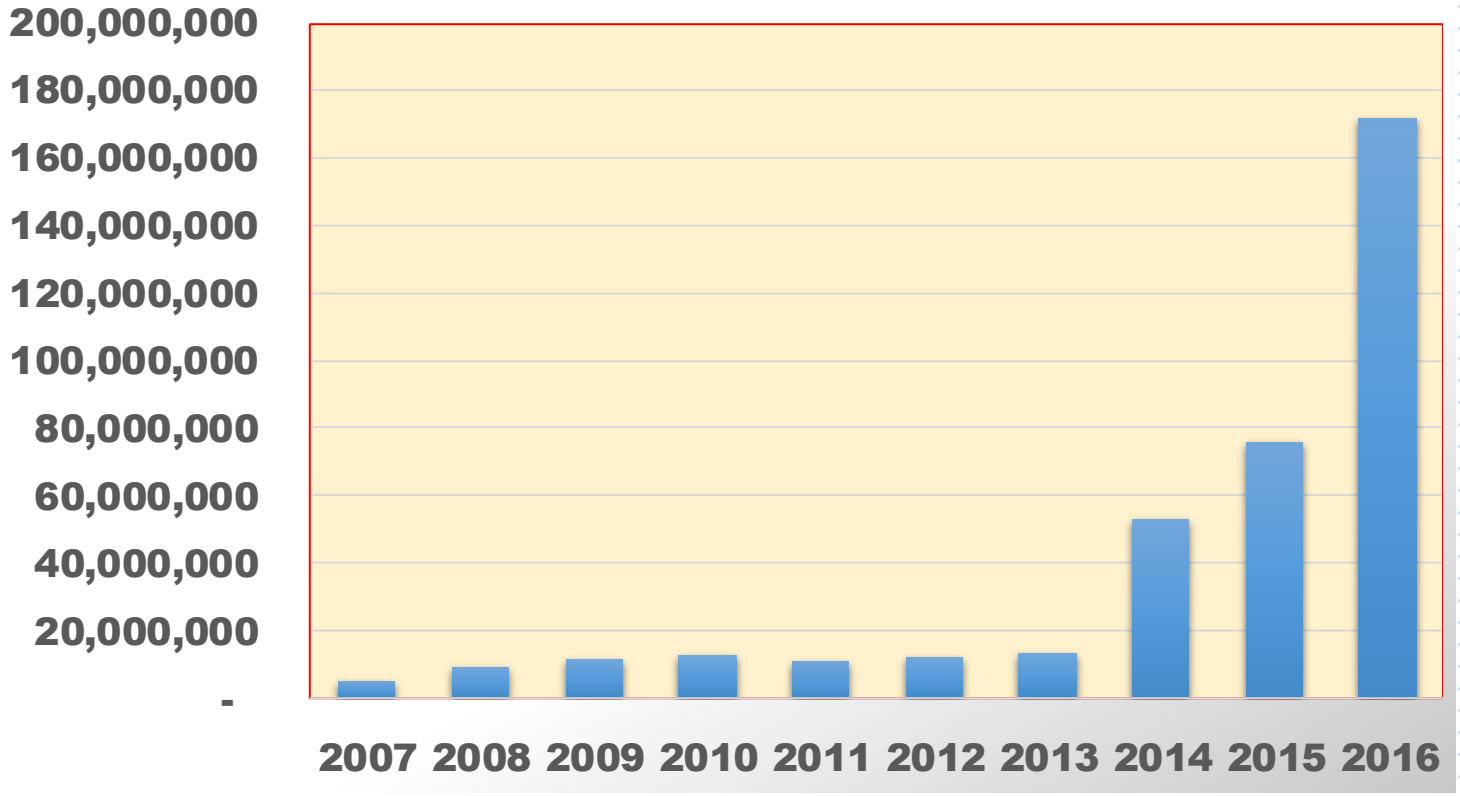
International Peers

- Google
- Facebook
- Akamai
- MSN
- Amazon
- Biznet
- Cloudflare
- TATA
- Hutchison
- Tencent
- Twitter
- SG GS
- Swiftserve
- ViewQwest
- Telstra
- Pacnet
- Telenor
- Alibaba

Port Charges Trend



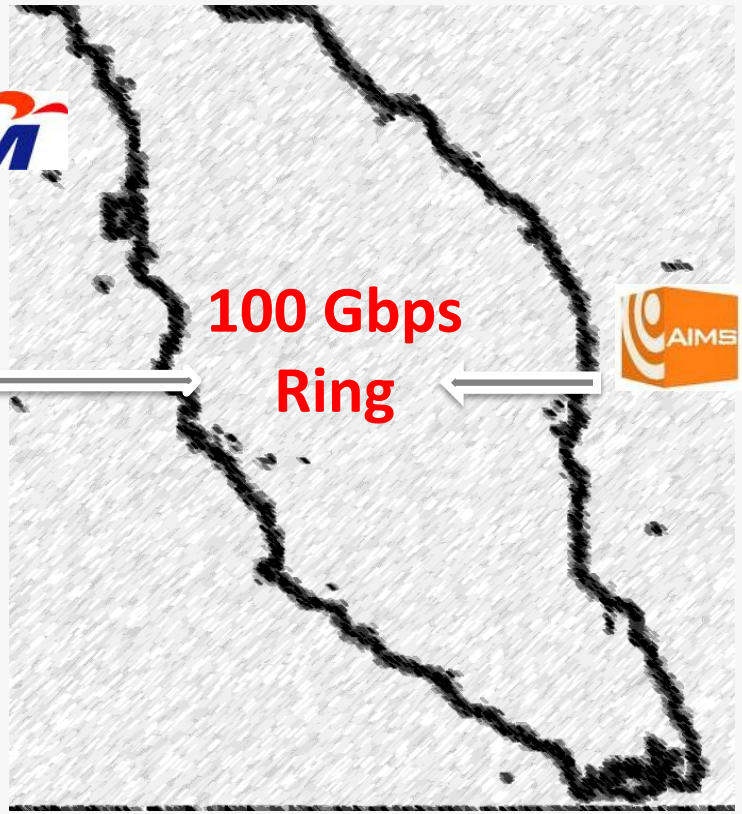
Industry's Savings (RM) from IP Transit Services for Domestic Peering



- Median IP transit price (USD), source from Telegeography
- Based on port capacity subscribed by MyIX member
- Estimated savings of > 300 M

Peering Nodes (Central)

CX1
Jalan Teknokrat 6
CyberJaya , Selangor

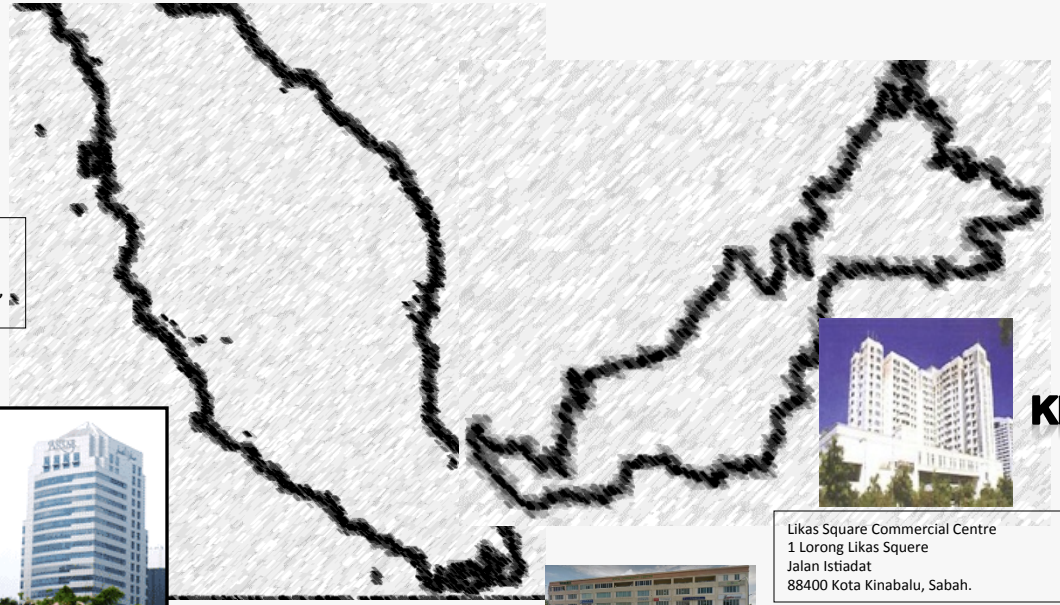


1st Floor, Menara Aik Hua,
Cangkat Raja Chulan,
Kuala Lumpur

Peering Nodes (Regional)

PENANG

Level 2,
Menara Suntech @ Penang Cybercity,
Jalan Lintang Mayang Pasir,
11950 Penang



JOHOR

Level 7, Menara Ansar,
65 Jalan Trus,
80000 Johor Bahru,
Johor

KOTA KINABALU

Likas Square Commercial Centre
1 Lorong Likas Squere
Jalan Istiadat
88400 Kota Kinabalu, Sabah.

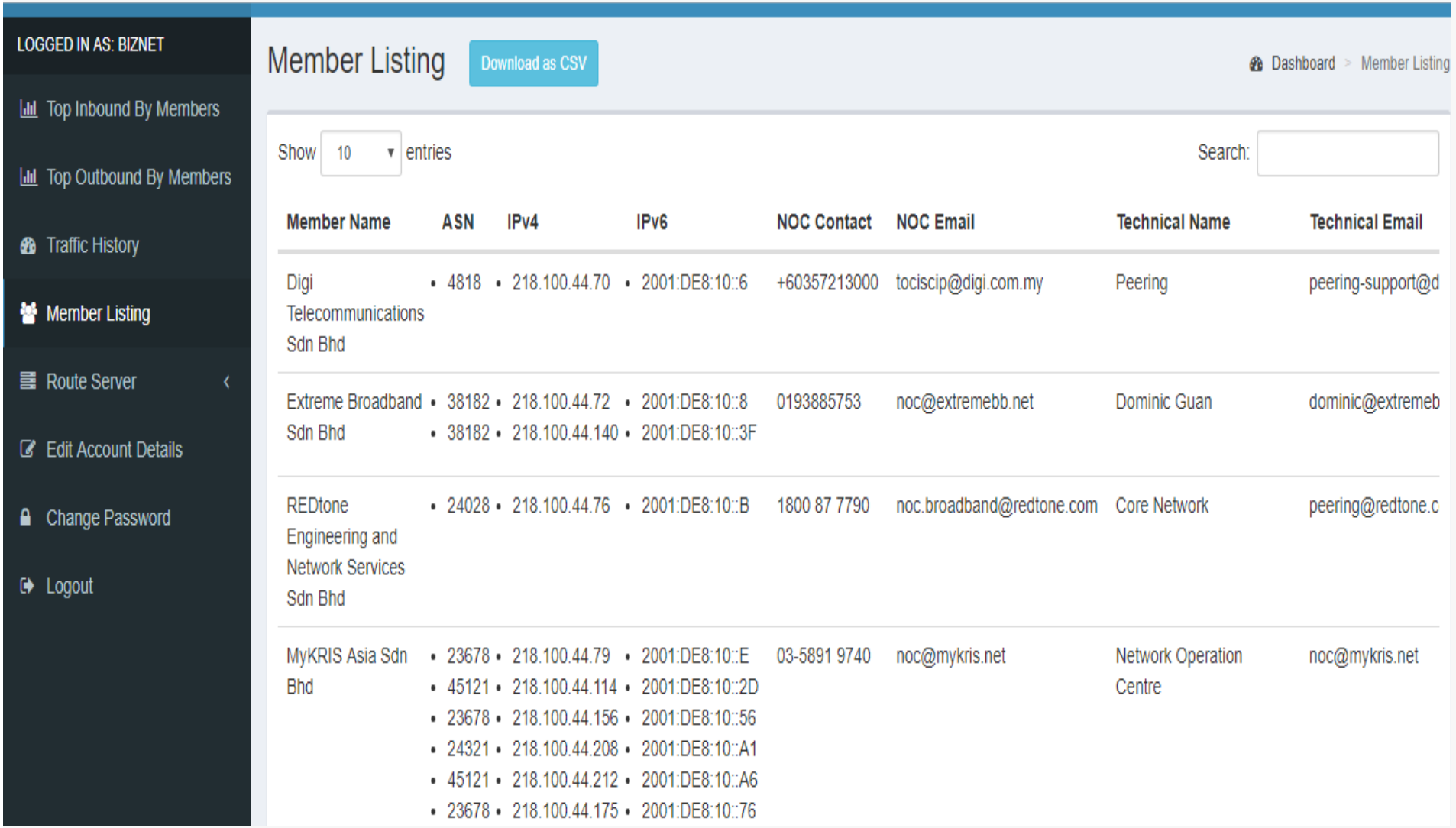
Sublot 5, Ground Floor,
Setia Commercial Centre
Jalan Setia Raja
93350 Kuching, Sarawak

KUCHING

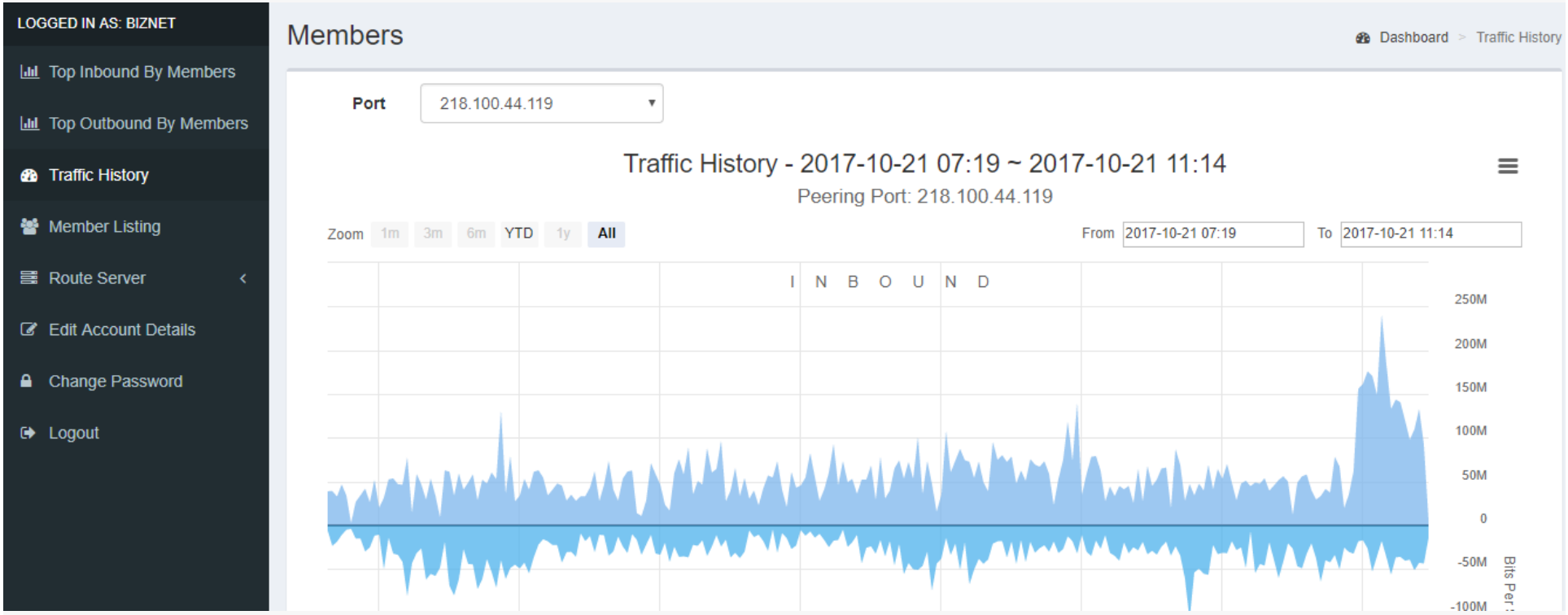
Value Added Services

- Looking Glass, F-Root, I-Root DNS, PCH
- Route Server (Bird, Version 1.6.3)
  - ✓ Support BGP Community
  - ✓ Blackholing
- Training in collaboration with APNIC
- New Portal for members/peers
  - ✓ List of peering member info (IP, ASN,NOC contact)
  - ✓ View port utilization
  - ✓ View peering traffic (Top inbound/outbound)
  - ✓ View historical utilization
  - ✓ Prefixes Management

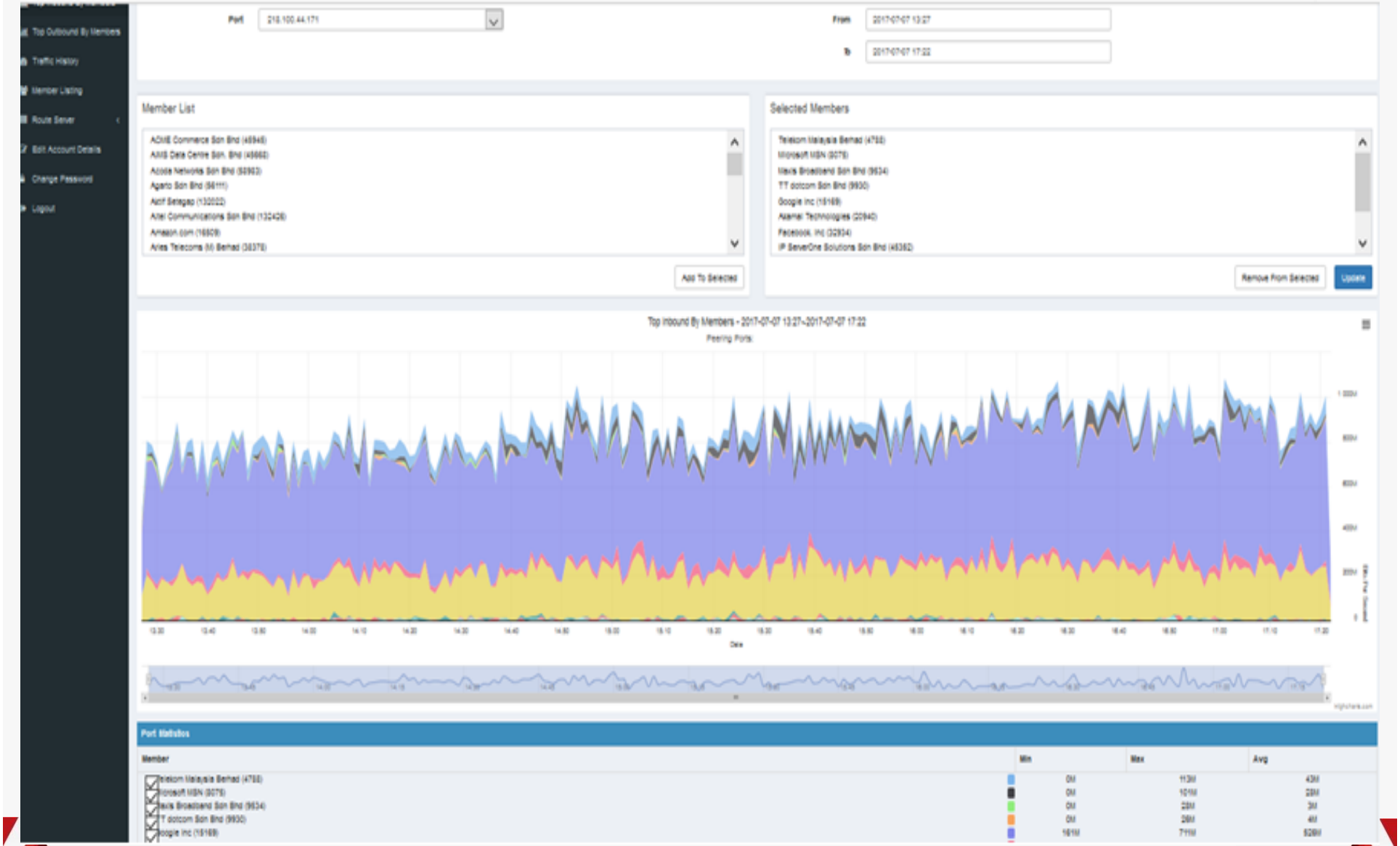
Peer Listing



Port Utilization

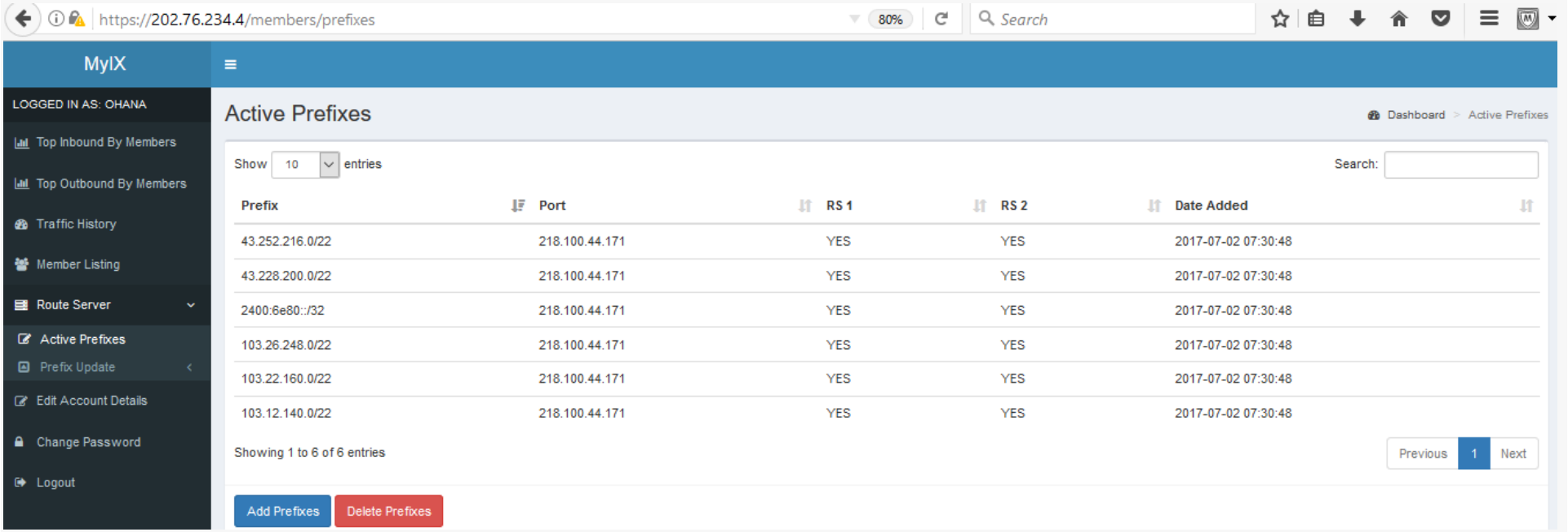


Top Inbound/Outbound Traffic



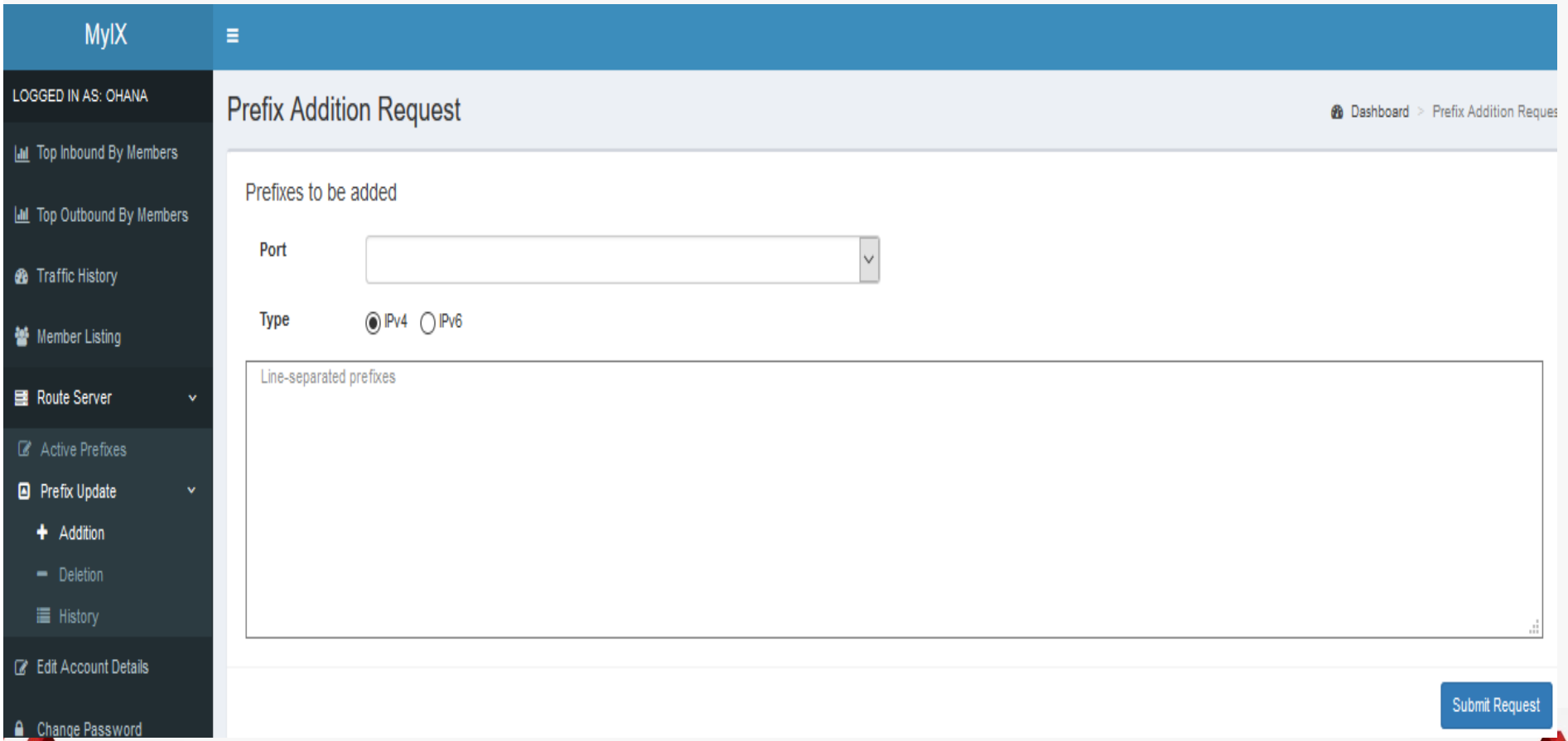
View Prefixes

- Manual Entry or AS Set (from route registry)



Prefix Addition, Deletion Request

- Select port, key in prefixes. New prefix will be active upon validation and approval



BGP Community

Function list:

xxxxY:YYYYY

55822:55822 => announce to everyone [default]

65000:55822 => announce to none

65500:12345 => don't announce to AS12345

65502:12345 => don't announce to AS134190

6511y:yyyyy => prepend one time

6512y:yyyyy => prepend two time

6513y:yyyyy => prepend three time

55822:666 => blackhole this IP. only /32

BGP Community

- Example:

  ##
  Default Open (Announce to All) 55822:55822
  ##

  ##
  Default Open Except AS12345 55822:55822 65500:12345
  ##

  ##
  Default Open Except AS134190 55822:55822 65502:3118
  ##

  ##
  Default Closed (Announce to None) 65000:55822
  ##

BGP Community

- ##
  Include AS55822 in BGP ath to all participants
  ##
  Prepend 1x to AS12345 65110:55822
  Prepend 2x to AS12345 65120:55822
  Prepend 3x to AS12345 65130:55822

  ##
  AS-PATH prepend for AS12345
  ##
  ============
  2 Bytes ASN
  ============
  Prepend 1x to AS12345 65110:12345
  Prepend 2x to AS12345 65120:12345
  Prepend 3x to AS12345 65130:12345

  ##
  AS-PATH prepend for AS134190
  ##
  Prepend 1x to AS134190 65112:3118
  Prepend 2x to AS134190 65122:3118
  Prepend 3x to AS134190 65132:3118

BGP Community

- As BGP community will only work for 2 bytes ASN
- Some MyIX members is using 4 bytes ASN
- Here is how we do the workaround.

We use 1 byte at the high-bit, and make the entire ASN supported range from 16 bit to 24 bit.

If the members ASN is: 134190, here is what will be used in the BGP community string

Calculation formula:
134190 = 2 x 65536 + 3118 : xxxx2:3118
131311 = 2 x 65536 + 239 : xxxx2:239
==========
for now, we can only support up to ASN: < 654335 only (24 bit)]
if we happened to have members that more than this number,
then we will need to use extended community
==========

Stopping DDoS at IXP

- A network suffering from DDoS attack can trigger a blackhole route to the attacked IP and save their network
- Configure BGP community to block the IP
- Route Server will drop the data by redirect IP to a null server

On Going & Moving Forward

- Collaborate with APNIC for more training & other services
- Review peering policy & port charges to attract International & Regional players
- Peering Forum/Conference to bring experts to share knowledge related to industry
- Invite more content providers
- Value added services ie tools & reporting

MyIX
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Thank You !

For enquiries, please contact us at peering@myix.my