

Stakeholder Engagement on Peering with IXPN

Nigerian Peering & Interconnection Forum (ngPIF 2022)

25th October 2022



Outline of the Session

1. Background
2. Licensees Peering & Interconnection Analysis
3. Stakeholder Engagements
4. Key Highlights from Meeting with Licensees
5. Key Highlights from Meeting with IXPN
6. Recommendation and Next Steps

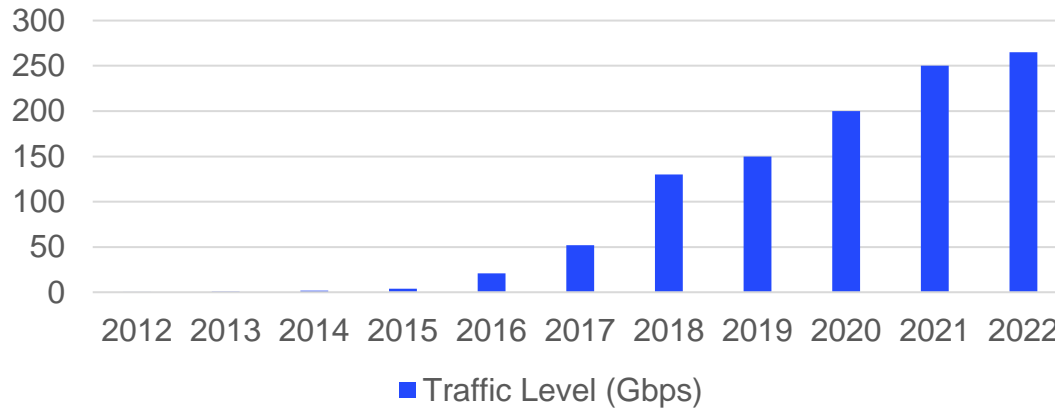
Benefits of Peering

- 1. Innovation Catalyst:** The IXP can serve as a catalyst for innovation of new products and services for the local digital ecosystem
- 2. Cost Savings:** Drop in connectivity costs which gives rise to cost savings in (millions of dollars) in offshore internet bandwidth payments
- 3. Drop in Latency:** IXP Members shorten their path to internet destinations, reducing latency, improving round-trip time and overall costs
- 4. Protection of Critical National Infrastructure:** Improvement in security profile of Nigerian internet traffic by ensuring that only international traffic leaves Nigeria

Background

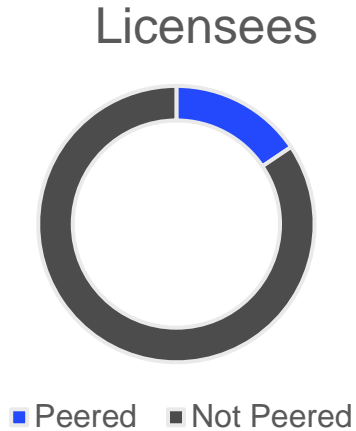
The interconnection of Service providers via the Internet Exchange Point of Nigeria (IXPN) has had a positive impact on the **growth of local traffic, exchange and access to content.**

Peak Traffic Growth



- The peak annual traffic growth in Gbp/s from 2012 to 2022 at the exchange point.

Licensees Peering Analysis



Number of Peering Networks

108

Number of Licensees

230

Connected to IXPN

36

Licensees With AFRINIC Resources

40

About the Data

Only 16% of the Commission's active licensees under the ISP and UAS categories have connected to IXPN

Note: Only 36 of the 108 IXPN members are licensed service providers. This can be improved upon.

Stakeholder Engagements

In a bid to encourage Service Providers to localize traffic, the Commission held virtual meetings as follows;

1. **1st March 2022:** met with ALTON and Service Providers (MNOs and ISPs)
2. **3rd March 2022:** met with IXPN



Key Highlights from the Meeting with Service Providers held on 1st March 2022

1. **Content Hosting:** Most of the Nigerian content accessed within the country are hosted in data centres overseas and not in local data centers.
2. **Charges** may be too high for startups and small companies.
3. **Customer Support Issues**
 - Prolonged outages that cannot be explained by IXPN and;
 - A lack of proactiveness during and after downtime or service degradation.
4. **Link Stability issues:**
 - Service congestion issues during peak hours on the backhaul (Lagos-Abuja).
 - Peering outside Lagos (Kano, Abuja & PHC) have Quality of Service (QoS) issues, especially at peak periods.
5. **Lack of multiple and efficient exchange points** outside Lagos also affects the rate of peering by Service Providers

Key Highlights from the Meeting with IXPN held on 3rd March 2022

1. IXPN operates an **Open Peering Policy**. In order to connect, the following are required:
 - a) have an Autonomous System Number (ASN),
 - b) have an IP Address block(s) assigned from Regional Internet Registry,
2. **IXPN is not a profit-making body**, but it charges members for access and the ports connections to generate revenue to sustain its activities.
 - The amount charged is **minimal** compared to the cost of transit, and there are considerations for startups.
 - IXPN also **waives** the port charges for small service providers until they scale in their business.
3. IXPN finds it **challenging** to provide efficient service when broadband links are down due to issues such as **fibre cuts** as some vendors were not engaged directly but by the NCC.
4. The links are **monitored** to ensure that during congestion the links are upgraded to manage utilization, decongest and improve the quality of service

Challenges faced by IXPN

- Infrastructural capacity and funding
- Low Local content to boost local network content:
- Initial transit for content networks to come to Nigeria
- Low traffic exchange by large local networks
- Technical capacity help realize gaps in knowledge of network connectivity
- High cost of transport for service providers to have a physical connection to the exchange point, and
- Limited carrier-neutral Data Centers in most regions.



NCC Support to IXPN

1. The Internet Exchange Point of Nigerian (IXPN) came into existence in 2006, after the collaboration between the Nigerian Communications Commission (NCC) and Internet Service Providers Association of Nigeria (ISPAN), with its Head office located in Lagos.
2. The NCC provided the seed funding for the establishment of the IXPN as a Public-Private Partnership initiative since an exchange point was identified as a critical infrastructure for the development of the national internet industry.
3. The IXPN, like any other internet exchange point, was established to allow several Internet Service Providers (ISPs), Content Providers, and other Internet Protocol-centric organizations in Nigeria to exchange traffic between their networks through mutual peering locally

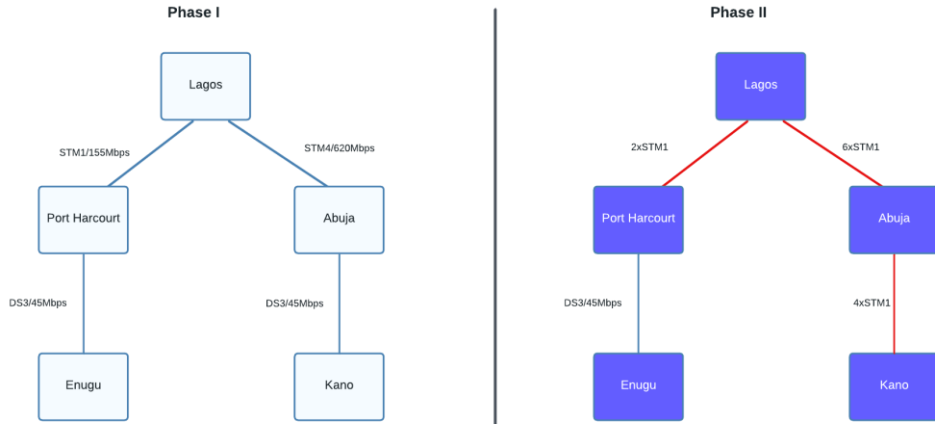
NCC Support to IXPN Contd

Points of Presence

- The Commission Supported the establishment of POPs across five geopolitical zones (NW, NC, SE, SS and SW)
- The POP for the NE is planned for 2022

Bandwidth

- Phase I provided the essential broadband links in Lagos, Port Harcourt
- Phase II is an upgrade to the links aimed at increasing capacity to accommodate more services, improve speed and reduce cost while improving data integrity



Way Forward

The Commission would like to hear from the operators and IXPN to develop further recommendations and the next steps forward.



Questions

Based on the licensee peering analysis, the results show a low number of licensees with internet resources from AFRINIC and a low number of connection to IXPN, therefore;

1. How do we encourage other operators to acquire internet resources from AFRINIC?
2. How do we increase peering and interconnection to the Exchange Point?

Thank You

