NRENs and Schools

UbuntuNetConnect 2016, Entebbe
3rd and 4th November 2016

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Reflections triggered by a project involving:

also known as eSN; (a schools’ network based in Cape Town);

and

TENET
Tertiary Education and Research Network of South Africa

(the South African NREN)
Disclaimers

• I have no employer or principals
  – *(Principles are another matter…)*

• I am a non-executive director of eSN

• I consult to TENET, but not on the subject presented here.

• I have no mandate to represent either eSN or TENET on the subject of this paper, BUT…
  – I have their permission to present my reflections
NRENs serving schools?

• It’s not uncommon for NRENs to carry schools’ traffic.

• Some NRENs started out as schools’ networks
  – Namibia’s Xnet
  – Zimbabwe’s ZARNet

• Some schools networks resell NREN services
  • eSN resells TENET’s services

• Some universities allow nearby schools to connect to the universities’ networks
  – Demand for support can become burdensome
Schools Connectivity Project

• Aims to coordinate initiatives of government, industry and donors to promote the use of ICT in Kenyan schools.

• So far 100 schools have been connected through partnership with Wananchi Telecom Ltd.

• KENET hopes to get other partners as well.
Reflections on a project involving

Part 1: The Characters
About SANReN

South African National Research Network

- Multi-gigabit network dedicated to research
  - > 200 Gbps on WACS submarine cable
  - Reaches nearly all university and research campuses
  - Will support Square Kilometer Array radio telescope

- Deployed and owned by the Council for Scientific and Industrial Research (CSIR)

- Capital costs funded by the Ministry of Science and Technology
About TENET

• TENET: Tertiary Education and Research Network of South Africa NPC
  – Incorporated as a not-for-profit private company
  – Universities and Statutory Research Councils may be Members
  – Provides REN services to research and education institutions
  – Cost-recovering service charges

• Comprehensive agreement between CSIR and TENET
  – First signed in 2008
  – TENET operates and uses the SANReN network
  – TENET responsible for all interconnections (peering, transit,..)
  – TENET bears technical operating costs of the entire network

• SANReN and TENET jointly constitute South Africa’s NREN
About the SABEN Project

• SABEN is a project of TENET
  – In collaboration with college principals and SANReN
  – Aims to connect TVET colleges to TENET
  – Provide them with re-packaged TENET services
  – Arno Hart leads the SABEN Project

• TVET colleges
  – Technical Vocational Education and Training Colleges
  – 50 TVET colleges with 264 campuses between them
  – National development plan emphasises technical and vocational training
About eSN

• e-Schools Network NPC
  – *Founded in 1993 by a group of teachers*
  – *Offered a unique email service with a mailbox for each learner and teacher in a school*
  – *Now serves over 1000 schools*

• Resells services of several commercial ISPs
  – *ADSL access circuits to schools*
  – *eSN’s main value-add is its helpdesk/support service*

• Resells TENET’s services to some schools
  – *Up to 100 Mbps; uncontended Internet access*
Reflections on a project involving

Part 2: What’s happening?
Realising Synergies between eSN and SABEN

- Arno Hart realised that Schools and TVET colleges:
  - WHILE differing notably from universities and research institutions
- ARE RATHER SIMILAR to each other
  - as regards their demand for Internet and associated services.

- THEREFORE: eSN and SABEN should collaborate to:
  - Build and share common access networks to link to TENET
  - Support each other outside of TENET’s standard services
The rationale for collaboration

• Like universities: schools and TVET colleges:
  – *need affordable Internet services*

• Unlike universities; schools and TVET colleges:
  – *Have limited budgetary discretion*
  – *Demand relatively small Internet bandwidth*
  – *Lack in-house technical support capacity*
  – *Require frequent telephonic advice and problem-solves*
  – *Require on-site assistance*

• TENET has no need for a skilled helpdesk

• ESN’s HelpDesk:
  – *gives telephonic advice and guidance*
  – *Responds to call-outs / makes on-site visits*
eSN – TENET Agreements

• Reseller Agreement (5-year term)
  – Reselling is regulated by telecoms law
  – TENET appoints eSN as a reseller to schools
  – TENET hands-off to ESN at identified ESN Access PoPs on SANReN
  – ESN may customise and re-bundle TENET’s services
  – eSN sets prices for its services to schools

• Collaboration Agreement (2-year term)
  – Every SABEN PoP is also an eSN Access PoP
  – SABEN will deploy access circuits to eSN schools
  – eSN HelpDesk also serves TVET Colleges
  – Arno Hart manages eSN Helpdesk and technical staff
Reflections on a project involving

Part 3: Conclusions
Conclusions -1

• TENET’s purpose and focus are to serve universities and research institutions

• By comparison, schools and TVET colleges need lots of technical support
  – Advice, problem-solving, site visits, hand-holding
  – TENET not in a position to do this

• BUT: TENET is willing to be an upstream provider to suitable resellers…
Conclusions - 2

• Serving schools and colleges requires intermediary organisation(s) that:
  – Buy in bulk from TENET
  – Collaborate in the deployment of access networks to TENET access PoPs
  – Resell TENET’s Internet services to schools and TVET colleges
  – Package and price their services appropriately; and
  – Offer rich support services to schools and TVET colleges

• eSN, in collaboration with SABEN, is such an intermediary / reseller for schools.
Thanks for listening and…

Have fun!