Gambia IXP Experience

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Map of The Gambia

Introduction

➢ Serekunda Internet Exchange Point (SIXP) – First and only IXP in The Gambia AS37698

➢ Established in July 2014 – a product of AXIS AU Project

➢ Has seven ASNs peering, 5 local and 2 international (PCH)

➢ Registered as a not for profit organization

➢ Run by an executive committee and three part time staff (2xtechnicians and 1XAdministrator)

➢ The Government through the Ministry of ICT and the regulator was a great facilitator in its establishment

During Setup and Configuration

After the Setup

What We Had Before

➢ There were five operators – including the Incumbent

➢ National Telco had Monopoly of the Gateway both Data and Voice

➢ All local operators transit through the incumbent

➢ The Incumbent transit through SONATEL in Senegal

➢ With the ACE (Africa Coast to Europe) project, other operators were granted Data Gateway License

➢ Now they have their own transit links to Europe, and this brought the need for an Exchange Point

SIXP Topology
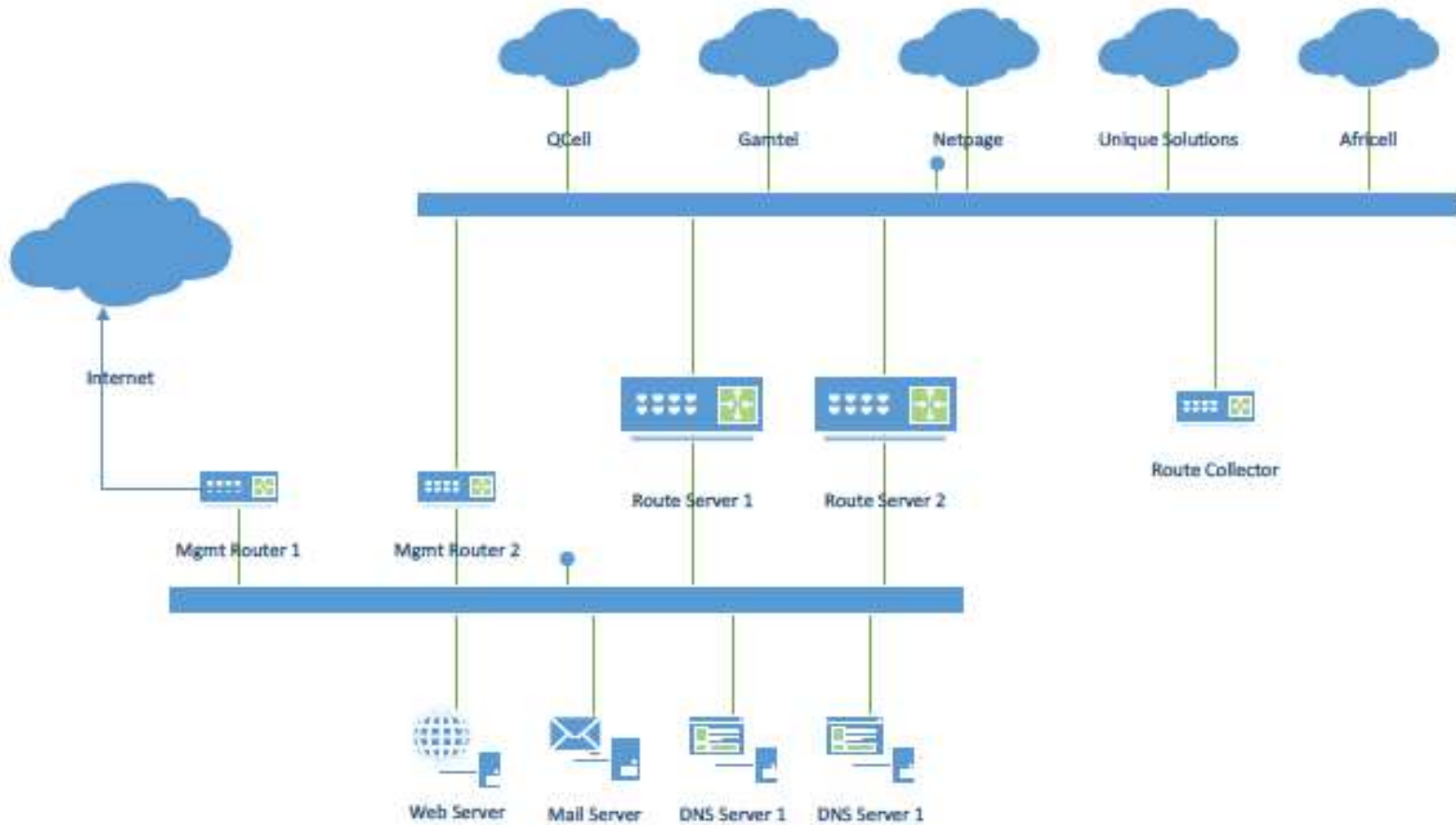
Impact of SIXP

➢ Increase traffic through the exchange, reaching a maximum of 50.541Mbits

➢ Reduced latency between local operators from 60 - 100ms down to 5 - 10ms.

➢ No measured performance improvement for Internet users

➢ Has not yet translated into cost saving both for users and the operators

➢ The reason, we still have far more transit traffic than peering traffic

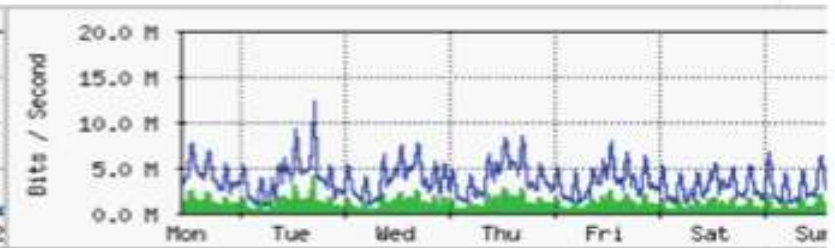➢ The Good thing, we are able to bring all the operators in one room to peer
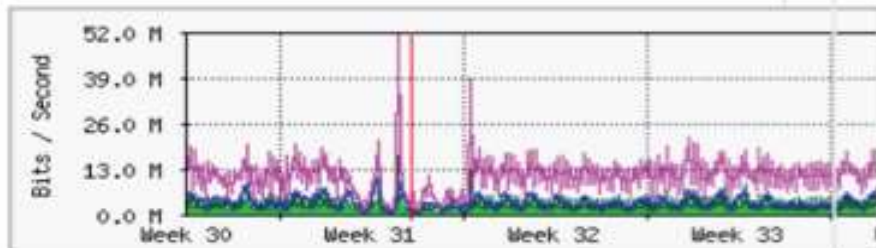
SIXP Aggregate Traffic

Day Graph
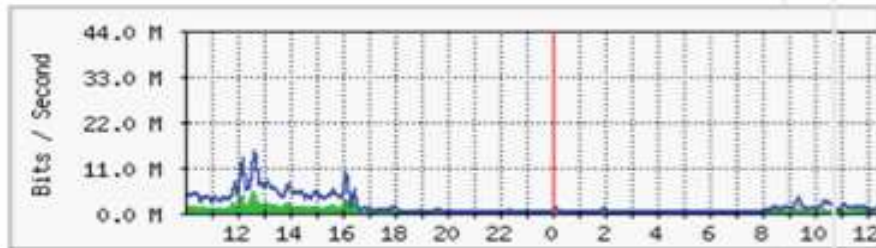
	Max	Average	Current
In	14.035 Mbits	755.730 Kbits	677.592 Kbits
Out	42.142 Mbits	2.261 Mbits	2.024 Mbits

Week Graph

	Max	Average	Cu
In	14.035 Mbits	1.058 Mbits	677.59
Out	42.142 Mbits	3.178 Mbits	2.02

Month Graph

	Max	Average	Current
In	16.853 Mbits	1.099 Mbits	677.592 Kbits
Out	50.544 Mbits	3.294 Mbits	2.024 Mbits

Year Graph
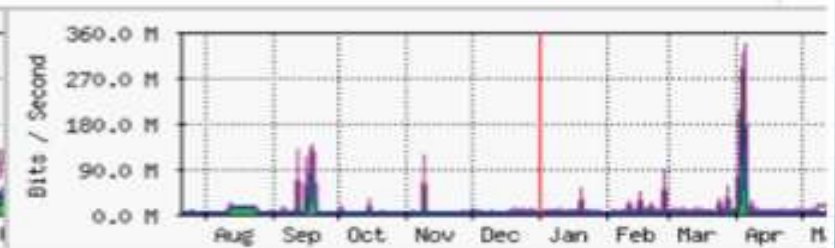
	Max	Average	Cu
In	332.914 Mbits	2.533 Mbits	677.59
Out	334.013 Mbits	3.241 Mbits	2.02

Limitations and Challenges

➢ Major challenge is lack of local content or CDNs

➢ No locally significant applications e.g. Nollywood etc.

➢ Most Websites are hosted outside due to high cost of local hosting

➢ High cost of electricity and cooling discourages local hosting

➢ No available carrier neutral data centers due to high operating cost couple with Economies of scale

➢ Only one landing station in the country, the ACE sub-marine fibre cable

What is been Done to Mitigate the Problem?

➢ Hosting of Remote CDNs like GCC (Google Cache Content), Akamai etc.

➢ GCC servers already installed, waiting for a router/layer 3 switch which is expected in one month time

➢ Already signed NDA (Non Disclosure Agreement) with Akamai, waiting for their legal team

➢ We are already hosting PCH for faster DNS and root server searches

➢ Locally we are working with other stakeholders in organizing workshops and training on local content development

➢ There is a plan workshop in September on harnessing and development of local content

Lessons Learnt

➢ That establishing an IXP is not very expensive contrary to the myth

➢ You need more political will than technical know how

➢ Neutrality is key to an IXPs success

➢ Getting traffic to the exchange is more challenging than establishing the IXP

➢ Sadly, that the big boys tend to bully the small boys…. Meaning you need traffic to be listened to

Future of SIXP

➢ We will continue to build content in order to generate traffic by hosting remote CDNs and encouraging local content development

➢ Will work on developing strategies for value added services in order to attract more peers and generate more traffic

Appreciation

I can't conclude without thanking these special people, they have been and still are crucial in the establishment of SIXP and its continuous existence

➢ Nick Hilliard of INEX

➢ Nishal of PCh

➢ Michuki of ISOC

➢ Jane Coffin of ISOC

➢ And finally the whole AFIX community

Thank you

Questions ????

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