SURVIVAL OF NRENs IN A COMPETITIVE MARKET OF AFRICA: A CASE STUDY OF ZAMREN

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Introduction

- NRENs have been in existence in Africa since 14 years ago
- The first NREN to be established & operationalised was KENET in 1999
- And the second NREN was TENET in 2001
- In Africa Internet provision was dominated by commercial ISPs
- Charges were exorbitant e.g. in Zambia was btn $5,000 to $6,500 per Mbps per month
- Commercial ISPs view NRENs as competitors
- BUT NRENs are incubators of technology users that grow commercial ISP's market
- Commercial ISPs must realise this
- And if not then NRENs will face stiff competition

NREN's Mode of funding

- Almost all African NRENs have received some donor funding for their start up
- KENET received $1million from USAID
- TENET received $2million from the Andrew W. Mellon Foundation and the Atlantic Philanthropies
- And ZAMREN received €2.249million from NUFFIC
- NRENs easily form linkages/partnerships
- Commercial ISPs do not

NRENs service portfolios

- Both traditional & advanced services exist
- Traditional: Mail hosting & relaying, Spam filtering, Domain & Web hosting, Data Centres
- These are also provided by commercial ISPs
- Advanced services: EDUROAM, Federated Identity, High Performance Computing (HPC) & Cloud Computing for researchers
- These are advanced or distinguishable services
- Capacity building in member institutions
- Technical support to member institutions at no cost

About ZAMREN

- Registered in the year 2007 as a not for profit association
- Operationalised in June 2012
- Has six full time staff
- First land linked/locked NREN to operate cross border network
- Started with capacity of 1-STM1
- And with only three members up to January 2013, UNZA 40Mbps, CBU 20Mbps and MU 10Mbps
- A big loss for the 1-STM1 capacity

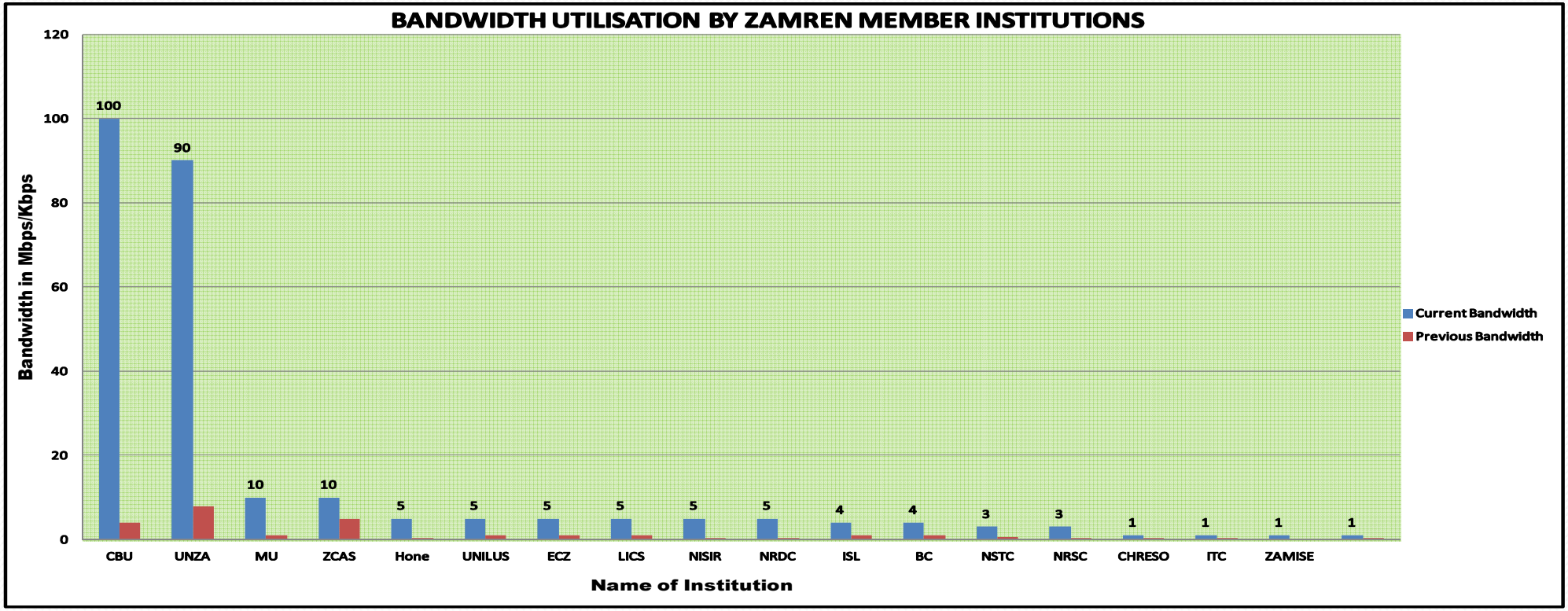
Types of membership & its network

- Two types of membership

1. Active (15)
2. Passive (More than 30)

- Network concentrated in three provinces/regions, namely Lusaka, Central and Copperbelt
- Total capacity of 200Mbps International capacity
- Total capacity of 300Mbps local capacity
- Local peering and Google Cache at ZIXP

Bandwidth utilisation by member institutions



The problem

- There is an increase in the uptake of Internet among education and research institutions
- More bandwidth and affordable
- NRENs provide Internet only at workplaces
- While their users have become mobile
- And they want to be connected all the time and anywhere
- Users want an NREN network that is available, reliable and usable (ARU)
- Institutional users need more support from their technical staff
- Technical staff also require more skills to manage the bandwidth

Cont'd

- Commercial ISPs provide Internet using 3G and Dongles to mobile users
- NRENs do not provide this service to mobile users
- NRENs aim at making broadband Internet connectivity affordable
- And incubate students to become potential consumers of Internet for commercial ISPs
- Commercial ISPs are also lowering bandwidth prices to remain afloat
- Creating a situation where lower bandwidth pricing will no longer be a factor but services being offered

The Approach

- A survey to ZAMREN members through a questionnaire was conducted
- 13 questionnaires were sent
- 9 responses were received
- A second questionnaire was sent to 3 CEOs of KENET, TENET & TERNET
- 2 responses were received

The Outcome

- There must be a paradigm shift for NRENs to survive
- From low pricing strategy to service based strategy
- NRENs should plan for acquisition of two commodity links where one commodity link is a backup to the other
- Provide dedicated/uncontended bandwidth

Cont'd

- NRENS need not offer the same services as commercial ISPs i.e. from traditional services to advanced/distinguishable services
- Provide capacity building and technical support to their member institutions
- Cloud Computing (CC) and High Performance Computing (HPC) for researchers
- NRENs must also pioneer the use of dongles by partnering with chip designers
- Implement retention & motivation strategy for employees
- Exposure visits by staff members

The Challenge to NRENs

- ***Most if not all NRENs provide Internet services to their users only at their workplaces. Considering that commercial ISPs provide Internet services to their users anywhere and anytime through WI-FI, 3GS, 4Gs and Dongles, is this not a challenge to NRENs as Internet users desire to have access all the time? What should NRENs do in this case?***
- ***Because of Government and Donor support that NRENs receive, they are able to lower bandwidth prices unlike commercial ISPs. Can NRENs lower bandwidth prices without this kind of support? What would be the true/correct bandwidth pricing?***

Conclusions

- Stable Internet Connection
- Advanced and Value Added Services
- Low Bandwidth Pricing
- Technical Support
- Use of dongles using either 3Gs or 4Gs technology
- Staff retention and motivation strategy

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END of presentation

And thank you all