



INET Day Conference Report

June 6, 2008

The INET Africa Day was held on June 6th 2008 at the Golden Tulip Hotel in Rabat, Morocco. The AfNOG/AfriNIC workshops and meetings that commenced on 25th June 2008 at the same location preceded the meeting. The INET Africa Day was themed “African Interconnection – the value proposition” aimed at identifying the business case and role of the key stakeholders in the regions interconnection process.

Introductions and Stage setting

Ms. Ounsa Roudies from the Moroccan Internet Society Chapter (MISOC) opened the meeting with a presentation on their ongoing activities and engagements with the local community. MISOC has an active role in the academic sector providing a CD-based toolkit on Internet technologies to schools. The chapter is seeking collaboration with the Government in various activities including e-government. It has also been involved in the formation of the Moroccan IPv6 taskforce and has been involved in the hosting of the ICANN meetings, EGENI Africa and capacity building initiatives. Following interest from the participants to review the CD, Ms. Ounsa pointed that the contents are also available on the MISOC website www.misoc.ma. There was further interest to learn of MISOCs project funding model. Ms. Ounsa confirmed that the membership fees were not sufficient to support the projects and additional funding had been received from supporting organizations including ISOC’s project funding program.

The ISOC Director of Education and Programs Ms. Karen Rose, followed with a brief stage setting speech. Ms. Rose observed that the African region has recorded the second highest Internet growth rate in the world from 2000 – 2008 and that the larger portion of the next 1 billion Internet users will be netted from the developing countries and regions of the world. She further highlighted the need for affordable regional International and regional connectivity to boost growth in research, education networks and regional trade.

African Infrastructure Assets Overviews

The first session presented overviews of the key Internet Infrastructures in the region. In this session, Mr. Michael Ruddy from Terabit Consulting showed that there’s good progress being made in the growth and development of submarine fiber infrastructure from its current design capacity of 350Gbps to 25Tbps based on proposed projects. From Mr. Ruddy’s presentation there was keen interest from participants to know which proposed projects were reaffirmed. He confirmed that the Glo 1 project in West-Africa going to Nigeria would be operational within 3 years and also expected 2 of the 3 proposed systems in the East African region namely EASY, SEACOM or TEAMS to be operational in 2 years time. In response to a question regarding the cost impact of the cables upon

completion, Mr. Ruddy stated that the goal was to reduce the costs by 90% compared to the current cost per Mbps via satellite in the region.

Mr. Albert Nsenguyimva from UbuntuNET alliance highlighted the increased number of Research and Education Networks (RENs) in the region to 10 with 3 under construction. Further, there were plans underway to interconnect along the existing fiber infrastructures, create virtual RENs via VSAT links and connecting them to the European main REN – GEANT. Mr. Nsenguyimva's presentation also drew interest on the involvement of UbuntuNET in the West-African region to which he re-established that the alliance is open to members from the various regions to join. He further commented on the recent achievements of the Malawi REN that facilitated through negotiations with the government for the universities to access the Fiber infrastructure at no cost.

Mr. Mwangi of ISOC and CTO of KIXP briefed on the growth of IXPs in the region with 15 countries having 17 IXPs with an average of 11 members and 27Mbps of traffic across all of them. He further highlighted the need for a review of the IXP membership policies to grow the existing facilities (in terms of members and traffic) and a need to establish IXPs in the countries that lack them. From this presentation, there was clarification that there exists two IXPs in Egypt, Cairo IXP which is 100% Government owned and GPX which is 100% private investment and neutral. In response to a question regarding the cost of setting up an IXP, Mr. Mwangi pointed out that all that's required is a switch and a hosting facility. All the other resources and costs are met by the individual service providers/members. There was further interest on the number of licensed IXPs from the participants to which he clarified that it's an East African concept as a result of misconceptions of IXPs and discussions are having borne fruit with indications that future IXPs may not require licensing.

Interconnection Challenges in Africa

In the second session the three panelists Mr. Mustapha Mezghani, Mouhamet Diop and Ahmed Khouja identified a major interconnection challenge as the lack of regional interconnection and poor national terrestrial infrastructure. Based on the different infrastructure maps presented showing the actual terrestrial infrastructure in the regions, it was evident that there was an inefficient distribution system to countries that have access to submarine fiber. Mr. Diop expressed that with little or no local content available and limited number of IXPs, most of the regions Internet traffic is billed as transit traffic. He highlighted the example of the SAT-3 project that is fully owned by incumbent telcos that have shown little interest in Inter-Africa peering. Mr. Mezghani pointed out the need to harmonize the regional interests in order to achieve this as all countries have different priorities. This is in view that 32 countries have access to the Seas and only 15% of them have submarine fiber and of these only 20% have cross-border connections. Mr. Khouja's comparisons on broadband usage highlighted a need to develop broadband infrastructure to increase the user density. In response to a question from the participants regarding the status of the interconnection initiative in the Arabic world, Mr. Khouja confirmed that the deliberations were at an advanced stage on how to implement the 4 Network Access Points (NAP) at the Arab League summit meetings.

Introduction to Interconnection Transit and Peering

Mr. Kurtis Lindqvist led the Interconnection transit and peering session and defined the main differences between transit and peering and situations that warrant for such interconnection options. He further pointed out on how to measure benefits of peering and transit by evaluating the number of peers or routes available at an IXP. Mr. Chris Kiagiri of Google inc. demonstrated the Google Global Cache (GGC) concept that is set to complement open peering models. The design is aimed at efficiently caching Google content at the ISP level therefore saving the ISP money, bandwidth and improving content delivery to users. The comments from the participants pointed at potential

concerns with the scalability and neutrality aspects of deploying the GGC nodes at a ISPs internal network and recommended them to consider deployment at IXPs. Mr. Kiagiri established that there was particular business or technical issue influencing this model, and availability of free transit at an IXP would be the only factor. In response to a question regarding the sharing of the caches in one country, he confirmed that there's not inter-cache protocol running between any of the nodes and they were considered as unique hosts.

Interconnection Experiences in Africa

The Interconnection experience presented by Eng. James Kilaba from TCRA, Tanzania and the EARPTO exemplified a regulator driven initiative to promote national and regional interconnection owing to failures by the incumbents and service providers. The approach has lead to awarding of a contract to a carrier in the East African region to provide transit interconnection between the 3 IXPs. At the same time, the Tanzanian Government is facilitating the building of IXPs in the major towns that will be interconnected with an aim of lowering local access costs. The interconnection of IXPs drew varied responses from the participants in comparison to failures of similar initiatives. In this regard, Mr. Lindqvist gave the Swedish experience of building the different exchanges in different cities without interconnecting them to reduce latencies within the regions. Mr. Boubakar Barry of AfREN gave the REN update and overview of the activities that were set out from the meeting in Abuja and what had been achieved. The main milestones were growth of RENs, establishment of an AfREN mailing list, sharing of best practices and 50% discount for IP resources to RENs by AfriNIC.

The Interconnection Business Case

Mr. Lindqvist made the interconnection business case by analyzing the European peering history. At the time, transits costs for Internet traffic were high as most of the traffic was destined to the USA. The European operators opted for peering and interconnection as a means to lower end-user costs and remain competitive. The 3 main benefits of peering highlighted were lower costs, infrastructure redundancy and greater control of traffic. Other additional advantages of peering at IXPs include the availability of complementing infrastructure like root-servers, TLD/ccTLD servers, NTP-Servers and IRR copies.

Conclusion

In the wrapup session, Mr. Frederick Donck of ISOC highlighted the following issues as salient points for consideration in the Interconnection discussion from a policy perspective.

- 1.) Importance of better aligning the political agendas of decision makers at national and regional level (eg. CER/communautés économiques régionales – Regional Economic Communities) when it's about key policy decisions on access
- 2.) Broad consensus on the key equation that local content drives local traffic which itself drives/attracts local investment.
- 3.) Broad understanding that the specific role of stakeholders need to be clarified and agreed individually in order to move interconnection issues forward. In addition, sustained discussions on the stakeholder roles and local content with policy/decision makers in Africa are required
- 4.) Some interesting activities would be to organise projects on a more limited scale (i.e. 2 or three countries only) to start with before extending at regional level

5.) last but not least, stimulating public/private partnership in Africa has been pointed as a key issues.

There was a final comment received from a Senegalese participant and pointed that regulation should only be done when necessary. He underscored that less regulation creates market regulation that is more effective. In parting he supported the role of public private partnerships in policy development, as is the case of the Think-Tank activities in Senegal where he participates.