Enabling Peering In Underserved Regions: The IXPN Experience

By

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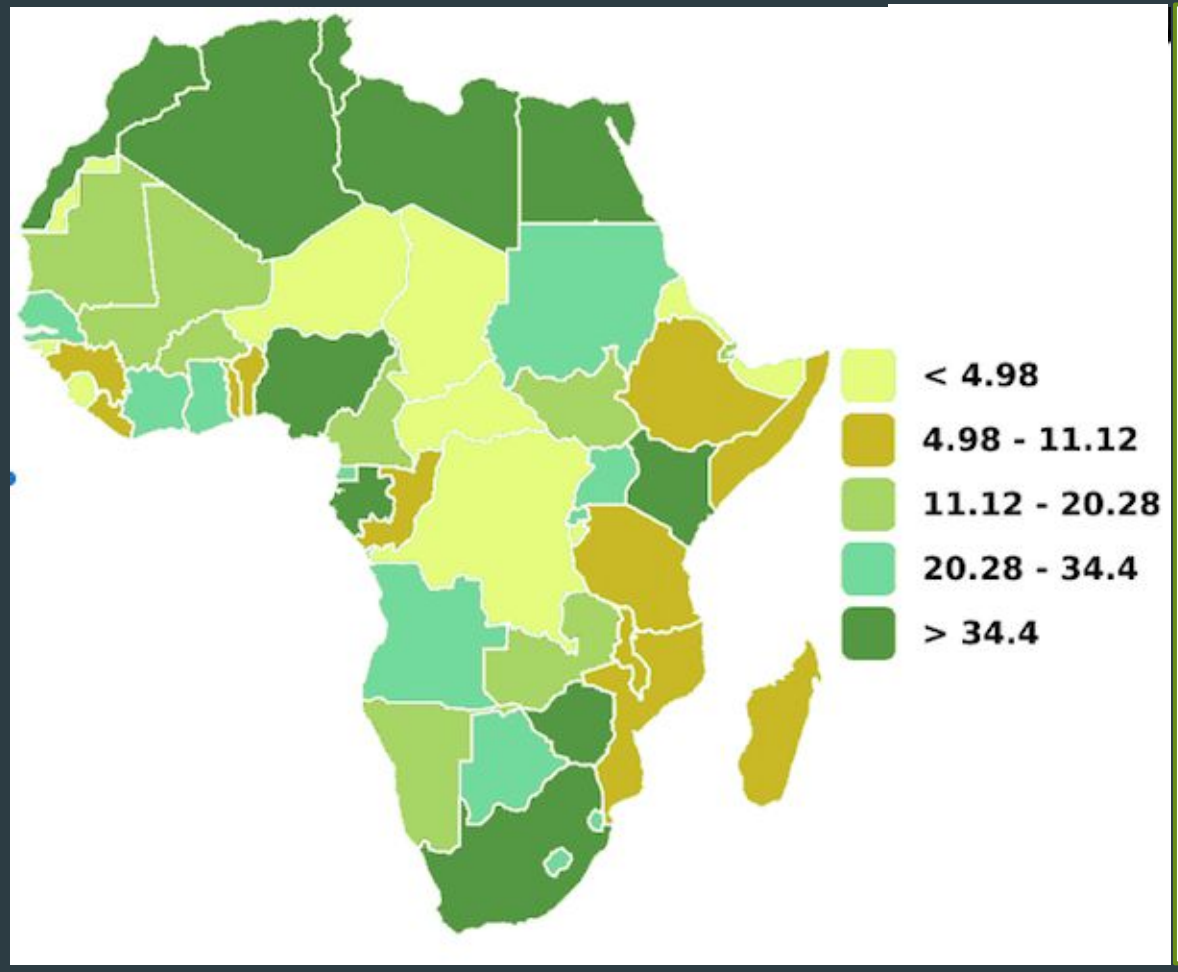
Connected world

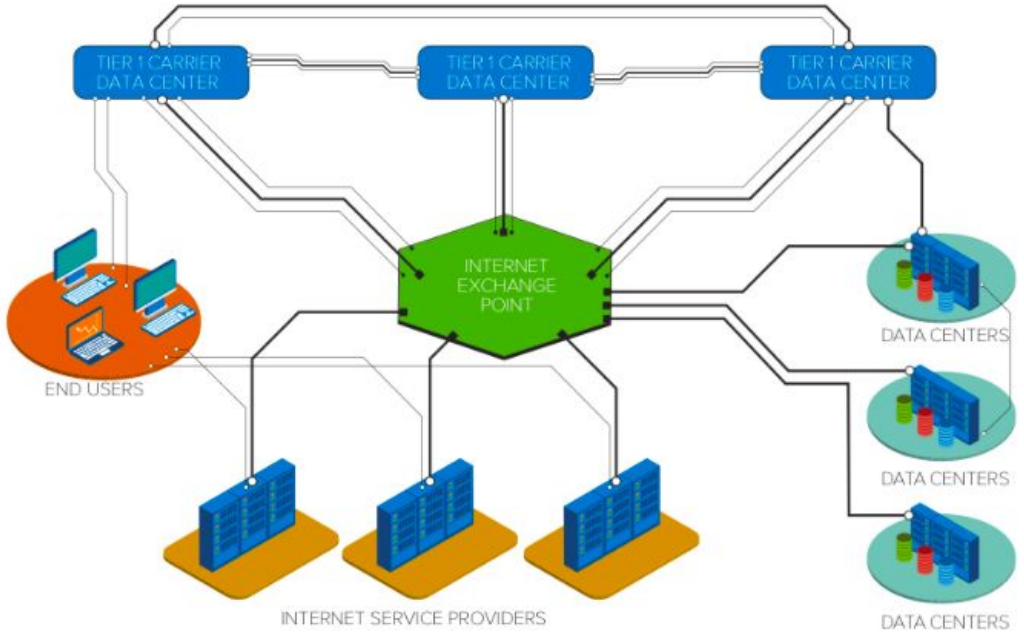
- Almost everything is connected in our world today.
- But many people are not.
- Through available and affordable internet access many more can be connected.

Internet Access Growth and Traffic



What is an internet exchange point (ixp)

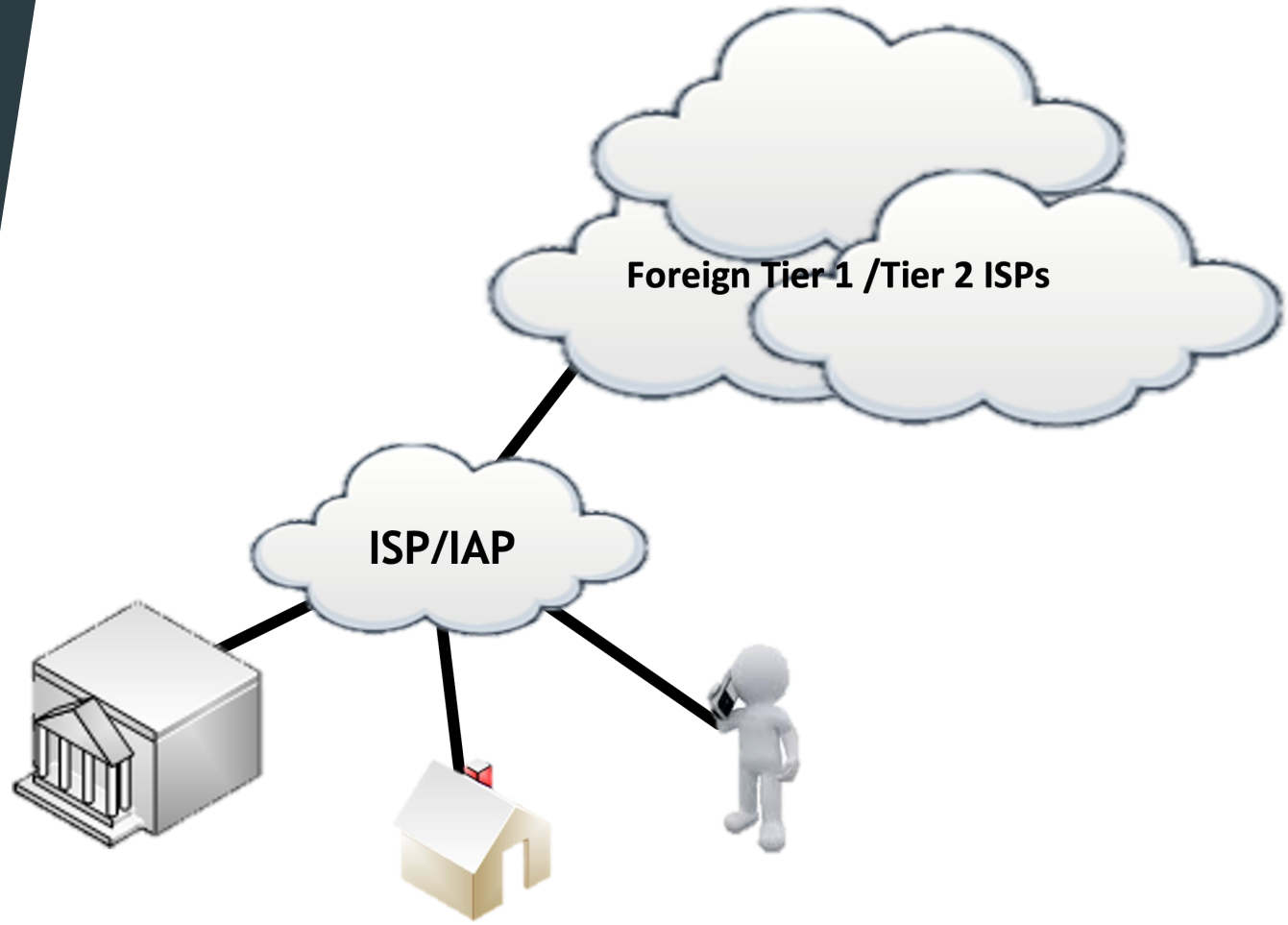
- An Internet exchange point (IXP) is a physical infrastructure that allows several Internet Service Providers (ISPs) and network operators to exchange traffic between their networks, generally referred to as autonomous systems, by means of mutual peering agreements, which allow traffic to be exchanged at no cost.



How We GET internet access

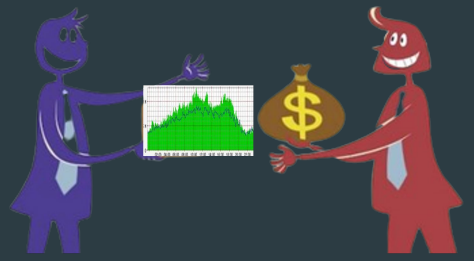
Consider a region or a country with one ISP

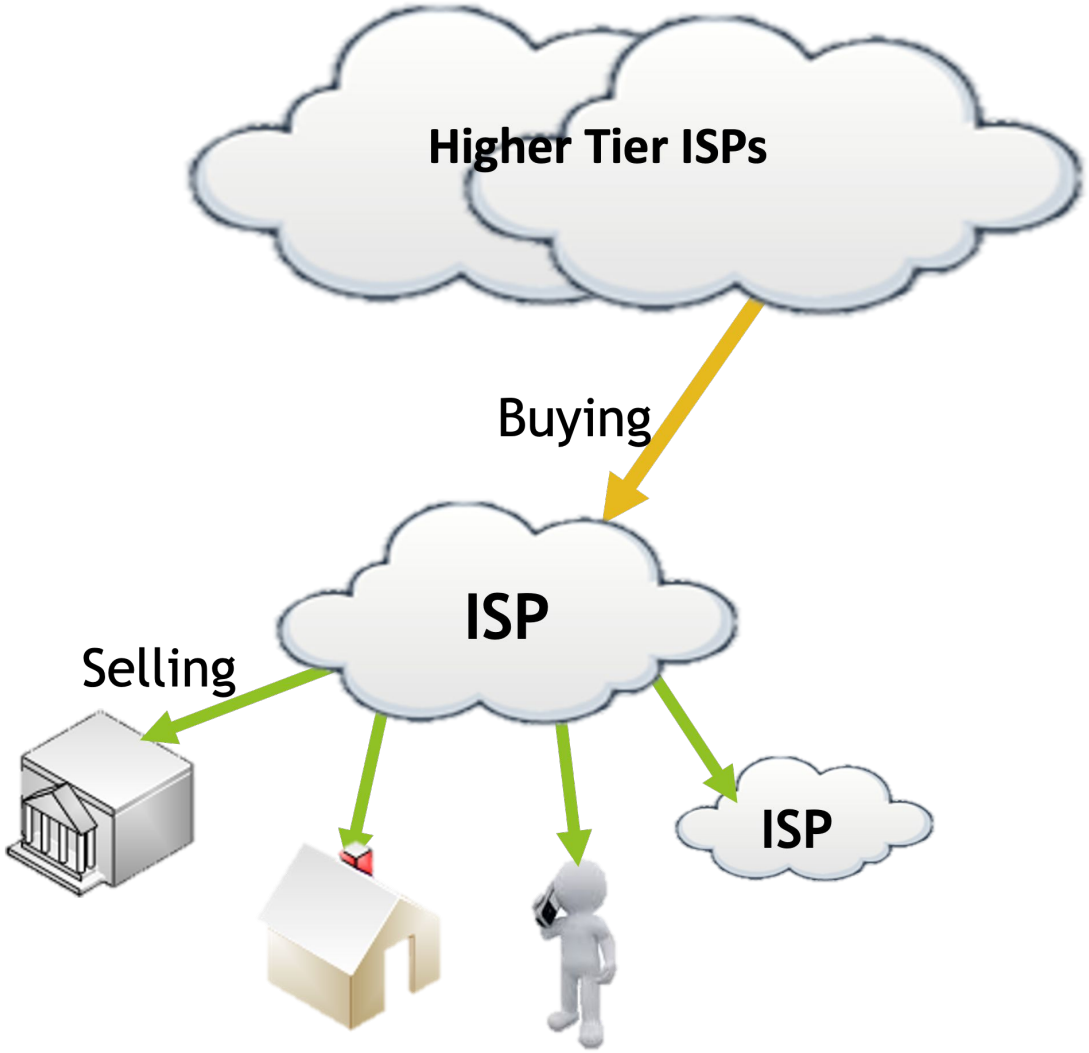
- They provide internet connectivity to their customers
- They have one or two international connections



ISP Business

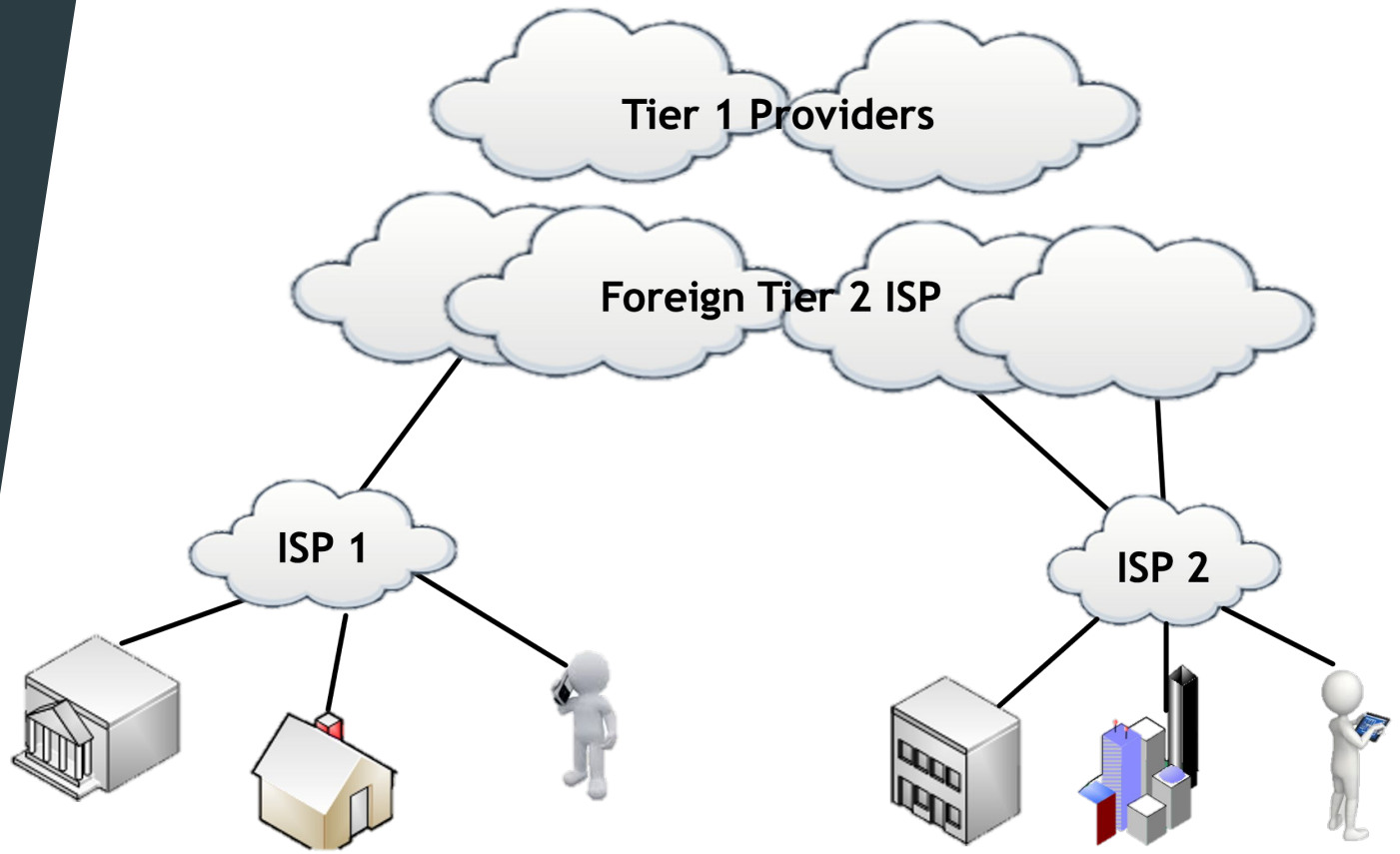
An ISP buys and sells bandwidth





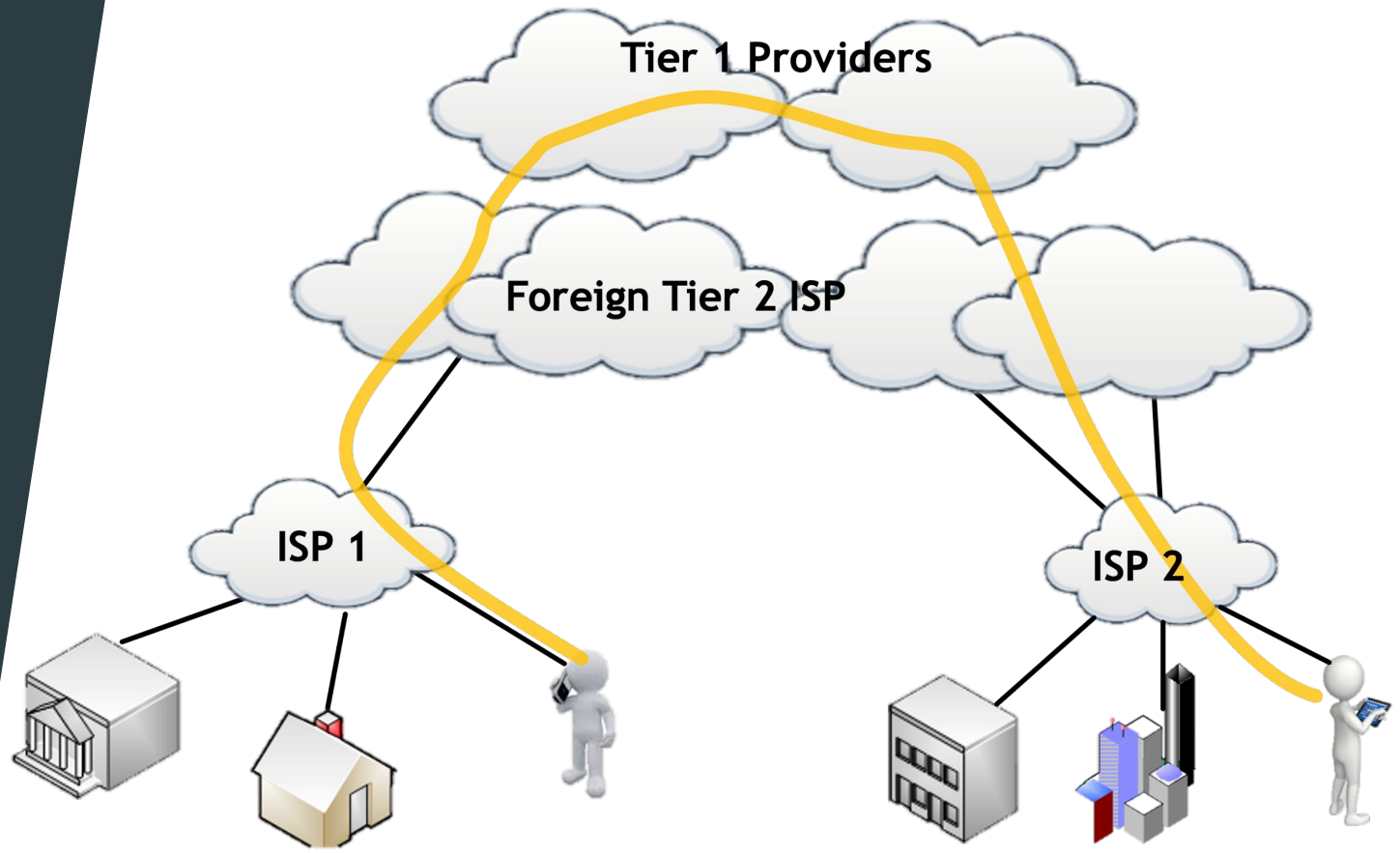
ROLE OF AN IXP

- Internet grows, another ISP sets up in competition
  - They provide internet connectivity to their customers
  - They have one or two international connections



ROLE OF AN IXP

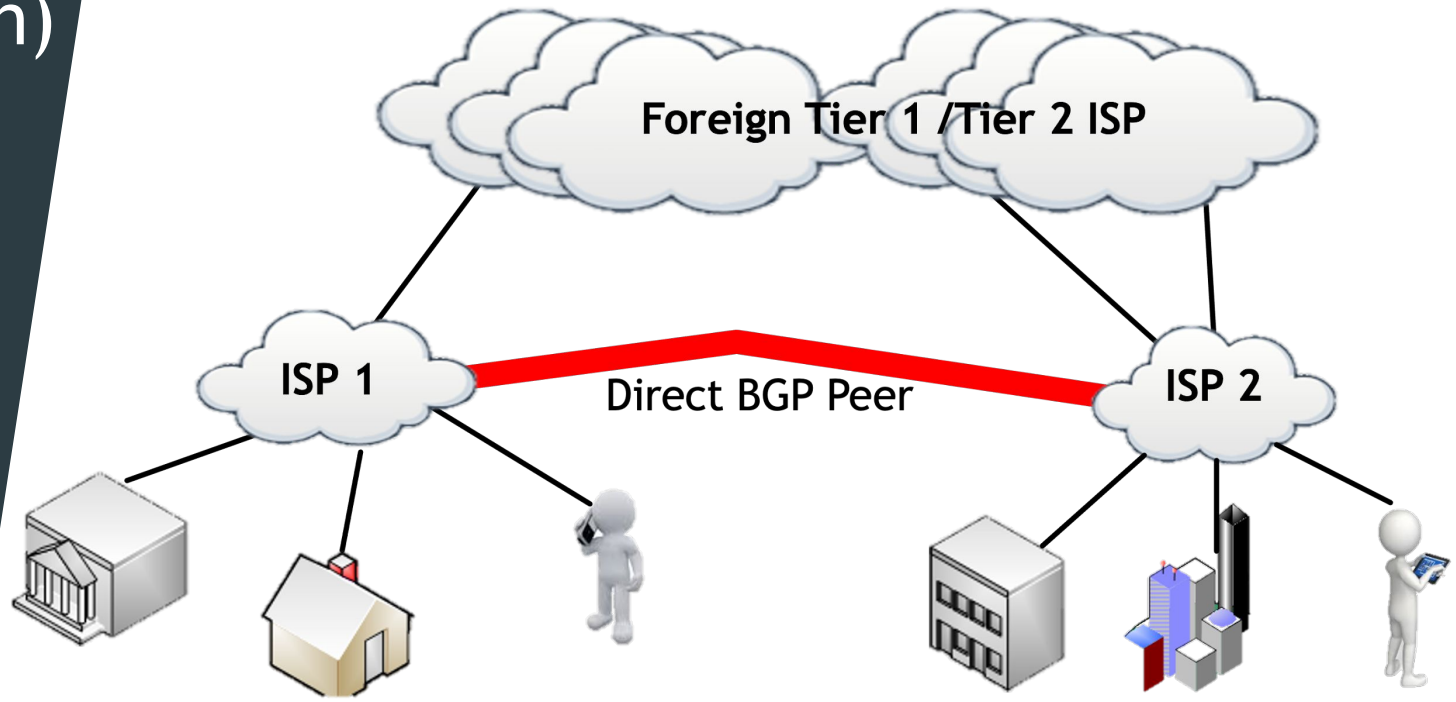
- How does traffic from customer of one ISP get to customer of the other ISP?
  - Via the international connections.
- Imagine multiple ISPs



ROLE OF AN IXP

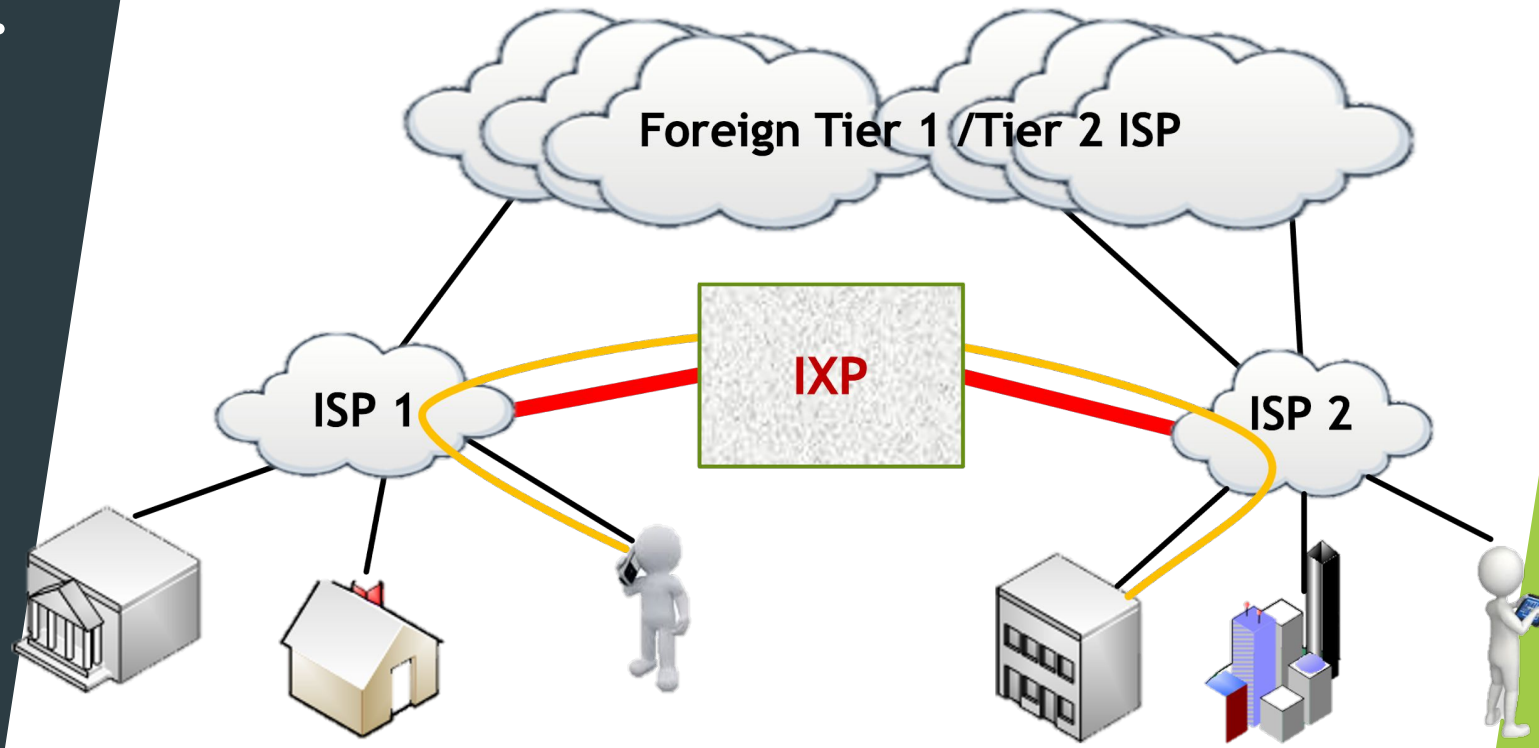
Addressing the challenge…
Option 1 (Direct Connection)

- Scalability Issue with multiple ISPs
  - N-1 Direct Peering

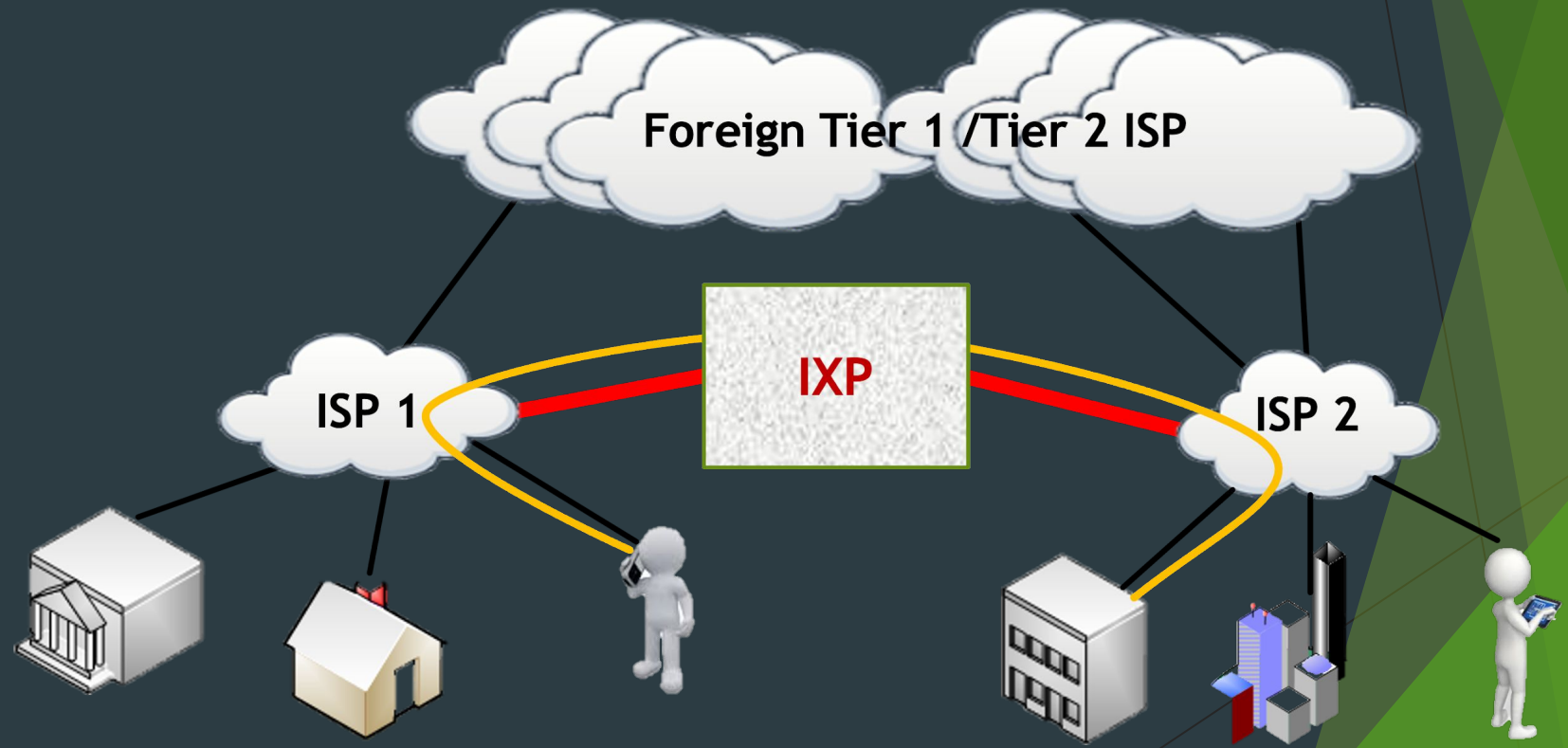


ROLE OF AN IXP

Addressing the challenge…
Option 2 (IXP)

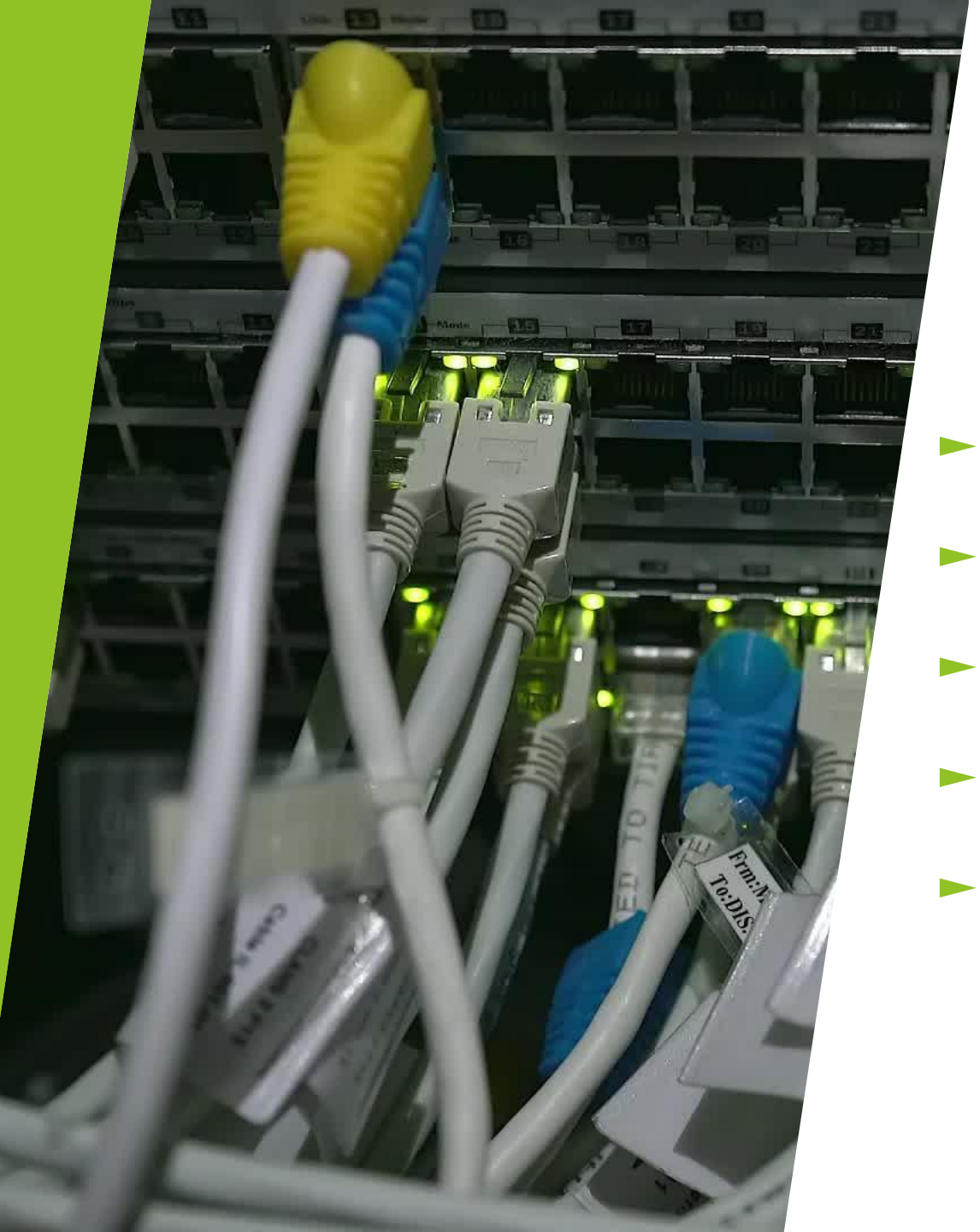


ROLE OF AN IXP



Benefits/Roles of IXP

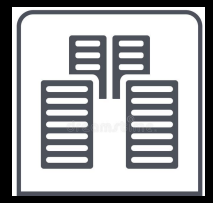
- Keeping local internet traffic local
- Reduces costs for access to internet
- Enhance local connectivity and improve internet experience of end users
- Reduce overall costs related to providing Internet services
- Foster innovation
- Promote and encourage the creation of local content
- Attract foreign Investors



Growing Internet Access

- Fiber infrastructure
- Data Centres
- Service Providers
- IXP
- Demand

What does it require to have an IXP



Location

- Carrier neutral facility
- Rack space, power, and cooling
- Access to networks.
- Fiber connectivity*

Equipments

- Switches, routers, servers,

Technical and administrative capacity

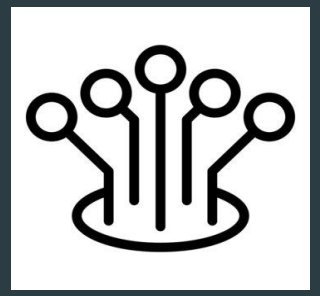
Some Peculier Challenges of IX in Less reached Areas

- Absence of carrier neutral data centre.
- Low connectivity infrastructure.
- Little or no interest in investing is internet services.
- High cost of transport capacity
- Security issues*

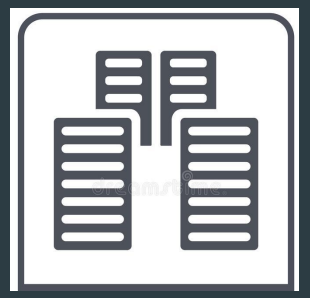
IXPN EXPERIENCE

IXPN Success Journey

315Gbps



107 Networks



10 POP

West Africa Regional IX

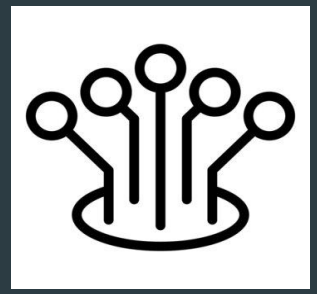
www.ixp.net.ng

Beyond the numbers

Abuja POP

Needs	Solution
Location (neutrality, space, power and cooling)	Medallion DC, Abuja
Connectivity	✓
Technical and administrative capacity	Local and remote

250Mbps

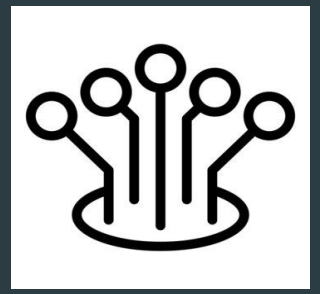


4 Networks

Port Harcourt POP

Needs	Solution
Location (neutrality, space, power and cooling)	ICNL DC, Port Harcourt
Connectivity	✓
Technical and administrative capacity	Local and remote

6.5Gbps



22 Networks

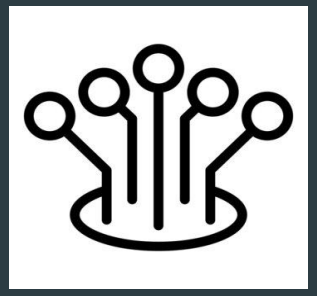
Kano POP

Kano State Library: Murtala Muhammad Library Complex Amodu Beloo Way Kano.

Kano POP

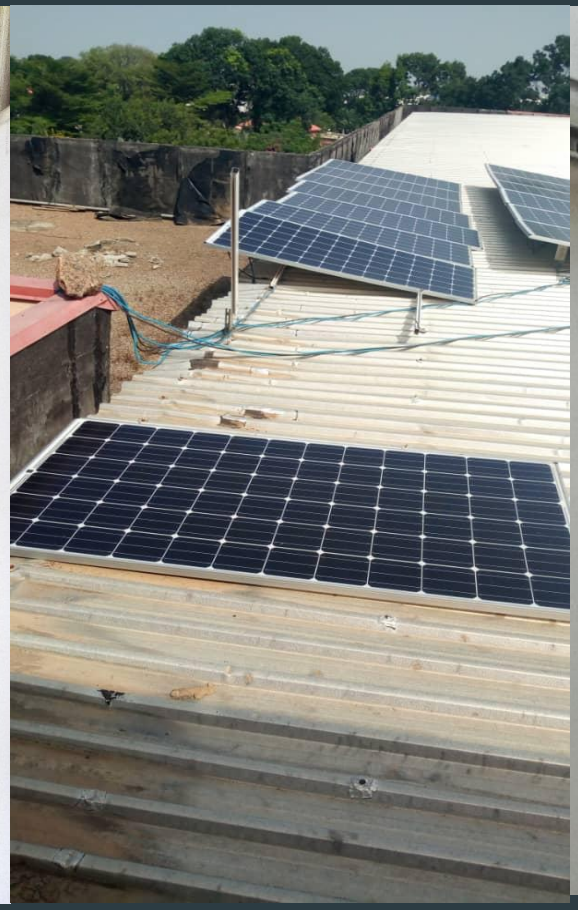
Needs	
Location (neutrality, space, power and cooling)	Murtala Muhammed Library
Connectivity	✓
Technical and administrative capacity	Local and remote

600Mbps



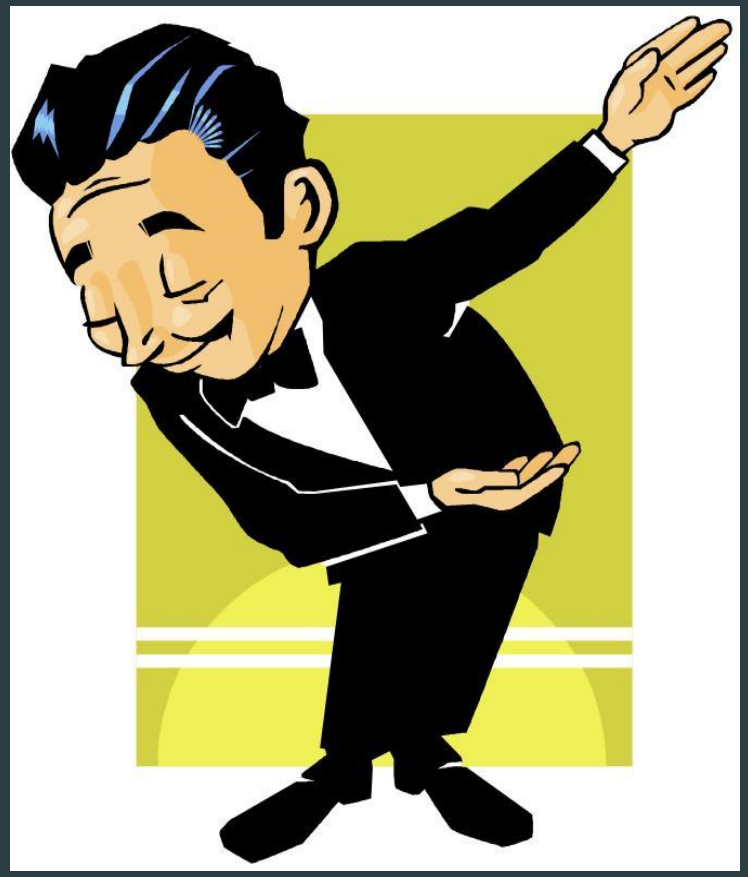
6 Networks

Power System



IXPN Locations

Thank You



REFRENCE

- www.drpeering.net
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