

# HKNOG 6.0

## Interconnect behavior in an Data Center Ecosystem

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# CAPACITY ■ CONNECTIVITY ■ QUALITY



## Strong Financial Background



- Listed on Hong Kong Exchange (HKEx: 1686)
- Major shareholder is Sun Hung Kai Properties (HKEx: 0016), a leading property developer

## Owner-Operator Model



- We own all our facilities
- Long-term commitments
- No lengthy third-party approval process
- Backed by SHKP group's PM, E&M and construction teams

## Serving Great Companies



Our customers include:

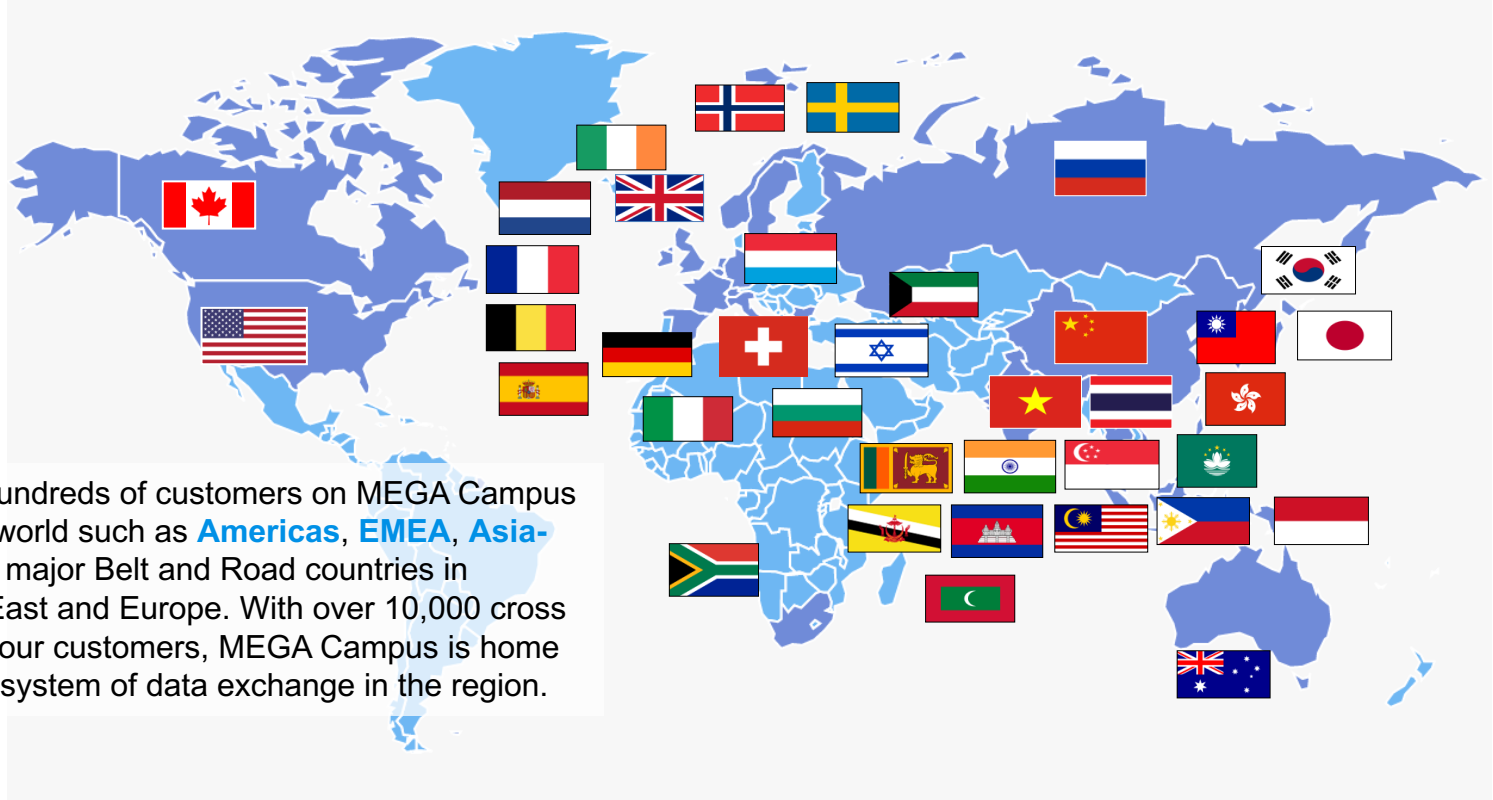
- Many of the largest cloud service providers, ISP and OTT
- Four Top 10 investment banks
- Over 150 global/regional carriers

# Largest Carrier-Neutral Data Center Service Provider in Hong Kong

- 18 years of proven track record
- Operating 5 data centers
- 1.5 million ft<sup>2</sup> of facilities
- New campus in Tseung Kwan O
- A new plot of land in Tsuen Wan



# Internet Data Center – Connecting the World



We are serving hundreds of customers on MEGA Campus from all over the world such as **Americas**, **EMEA**, **Asia-Pacific**, covering major Belt and Road countries in ASEAN, Middle East and Europe. With over 10,000 cross connects among our customers, MEGA Campus is home to the largest ecosystem of data exchange in the region.

# What's an Internet Data Center Like??



= ???



**Shopping Mall**

**Capacity Sales & Purchase**

OR



**Club House**

**Internet Peering**

OR

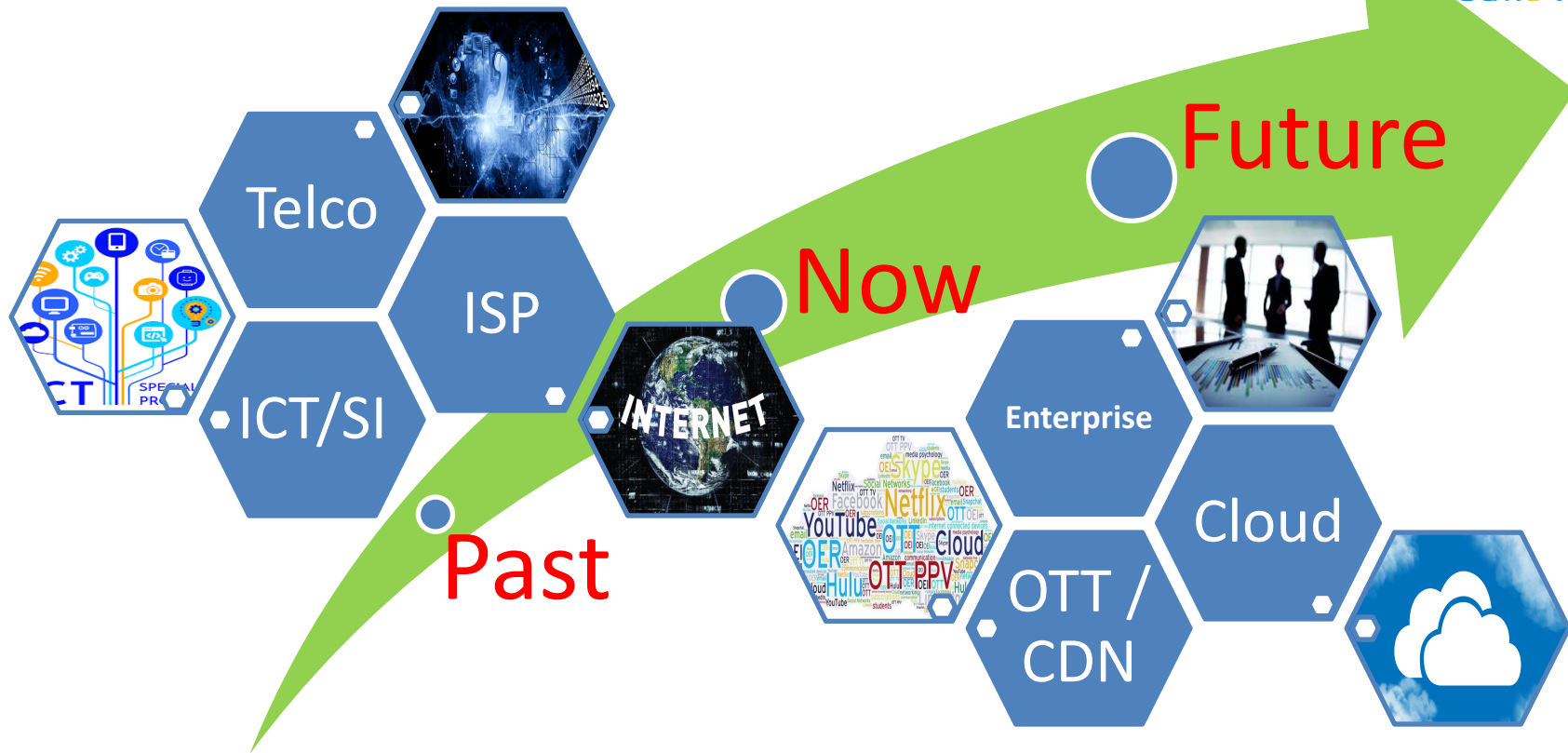


**Utilities Company**

**Cloud Service Access**

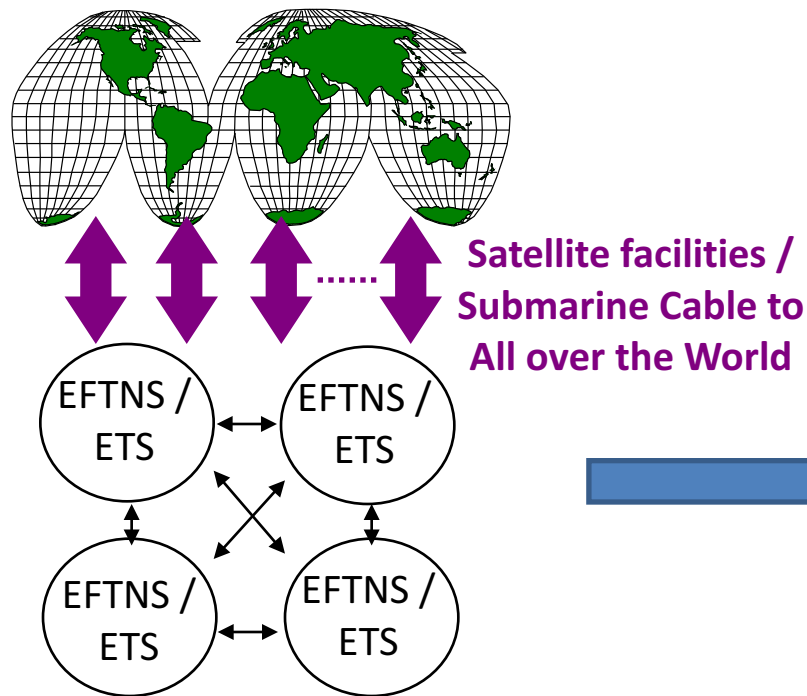


# Internet Data Center Ecosystem

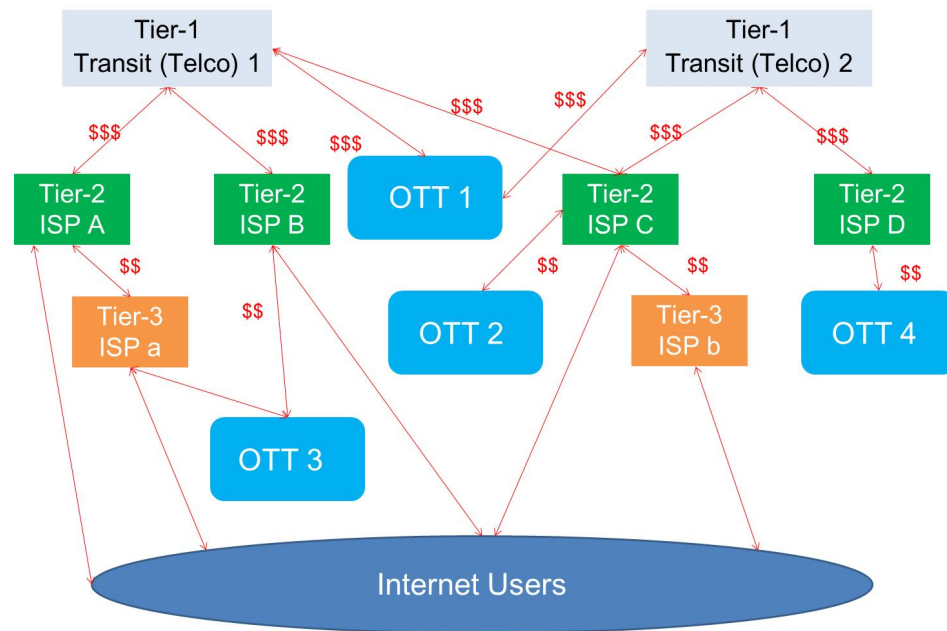


# Capacity Sales and Purchase Activities

## Voice Business



## Internet Business



# Capacity Sales and Purchase Activities



## Interconnect Behaviors

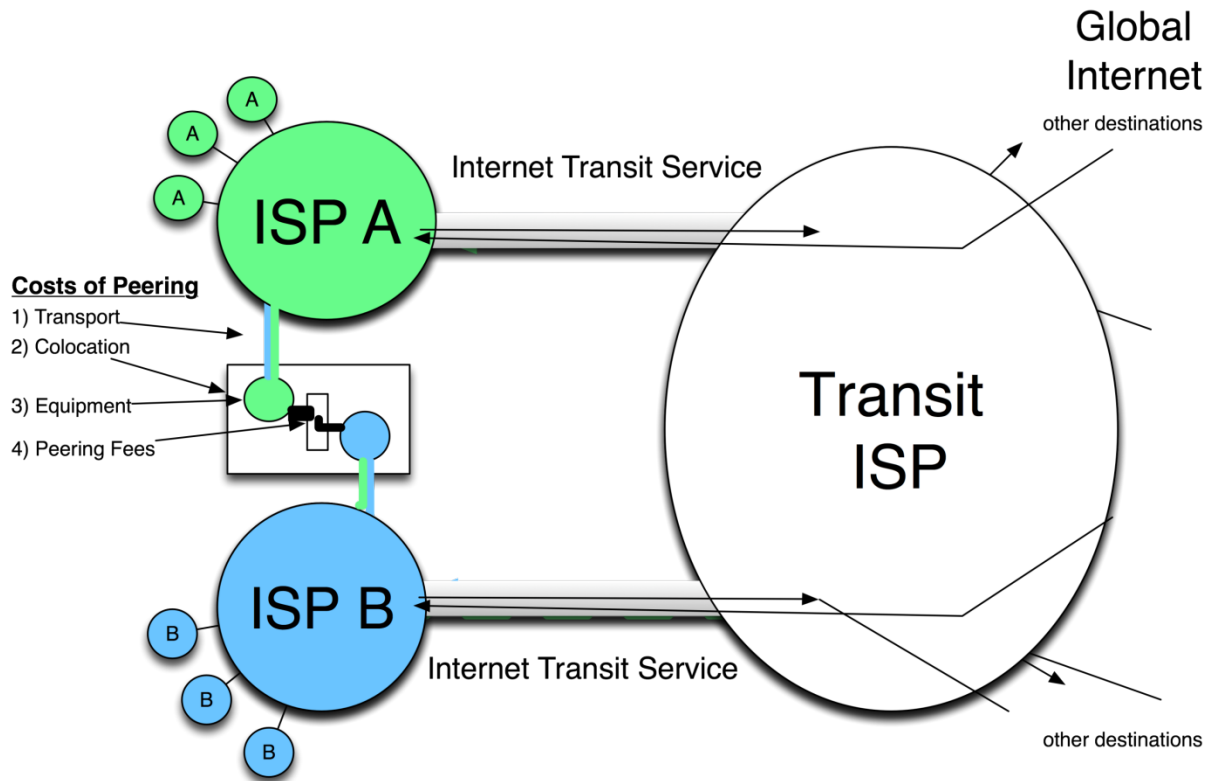
- Connections mainly at Few Key Telco Suppliers / Subsea cable owners
- Point-to-Point Connection
- Dedicated Link

## Interconnect Considerations

- Static in nature, Organic growth on demand basis
- Customer-driven connections
- Keen for Diversity
- Distance-dependence for Voice business (T1/E1)



# Internet Peering Activities



# Internet Peering Activities

- Unknown Traffic / Quality Information.
- Difficult decision to change from Transit to Peering

Peering  
Start up

Traffic  
Ramp Up

Peering  
Scale up

- Traffic / Quality Information well understood.
- Decision between Public and Private Peering.

## Public Peering

- To manage peering session in a more flexible way
- To enjoy the Aggregation Benefits
- To determine / stimulate the volume of peering traffic to minimize the peering risk.

Transition

## Private Peering

- Traffic growth made it financially justified
- Better Network monitoring and Traffic Management for troubleshooting.
- Higher Availability and Reliability

# Internet Peering Activities

## Interconnect Behaviors

- Connections evenly distributed among Telco/ISP and OTT players
- Point-to-Multi-Point Connection
- Shared / Dedicated Link

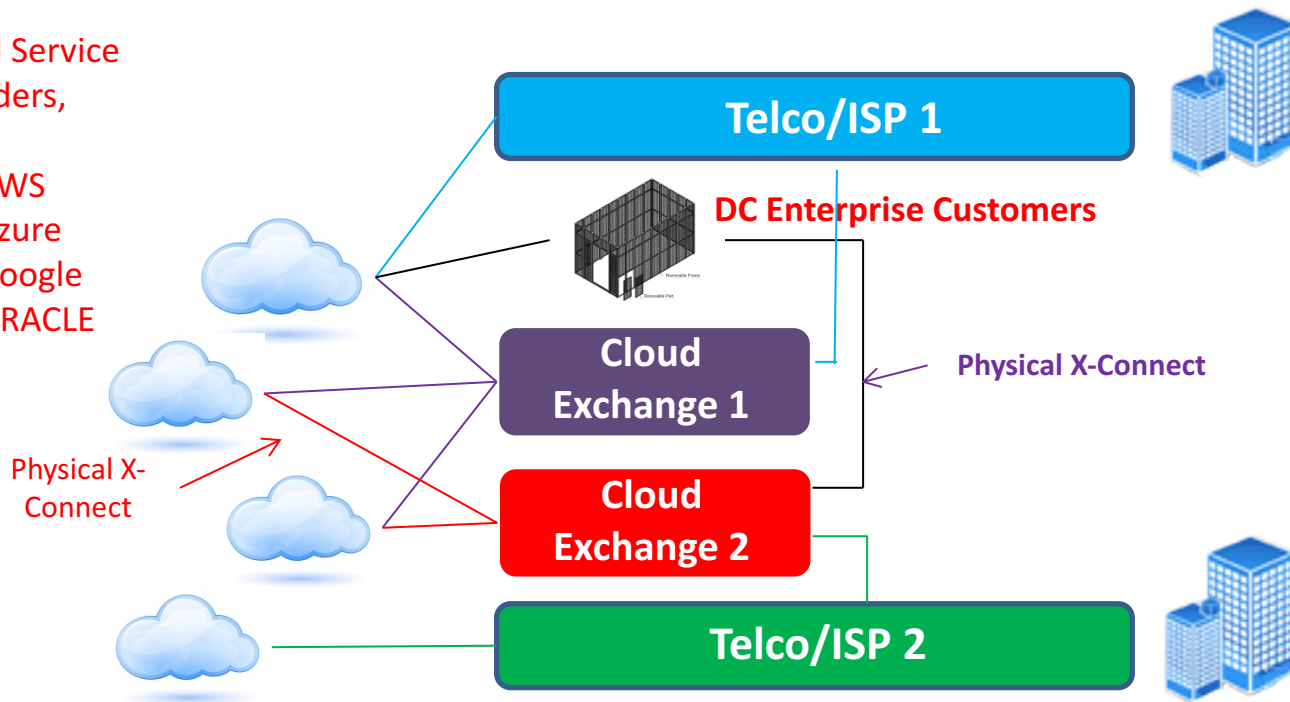
## Interconnect Considerations

- Dynamic in nature
- Connections for cost-saving and better customer experience
- Public Peering at Internet eXchange initially, and Private Peering subsequently
- Nice-to-have Diversity
- Turn up in pairs between peering parties

# Cloud Service Access Activities

Cloud Service Providers,  
e.g.

- AWS
- Azure
- Google
- ORACLE



# Cloud Service Access Activities



## Interconnect Behaviors

- Connections at multiple major Cloud Service Providers
- Point-to-Point / Point-to-Multi-point Connection
- Usage billing
- Dedicated and Secured Link required

## Interconnect Considerations

- Highly scalable expected
- Customer's order driven
- Nice-to-have Diversity

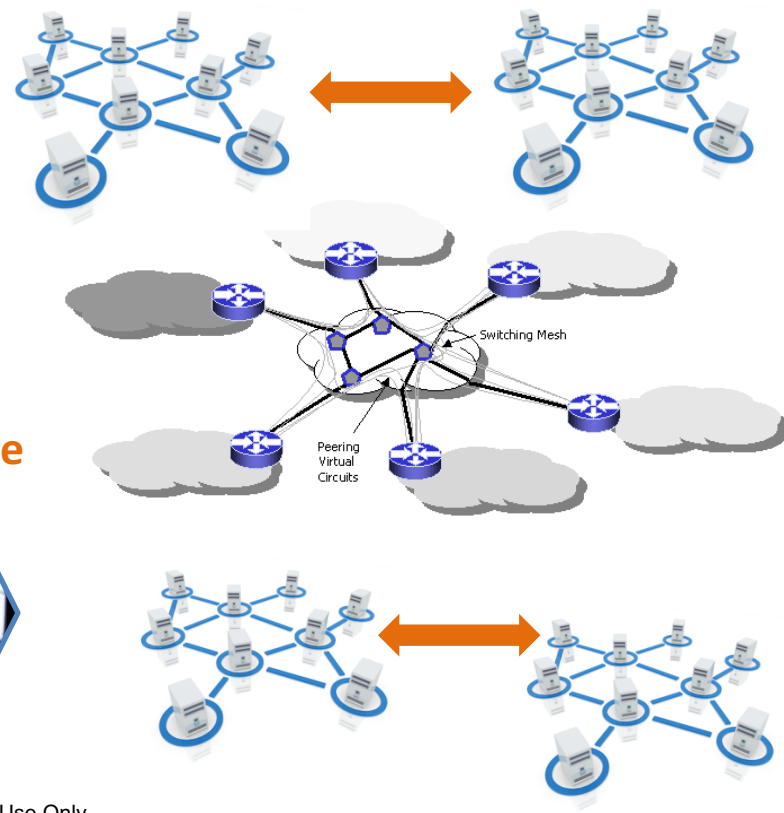
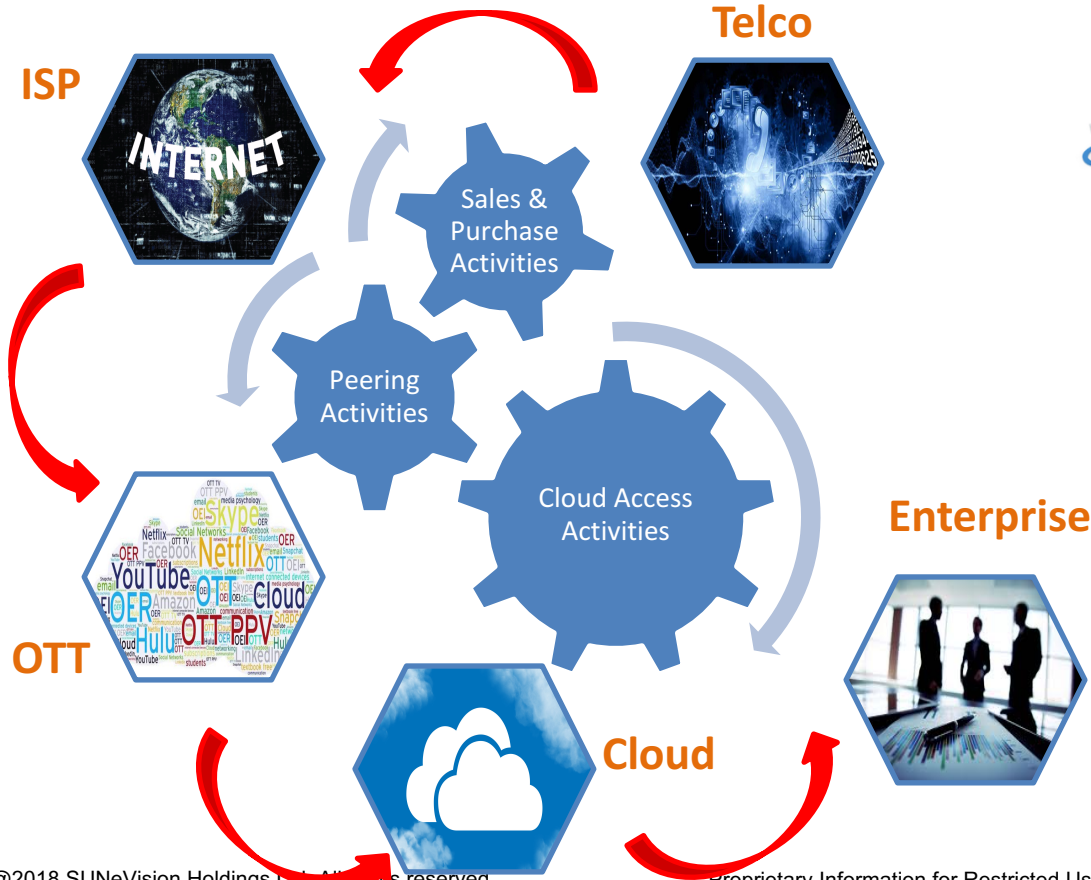
# Summary



Interconnect Activities	Capacity Sale and Purchase	Internet Peering	Cloud Service Access
Accessibility	Point-to-Point	Point-to-Multi-points	
Scalability	Not Necessary		Scalable
Traffic Traceable	Not Necessary		Required
Portability	Static and Dedicated Connection		Dynamic
Provisioning	Fast and Traceable		Fast, Traceable and Ad-hoc provision required
Diversity	Preferable	Nice-to-have	



# Internet Data Center Ecosystem



# Summary

- In an well-established Ineternet DC Ecosystem, different Segments (including Telco, ISP, CDN / OTT / Cloud players, Enterprise, etc. ) shall have different interconnect behaviors subject to their business objectives.
- More and more demanding in interconnect flexibility and scalability in future.
- SDN-enabled interconnect may be one of an options to address the challenge.
- Future Trend in Interconnect may be driven by IoT / Fintech / Blockchain activities.

# Thank You!



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