KREONET & KREONet2 Update (ATCF6)

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KREONET/KREONet2 and KRLight
: Korea Research Environment Open NETwork

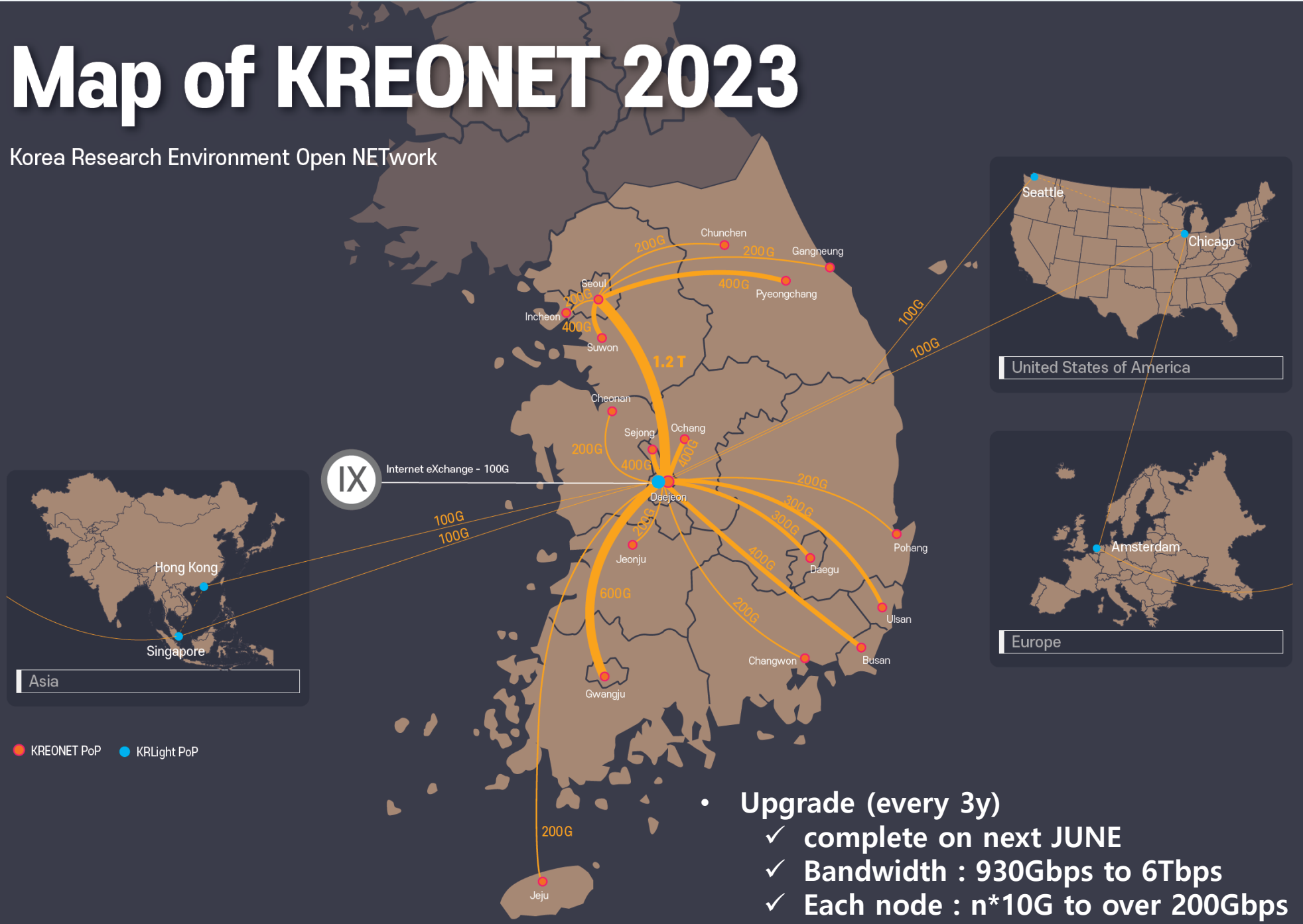
KiSTi 한국과학기술정보연구원 Korea Institute of Science and Technology Information

KREONET/KREONET2(AS1237/AS17579)

- (1988) started with Korean National Science & Research Network.
- (2005) As a Core Member of GLORIAD project,
  Started international research network service.
- 18 Domestic Regional GigaPoPs(Seoul, Deajeon, Gwangju, Busan, Changwon)
- 5 International GigaPoPs(Chicago, HongKong, Seattle, Amsterdam, Singapore[2023])
- Support about 200 R&E organizations :
  Government Research Institutes, Universities, Libraries and so on.
- Provide 365*24 NOC (Network Operation Center) Service
- Connected with Internet exchanges (KT, Sejoing Telecom)
  and L2 direct peering with Clouds(Google, Amazon, Microsoft)
- Provides L1 LightPath service, L2 Carrier Ethernet Service,
  L3 R&E IP service, VDN based on KREONET-S.

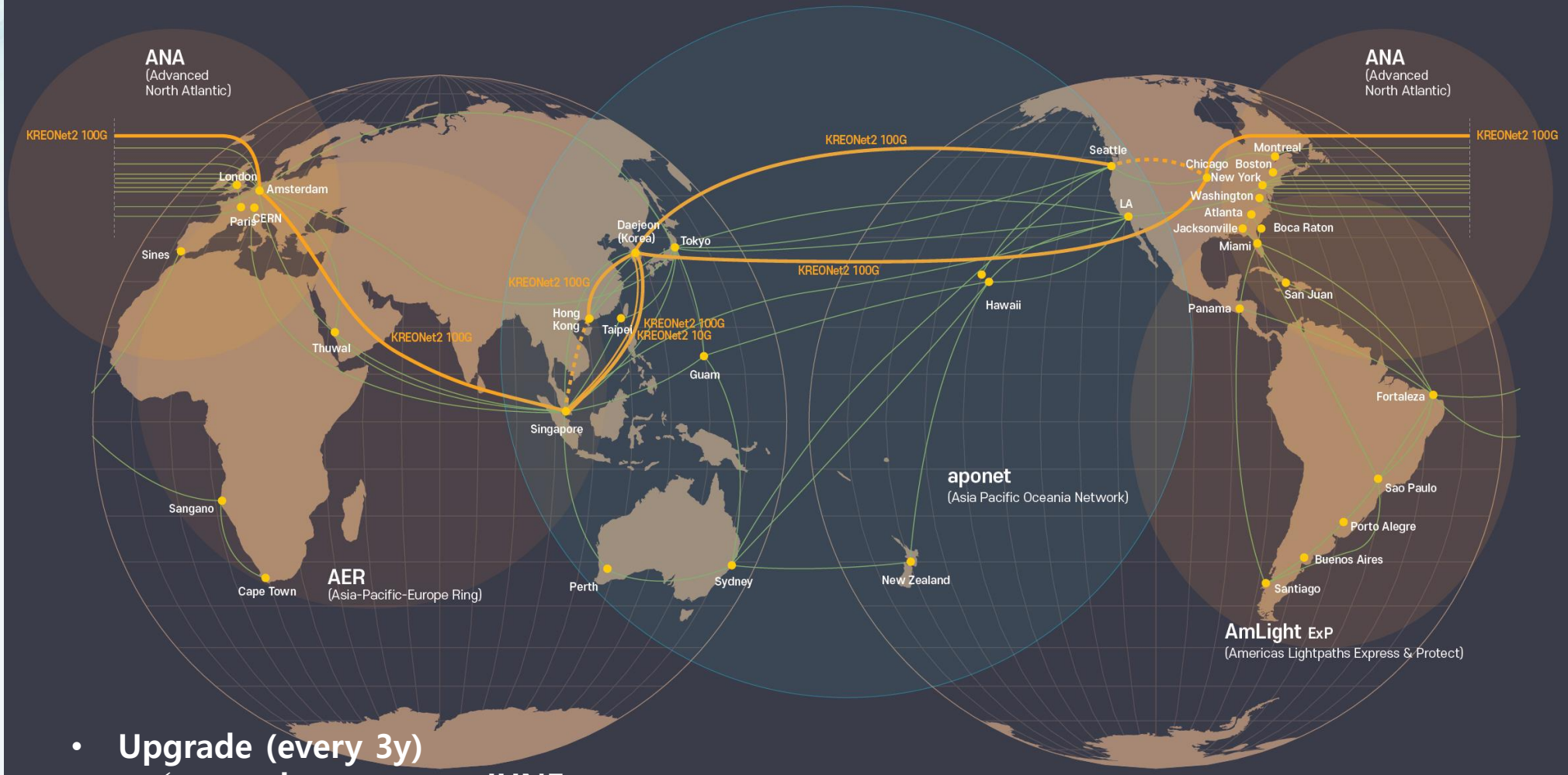
Map of KREONET 2023

Korea Research Environment Open NETwork



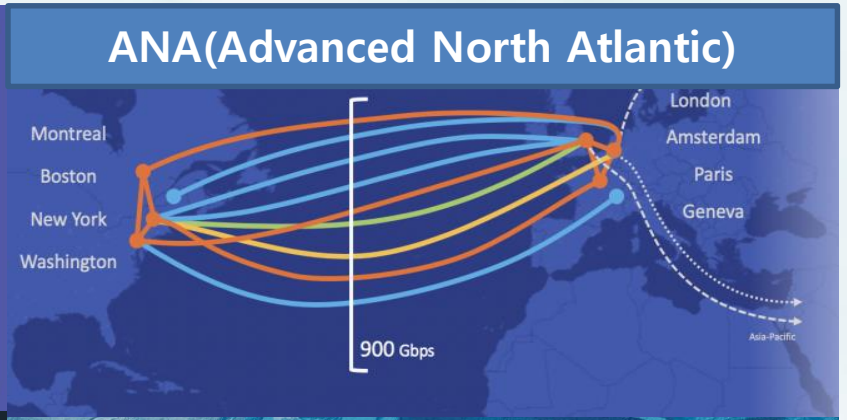
- **Upgrade (every 3y)**
  - ✓ complete on next JUNE
  - ✓ Bandwidth : 930Gbps to 6Tbps
  - ✓ Each node : n*10G to over 200Gbps

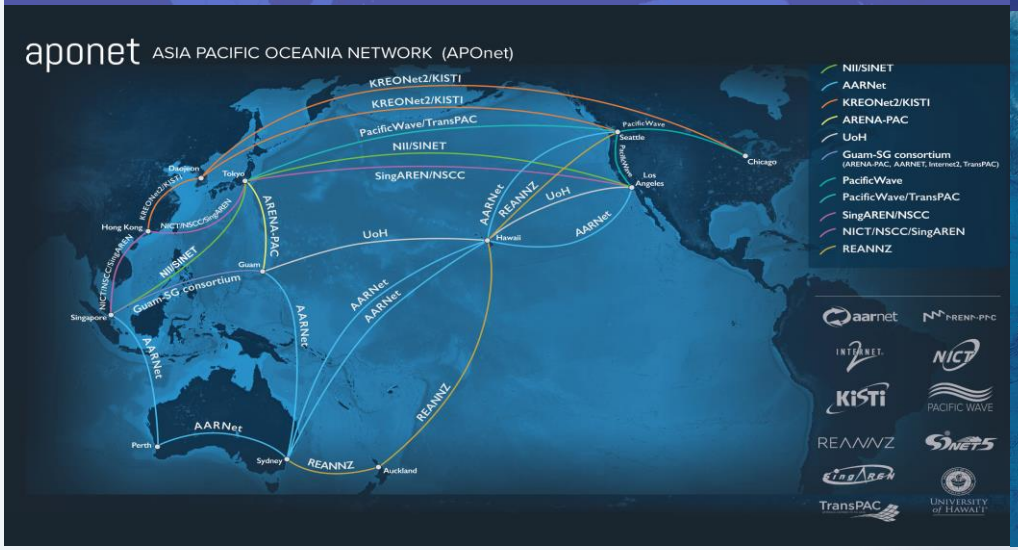
Map of KREONET2 2023

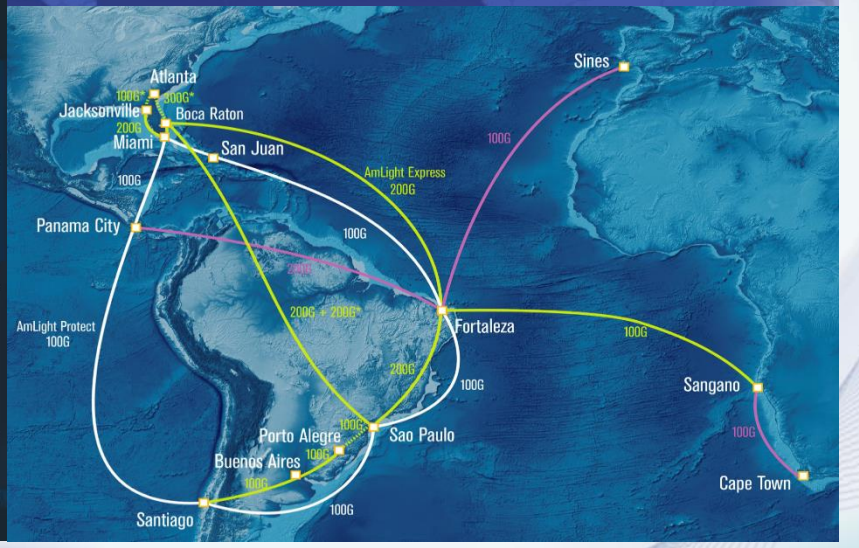


- Upgrade (every 3y)
  - ✓ complete on next JUNE
  - ✓ Bandwidth : 350Gbps to 510Gbps
  - ✓ New Singapore PoP
  - ✓ Global 100G ring

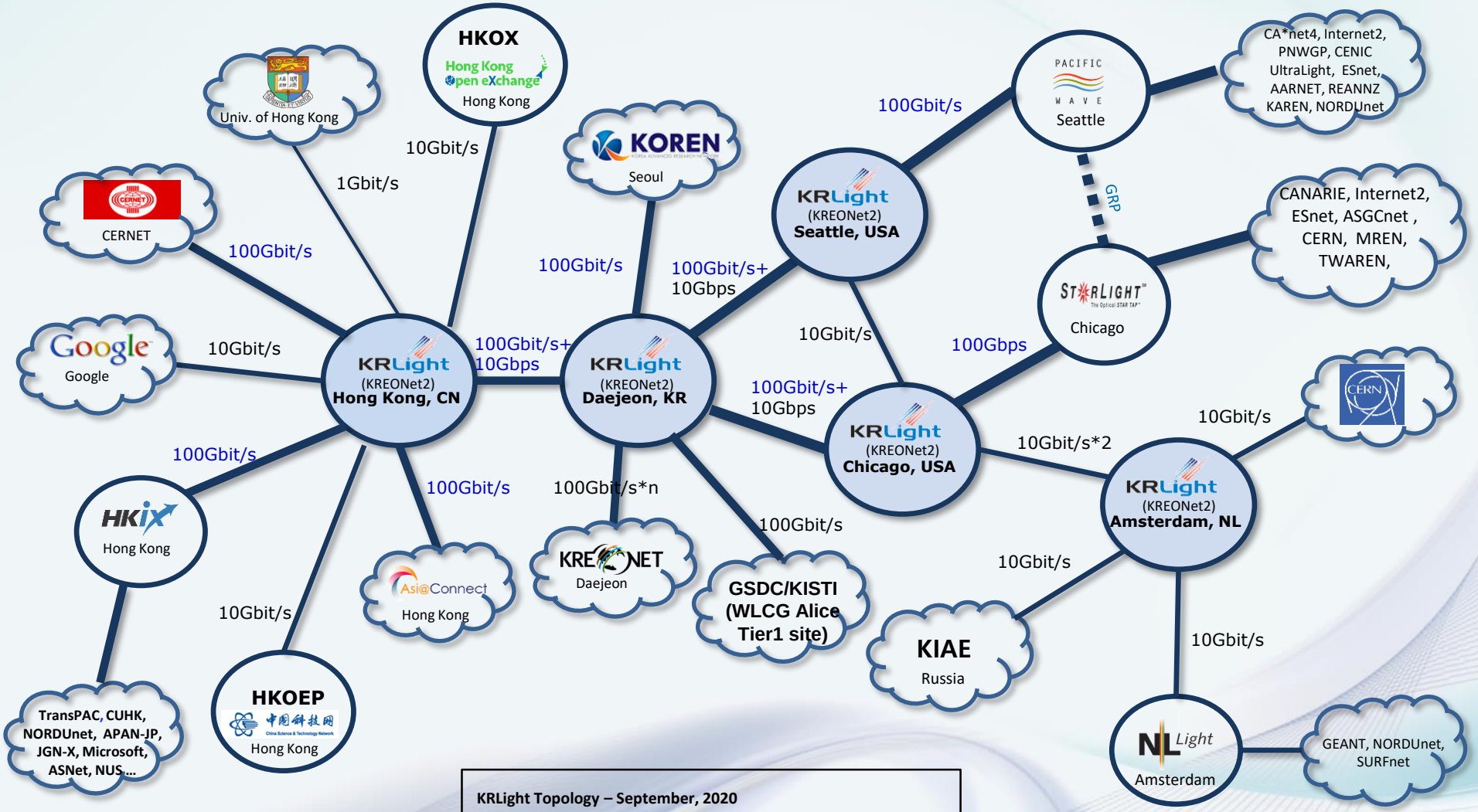
Global Research Network Consortium



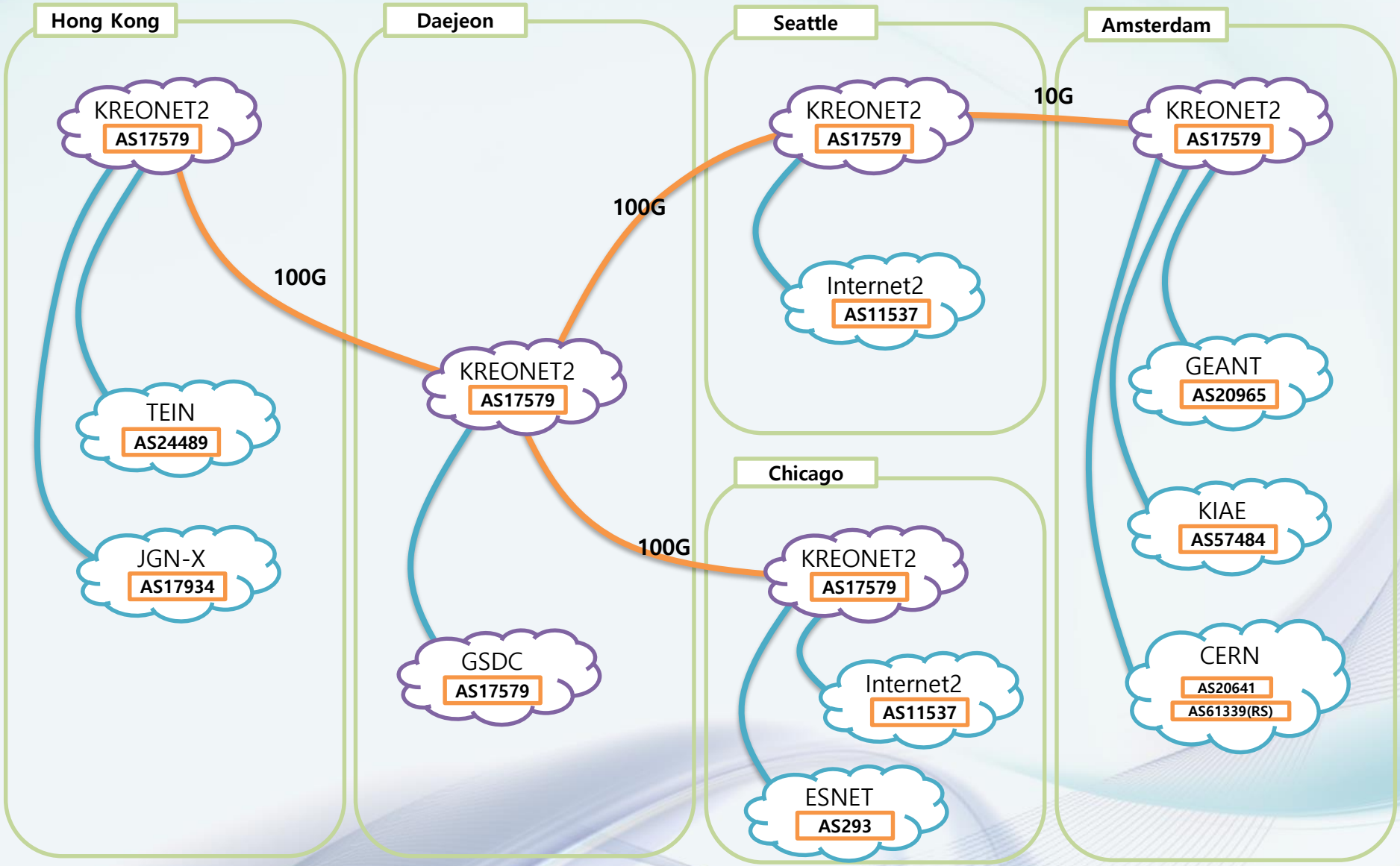




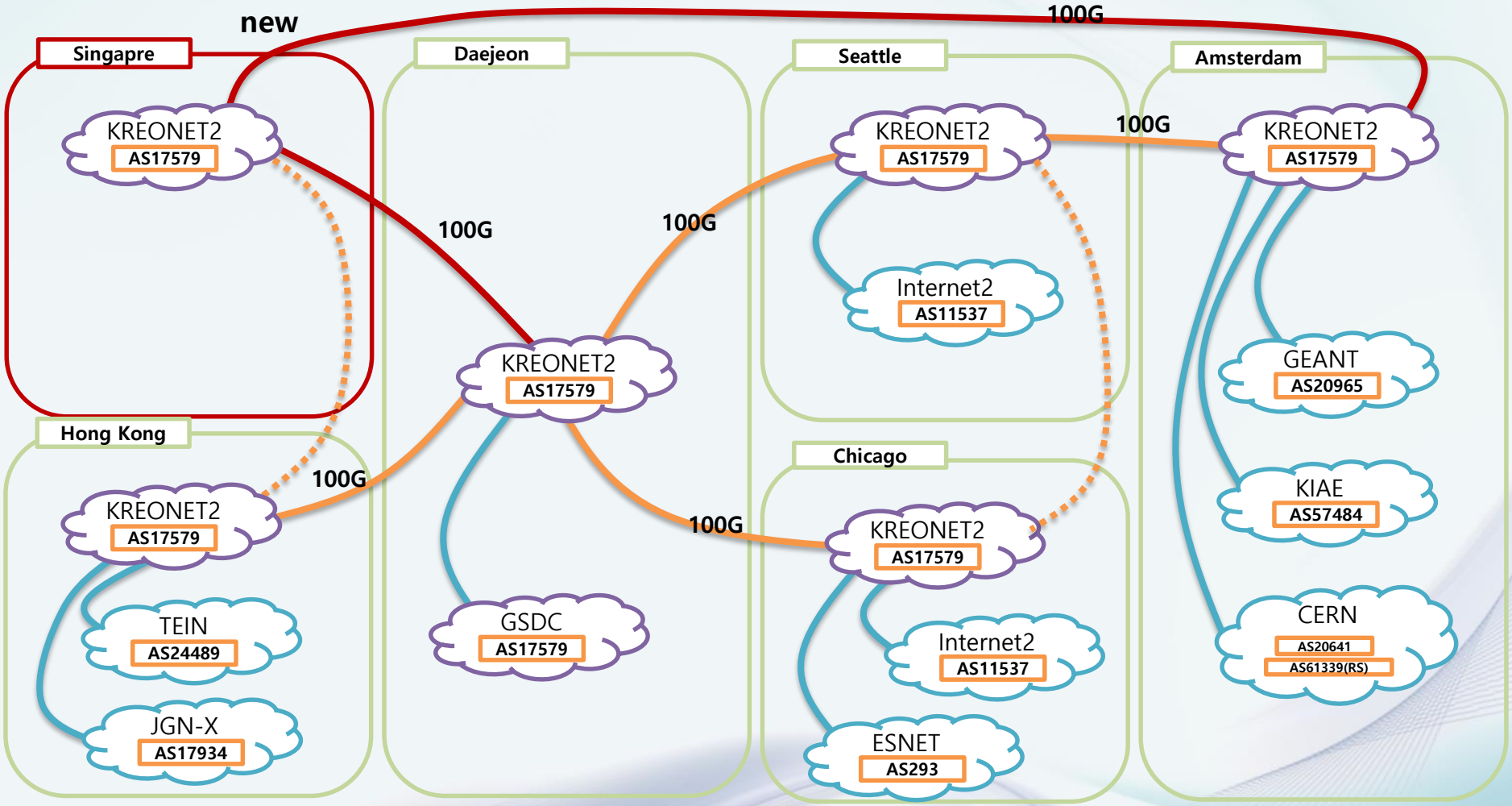
KREOENT2 Peers



LHCONE on KREOENT2(2022)



LHCONE on KREOENT2(2023)



- **Our Policy : allow transit**

Thanks for listening.

KREONET/KREONet2 Infra. Upgrade

	2019 - 2023.6, Current	2023.6 – 2026.5, New
Backbone Capacity	(Domestic) 930Gbps (Seoul-Daejeon 100Gλ*3=300G) (International) 310Gbps	(Domestic) 6Tbps (Seoul-Daejeon 600Gλ*2=1.2T) (International) 610Gbps
Wavelength (λ: Lambda)	(Domestic) 100Gbps Wavelength (International) 100Gbps Wavelength	(Domestic) 100/600Gbps Wavelength (International) 100Gbps Wavelength
VPN Service	L1 VPN + 802.1Q VLAN	L1 VPN + 802.1Q VLAN L2/L3 VPN (MEF3.0 + Segment Routing) MPLS, MPLS-TP
Protection	(Domestic) L1: 50ms protection (International) Manual or more than 10s (STP/RSTP)	(Domestic) L1/L3: 50ms protection (International) L3: SR TI-LFA, 50ms protection
# of PoPs	(Domestic) 17 Regional Center (International) 5 PoPs	(Domestic) + Peongchang Regional Center (18) (International) + Singapore PoP (6)
routes_prefix (FIB)	Half 1M	More than 2M (IPv4 4M, IPv6 2M)
others	(Domestic) PTP network (International) 100G Star topology	(Domestic) 5 Ring network + PTP network (International) 100G Global Ring topology