ITU - D Workshop: Costing Models for Affordable Data Services

Session 3: Internet exchange points and best practices for international internet connectivity

TOPIC: Insights and lessons learned from Kenya IXP

by

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Overview

1. Introduction
2. Expectations in 2002
3. Benefits of the IXP
4. Growth of the IXP
5. Growth Catalysts
6. Additional value of the IXP to other sectors

Background

- The **KIXP** was established in 2000 by the Kenya Telecommunications Service Providers' Association **TESPOK**
- KIXP started operations in 2002 – as a service that is run and owned by the community peering at the IXP.
- It is a non-profit IXP initially started by 4 ISPs exchanging traffic
- It is fully locally owned in line with licensing requirement at the time of operationalization
- Currently there are 121 peering members

KIXP Expectations as at 2002

- Increase the level of **local** traffic.
- Improve local Internet **connectivity & efficiency.**
- Reduce local Internet **costs**.
- Promote local **content development.**
- Encourage **E-Business.**
- Facilitate growth and dev. of **NRENs**

Current Objectives

- Keeping Kenyan Internet traffic local
- Enhance the Internet experience of end users
- Reduce overall costs related to providing Internet services
- Promote and encourage the creation of local content
- Create local Internet opportunities
- Build technical capacity

Benefits of the IXP

- The IXP provides substantial savings by eliminating the need to move all traffic through expensive, longer distance links to the rest of the world. KIXP works on hosting caches of this content locally
- Local end users can benefit increased bandwidth due to lower costs of local capacity.
- The IXP contributes to a better functioning and more competitive transit market, providing Internet service providers have more options for sending upstream traffic over the Internet.

Benefits of the IXP

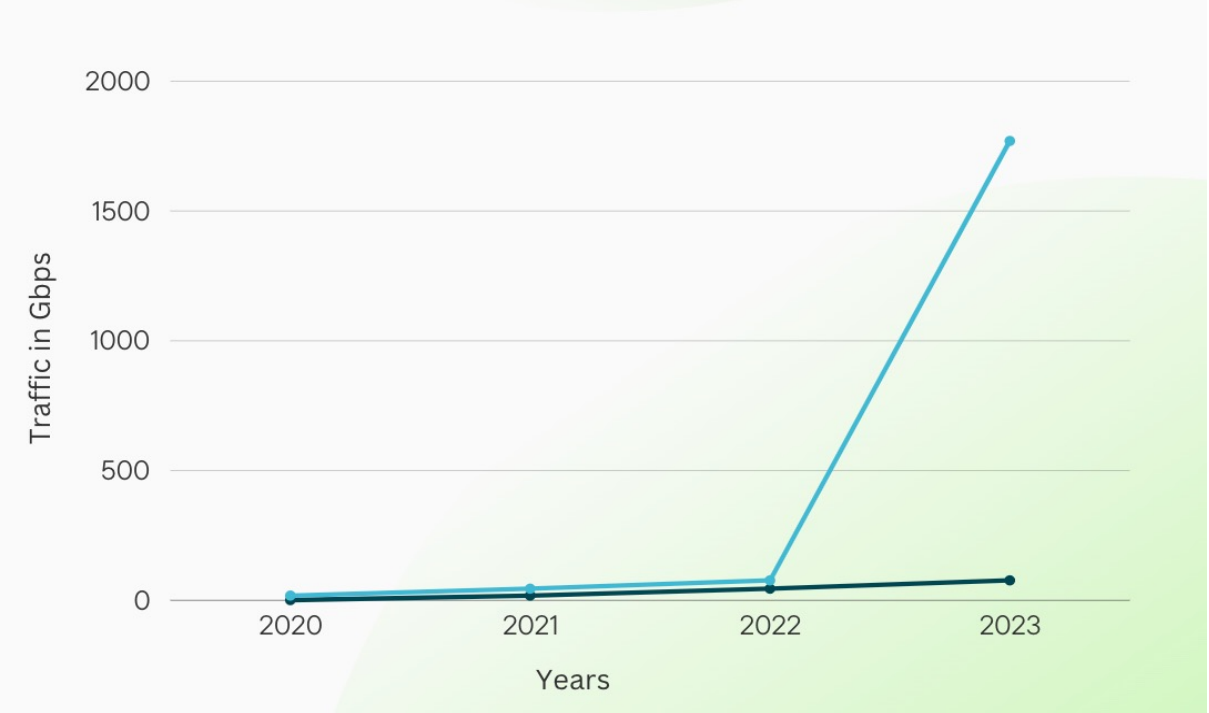
- The IXP has created an opportunity for new local content and service providers come into play; using ultra-fast, low-cost connections, they access a wider user base that the IXP avails.
- Service Providers find that they have local links up to 100 times faster, because of the reduced waiting time for traffic, going through several "jumps" to its destination

Growth of KIXP

- National Internet traffic aggregation
- Present in 5 locations
    1. ADC Nairobi
    2. iColo Nairobi
    3. PIAX Nairobi
    4. IX-Africa Nairobi
    5. iColo Mombasa
- Setting up regional points of presence to align with government strategy for digital economy

Growth of KIXP

- 2022 to 2023 traffic grew from 77G to 1.77T
- 2021 to 2022 traffic grew from 37G to 77G



Growth Catalysts

- Increased awareness in ICTs
- Regulatory changes in the license structures/regime
- Vibrant Private sector and now government
- Availability of technical capacity within the ecosystem
- Governments' adoption of e-governance as a tool to enhance service delivery
- Strategic partnerships with established similar entities and interested organizations around the world and in the region

Growth Catalysts

Government Traffic aggregation:

- With the government going fully digital, set up of 25,000 free public wifi hotspots and deployment of 100,000 km of additional fiber optic network. KIXP and the Government of Kenya are in the process of identifying key traffic aggregation points across the entire country.

Community Network Traffic aggregation:

- The Community networks around the country put forward a request to have their traffic terminate at a common POP within their locality then forward this to the main KIXP POP

Growth Catalysts

- Ability to accommodate multi-lateral peering agreements
  - Bilateral Peering
  - Multilateral Peering
- Encouraging hosting of services at established data centers
- Encouraging the data centers to accommodate all connectivity infrastructure owners
- Interconnecting POPs in one town but keeeping the separate towns operating seperatetly to grow an ecosystem around the POPs

Additional Value addition

- Serving the Fintech sector to reduce speed of financial transactions in the process of meeting the Central Bank of Kenya licensing requirements
- Offering regional MNO GRX to reduce the costs of mobile communication a project at KIXP funded by the African Union
- From a Cybersecurity perspective is the official IXP for the country where even foreign IXP as being asked to terminate their local traffic; data mining is a key national concern.

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