HKIX Updates
at APIX Meeting #19

Kenneth CHAN

HKIX Team
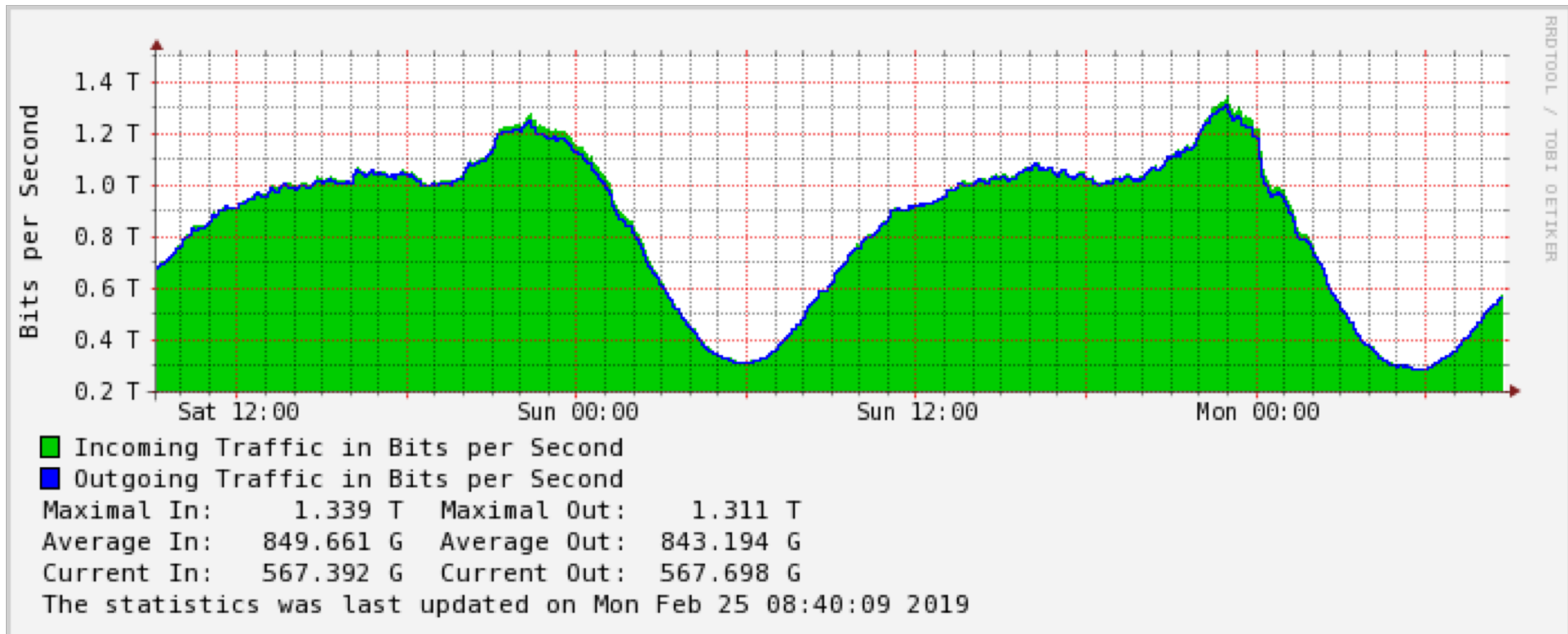
HKIX Today

- Supports both MLPA (Multilateral Peering) and BLPA (Bilateral Peering) over layer 2
- Supports IPv4/IPv6 dual-stack
- More and more non-HK participants
- 300+ different networks (autonomous systems) connected
- 510+ physical connections in total
  - 41 **100GE**, 320+ **10GE** & 150+ **GE**
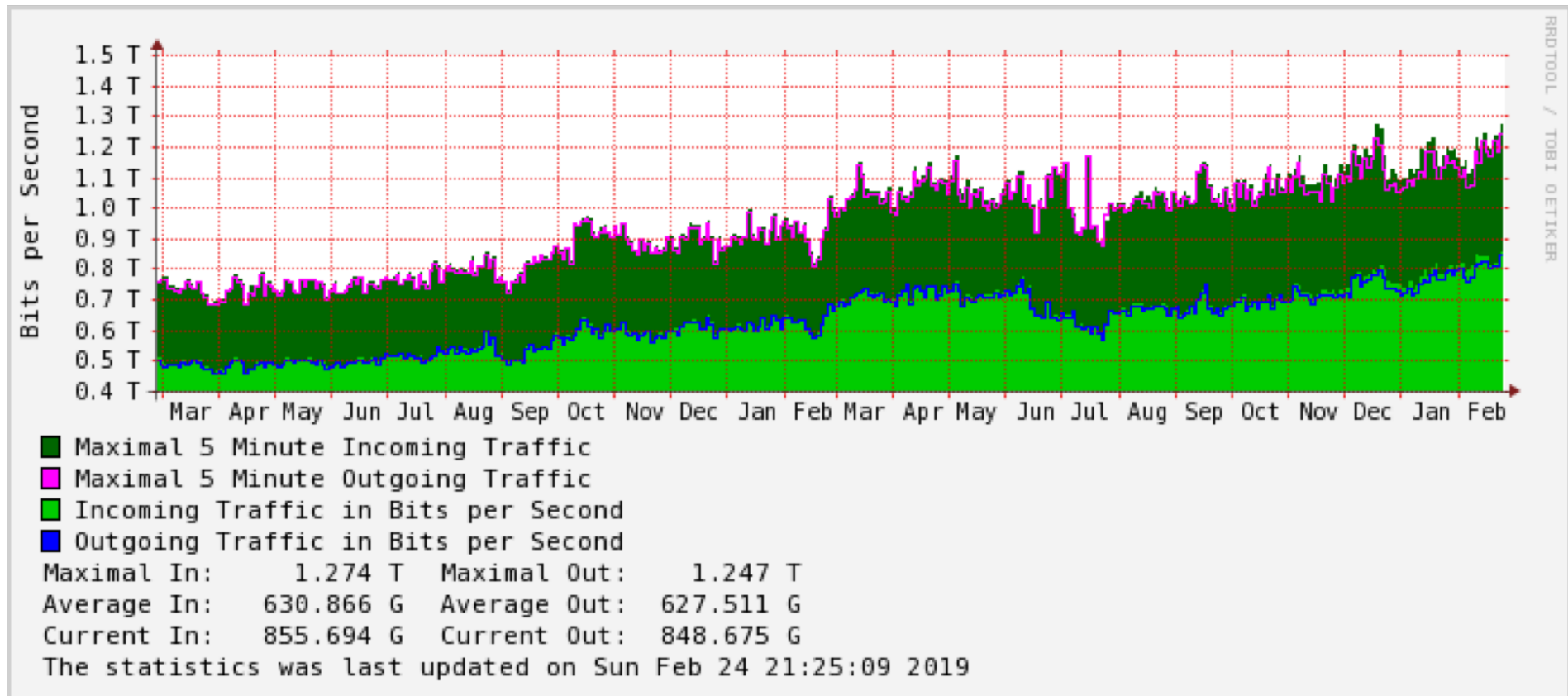- 1.34+Tbps (5-min) total traffic at peak
- Annual Traffic Growth ~30%
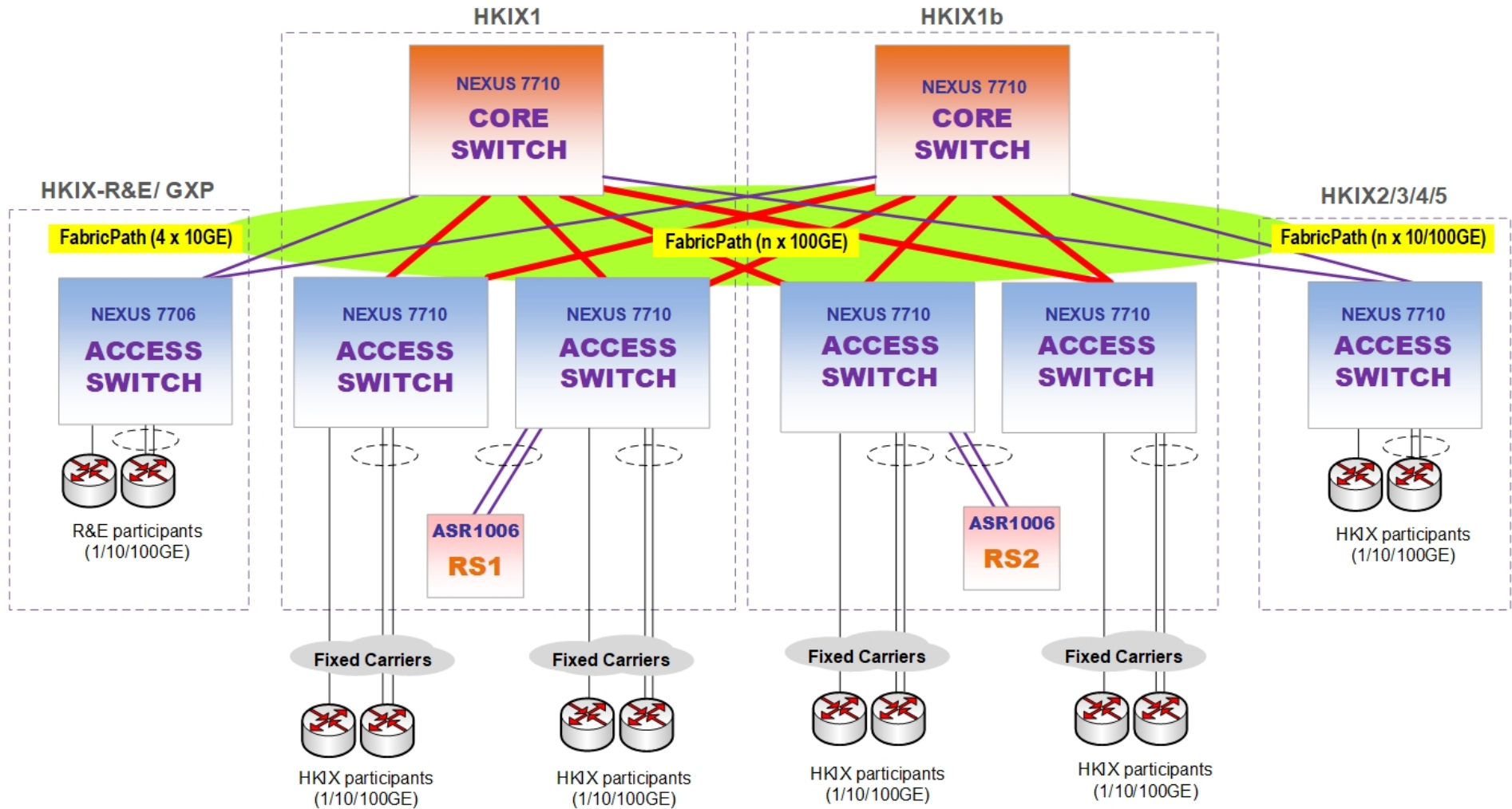
Current HKIX Traffic
Daily Graph (5-min average)

Current HKIX Traffic
Yearly Graph (1-day average)

HKIX Network Diagram (Apr 2018)

HKIX1

HKIX1b

HKIX-R&E/ GXP

HKIX2/3/4/5

NEXUS 7710
CORE SWITCH

NEXUS 7710
CORE SWITCH

FabricPath (4 x 10GE)

FabricPath (n x 100GE)

FabricPath (n x 10/100GE)

NEXUS 7706
ACCESS SWITCH

NEXUS 7710
ACCESS SWITCH

NEXUS 7710
ACCESS SWITCH

NEXUS 7710
ACCESS SWITCH

NEXUS 7710
ACCESS SWITCH

NEXUS 7710
ACCESS SWITCH

R&E participants
(1/10/100GE)

ASR1006
RS1

ASR1006
RS2

HKIX participants
(1/10/100GE)

Fixed Carriers

Fixed Carriers

Fixed Carriers

Fixed Carriers

HKIX participants
(1/10/100GE)

HKIX participants
(1/10/100GE)

HKIX participants
(1/10/100GE)

HKIX participants
(1/10/100GE)

1. **HKIX1** and **HKIX1b** are the two core sites of HKIX at CUHK while **HKIX2/3/4/5** are HKIX satellite sites outside of CUHK.
2. HKIX participants are encouraged to connect to multiple sites for site resilience.

HKiX

Trend of 100GE connections

Total HKIX 100G Ports Connected (2016 OCT - 2019 FEB)
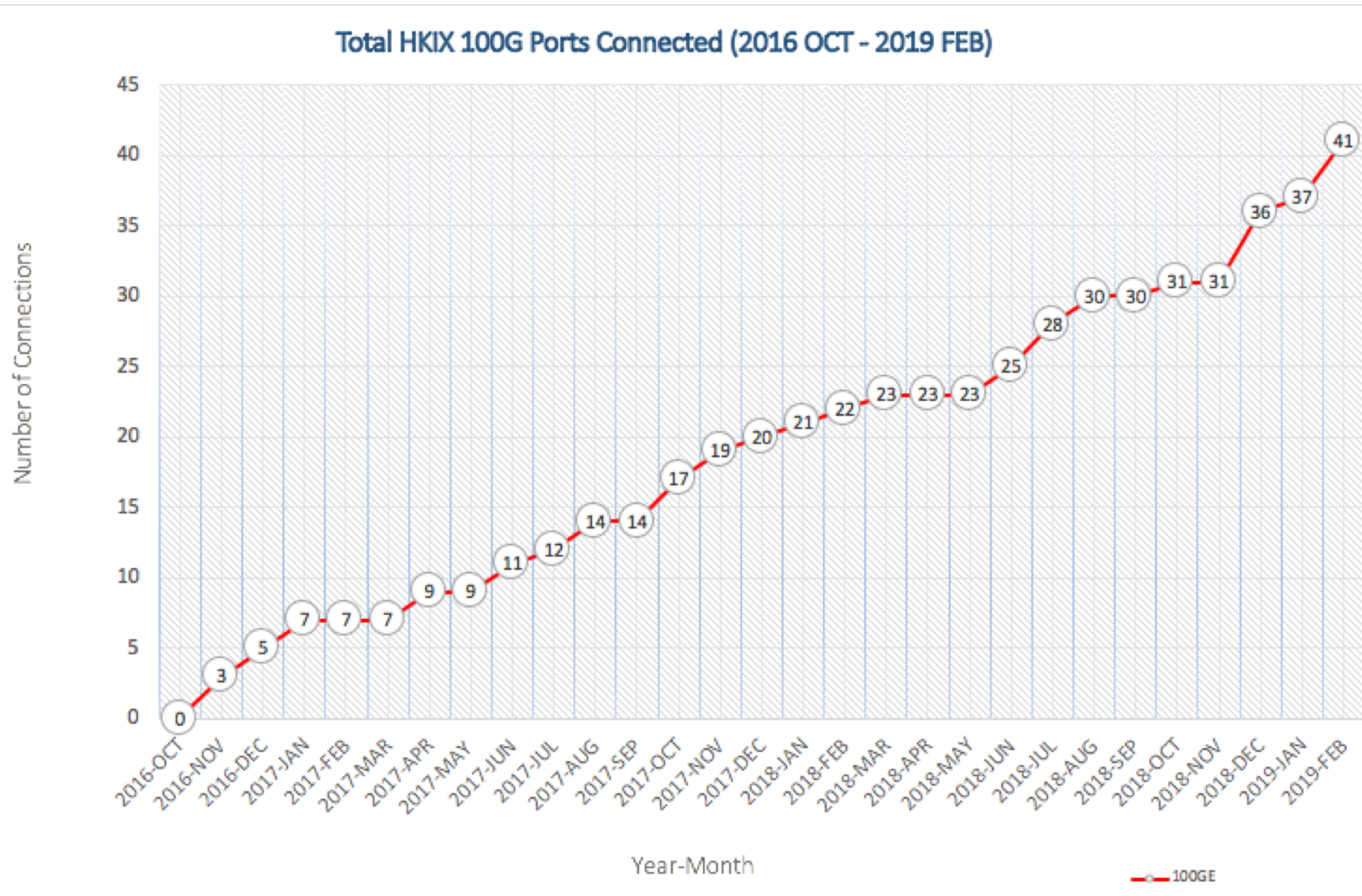
HKIX 100GE Participants (1/2)

- Akamai
- Amazon
- AOFEI
- BGP Consultancy
- China Mobile HK
- China Mobile International
- CloudFlare
- Facebook
- Google
- HKBN
- Hurricane Electric
- Level 3
- Limelight

HKIX 100GE Participants (2/2)

- Mytek
- PCCW IMS
- Telin
- Telstra
- Tencent
- TVB
- Udomain
- Valve
- Yahoo

Setup Multiple HKIX Satellite Sites
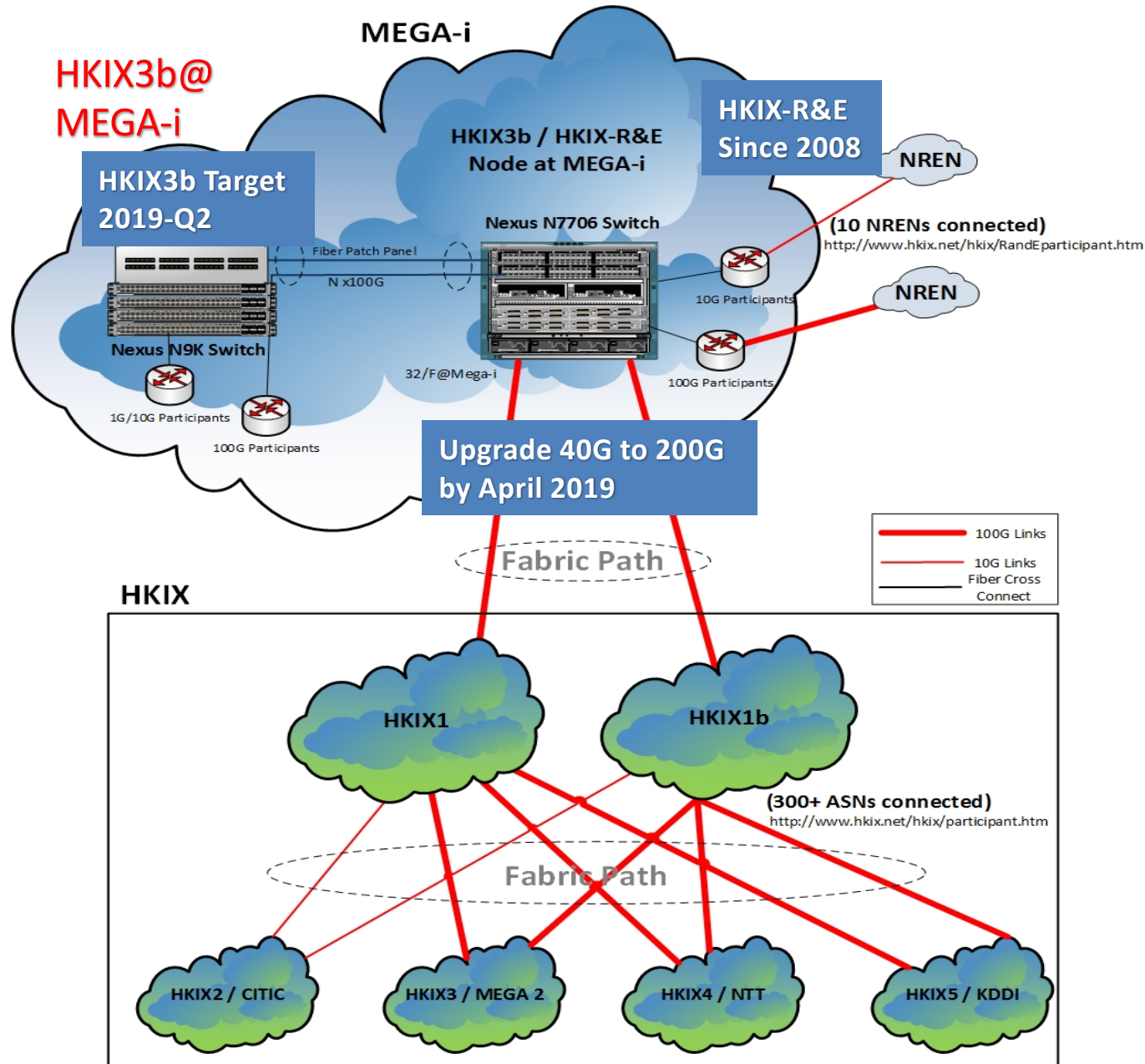
HKIX

Hong Kong, 08 Feb 2017

HKIX announces that 3 new satellite sites will be established in collaboration with 3 commercial data centres which provide colocation services as well as easy connections to HKIX.

Satellite Site	Satellite Site Collaborator	District	Ports Supported	Status
HKIX2	CITIC Telecom International	Kwai Chung	GE/10GE	
HKIX3	SUNeVision / iAdvantage	Fo Tan	GE/10GE/100GE	100G Ready
HKIX4	NTT Com Asia	Tseung Kwan O	GE/10GE/100GE	100G Ready
HKIX5	KDDI / Telehouse / HKCOLO.net	Tseung Kwan O	GE/10GE/100GE	100G Ready

- For connections to HKIX at Satellite Sites, special connection charges will be charged by relevant operators, in addition to the port charges charged by HKIX.
- For HKIX participants not co-located at HKIX satellite sites, they can still connect to any of the two HKIX core sites, i.e. HKIX1 and HKIX1b sites by local loops via local loop providers.

HKIX Upgrade Plan @MEGA-i

HKIX Planned Works for 2019

- Improved Stability
  - Better Control of Proxy ARP
- Improved Services
  - Rollout portal for HKIX participants / R&E participants
  - True 24x7 NOC (both email & hotline support)
  - Improve after-hour support
  - Introduce advanced Route Server functions
  - Automatic network filter update (support updates from IRR)
  - New HKIX Route Server
  - perfSONAR server
- Improved Security
  - ISO27001
  - Better support for DDoS mitigation
  - Implement MANRS IXP Programme for routing security
  - Implement RPKI on HKIX Route Servers to enhance routing security

HKIX Future Upgrade Plan

- Support of 400G connections

- Network traffic visibility

- Network automation

- EVPN (VXLAN)

  - Multiple vendors support

  - Unknown unicast suppression

  - VLAN translation

HKIX

IX name	Hong Kong Internet eXchange
City, Country	Hong Kong
Point of Presence	**Core Sites:** **HKIX1** & **HKIX1b** @CUHK **HKIX-R&E:** HKIX-R&E@MEGA-i **Satellite Sites:** **HKIX2**@CITIC, **HKIX3**@iAdvantage, **HKIX4**@NTT, **HKIX5**@KDDI
# of connected ASN	302
Peak traffic	1.34 Tbps
Route Servers	Yes (Cisco ASR1006)
Remarks	PeeringDB: https://www.peeringdb.com/ix/42

- **Information**
  - http://www.hkix.net
  - info@hkix.net

Thank You!

For enquiries, please contact us at
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