

Overview of African IXPs

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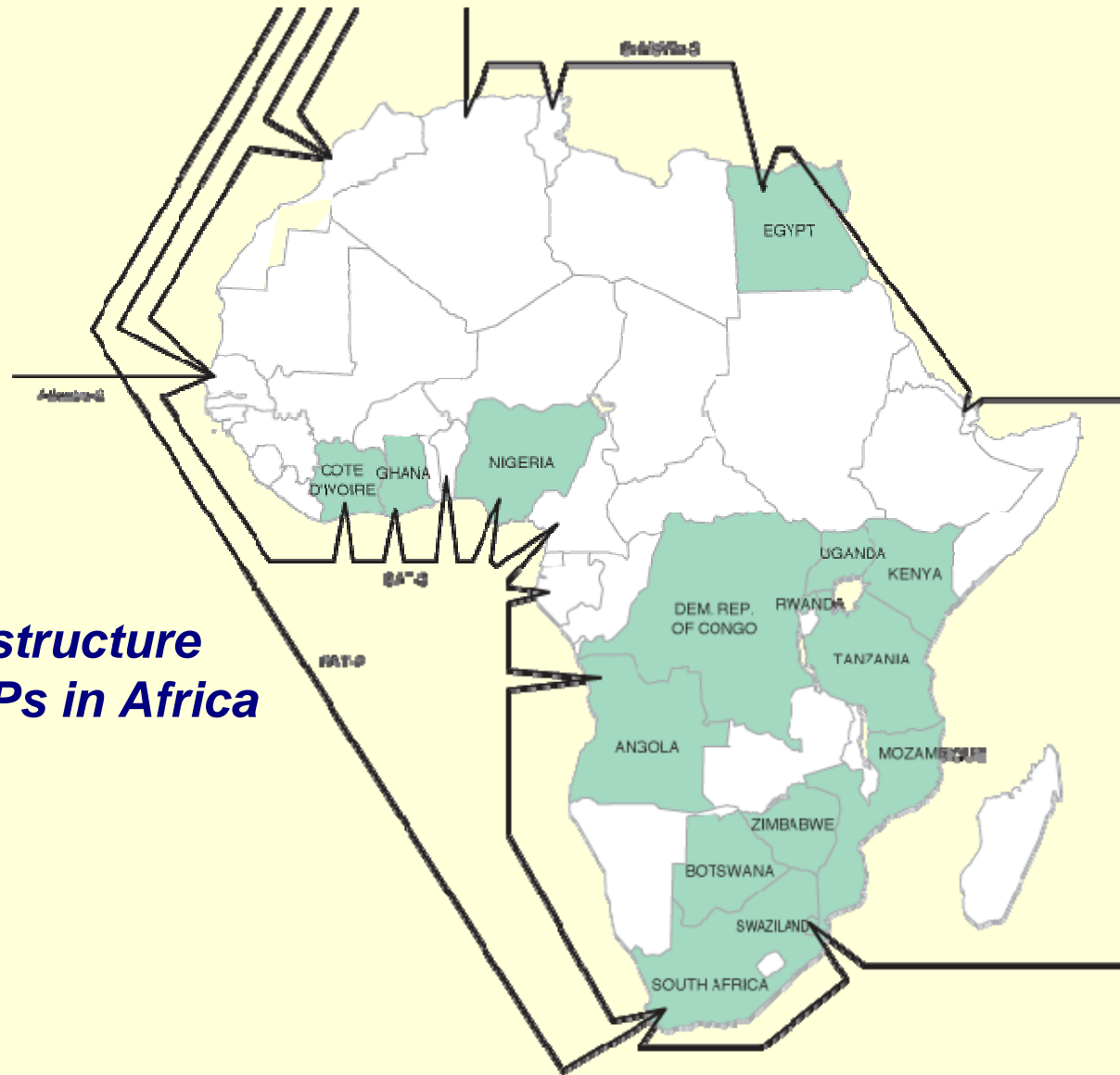
Introduction

- There are **17 IXPs** in 15 African Countries
- IXPs were formed as a result of prevailing challenges in the telecom's industry
- **ISP Associations** have been mainly involved in pushing for the setup of IXPs in most cases.
- Questionnaire was sent and we received **12 responses** from the 17 known IXPs.

IXPs in Africa



***Fiber infrastructure
Against IXPs in Africa***



IXP POC

- The 12 IXP responses were able to provide **contact information and a website.**
- Pleasantly, 10 out of 12 IXPs have the contact information and website under their **ccTLD domain**
- Most of the websites **lacked the basic information** expected i.e members, ASNs, IP address and aggregate traffic.

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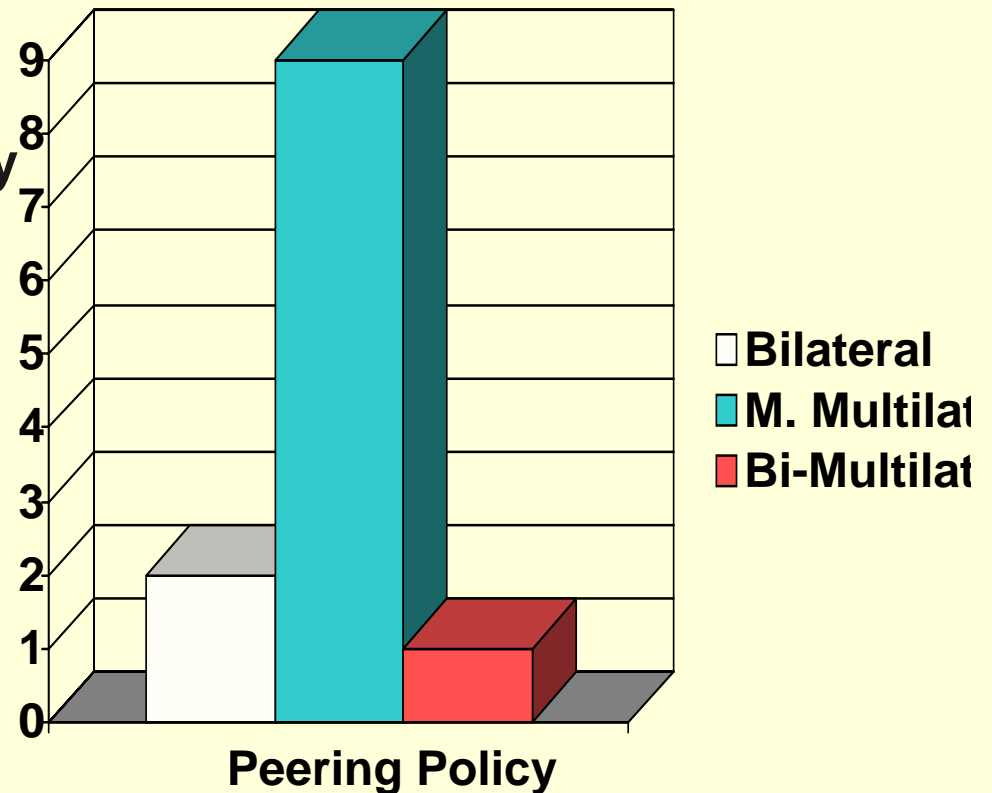
- The Oldest IXP is JINX in South Africa established in **1996**
- The youngest IXP is Arusha IXP established in **July 2007**
- The average age of the IXPs in the the region from the responses received is **4.1 years**

Peers

- The IXP with the highest number of participants from the responses is with **24 members**
- The **lowest number** of peering members is **4**.
- The **average number** of participants in the IXPs in Africa is **11**

Peering Policy

- Two main peering policies - **Bilateral peering policy & Multi-lateral peering policy**
- The policies are either **mandatory or voluntary**
- **17%** of the IXPs have **Bilateral peering**
- **75%** of the IXPs have **Mandatory Multi-lateral peering**
- **8%** of the IXPs have both **Mandatory and Bilateral peering agreement**



Traffic

- **10 out of 12 IXPs** provided aggregate IXP traffic data
- **The highest traffic was at 200Mbps** and the lowest was **at 300Kbps**
- **The average traffic across all the African IXP's is 27Mbps**

Membership Policy

- **33% of the respondents have an open membership policy meaning anyone can peer.**
- **33% of the respondents have a closed membership policy meaning only licensed operators & ISPs can peer.**
- **33% of the respondents have a semi-open policy which means that they have an evaluation criteria for undefined members.**

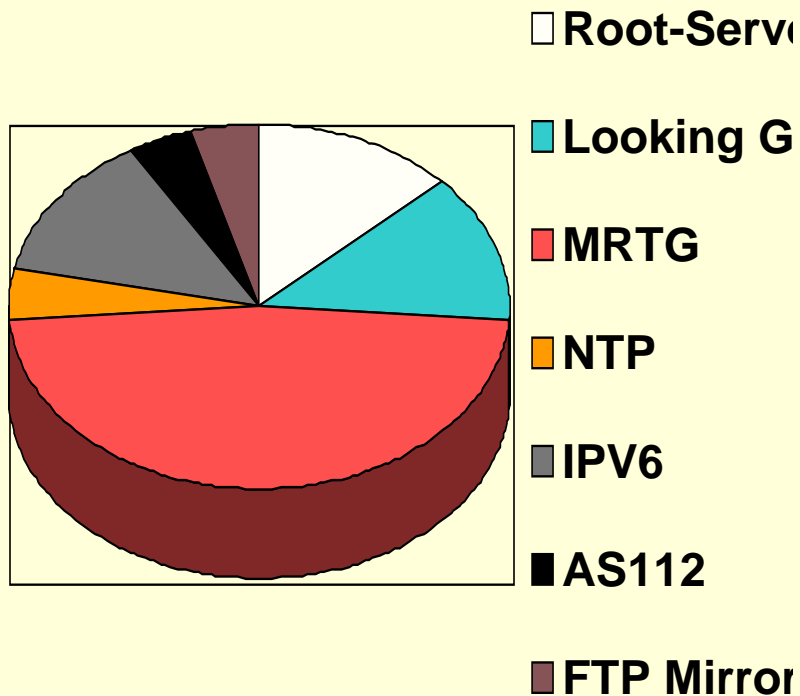
Composition of IXP

- Despite the open membership policy only **16% of the members (2 out of 12)** had members non-traditional members peering
- **33% had Govt peering** at the IXP

Role of Government

- **2 out of 10 respondents had no Government involvement in the IXP**
- **Of the 12, only two are licensed by the regulator**
- **33% of the respondents indicated that had Government agencies peering at the IXP**
- **At least 50% of the IXPs were established with Government facilitation**

Value added Services



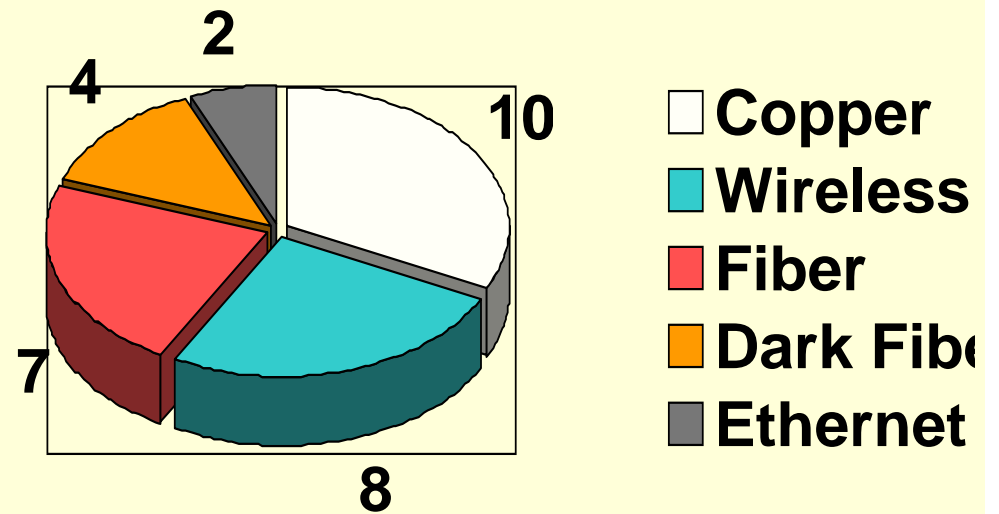
- At least 66% of the IXPs had some value added service ranging from basic MRTG services, Looking glass, Root-Servers, FTP servers and IPv6
- The remaining 44% were looking at deployments in the near future.

Neutrality

- At least **50%** of the IXPs are located in what members perceive to be a **neutral location**
- The remaining **50%** are collocated in a **Carrier/ISP facility**.

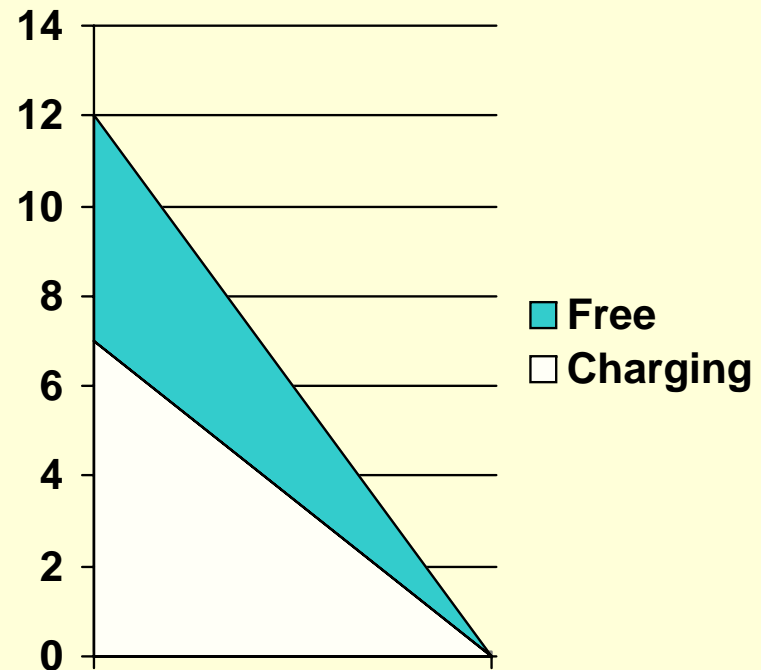
Connectivity

- The infrastructure at the IXPs is relatively good.

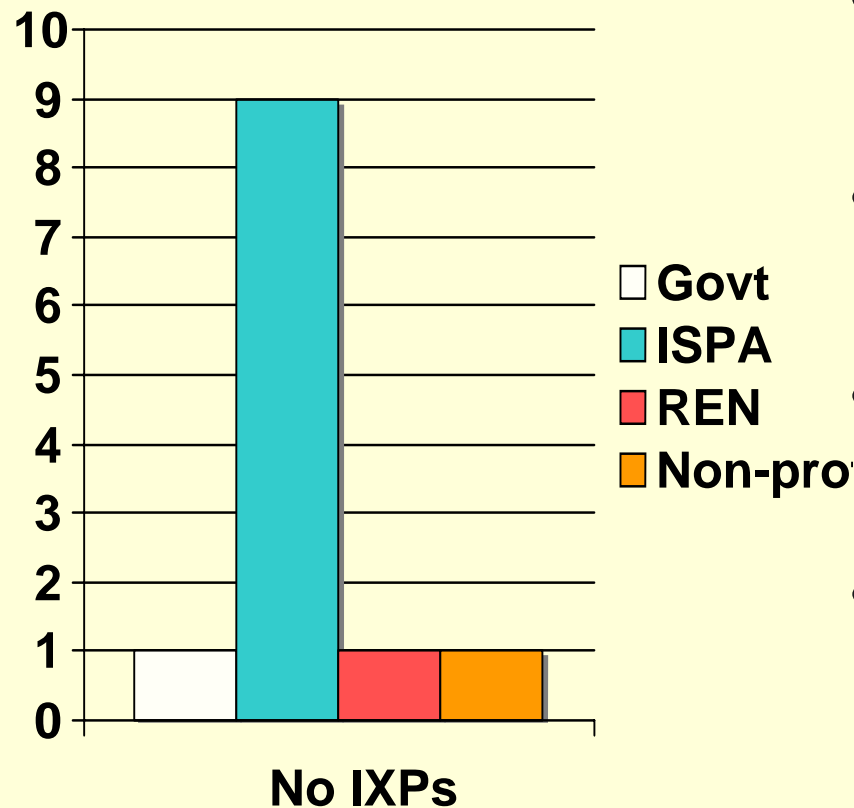


Sustainability

- 41% of the IXPs do not charge any fees
- The rest of the IXPs charge a monthly fee with an initial setup fee.
- The range of fee's is from \$50 - \$9000



IXP Model



- **75%** of IXPs are non-profit entities run by the ISPA
- **One IXP** was operated by **Government**
- **One IXP** was operated by an academic institution on **REN**
- **One IXP** receives **Govt Support** with potential clients been recommended to seek services with IXP members only

What we learn, the good...

- **There's seemingly good linkage between IXPs and the ccTLD**
- **IXPs have relatively good connectivity**
- **The role of Governments in IXPs is seemingly progressive**
- **IXP Models are “at this stage” ideal**

The not so good...

- **The Mandatory Multi-Lateral peering policy** is a dominant obstacle to IXP growth
- **Membership policies** are not progressive
- **IXP sustainability** is still an area of concern.
- **More value added services** need to be implemented at the IXPs

Thank you

Questions?