UbuntuNet Alliance
www.ubuntunet.net

Creating the Future of Research and Education Networking in Africa

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Part 1: UbuntuNet Alliance for Research and Education Networking
The beginning..

• Mid 2005: Availability of terrestrial fibre and the potential east coast submarine cable EASSy catalysed the coming together of embryonic and developed NRENs in 5 countries to initiate the development of an African regional REN. At Internet2 2005 Fall Meeting in Philadelphia during an informal chat among African pioneers in the lobby, Duncan Martin of TENET mooted the name “UbuntuNet” for the regional REN. The name eclipsed all earlier attempts at baptism! The UbuntuNet Alliance was registered in March 2006.
We have grown: Current membership
South and East Clusters

South Cluster

East Cluster

South Cluster

East Cluster

NA

BW

LS

SA

MZ

MW

Southern TZ

EG

SD

KE

ET

Northern TZ

DRC

UG

RW

EG
Our Role...

• Our role: enabling connectivity of national and regional RENs, with sufficient and affordable connection to each other and the international research community via fibre.

• We work with the AAU REN Unit which provides continent-wide policy level stimulus, guidance and international governmental level negotiations and linkages.
There is still a lot to do..

Formal REN, advanced network and sufficient bandwidth: **NONE**

Formal REN and underlying operational infrastructure: **Kenya, South Africa, Sudan**

Formal REN but no underlying operational infrastructure: **Rwanda, Tanzania, Zambia, DRC, Uganda, Malawi, Mozambique**

REN in formation: **Botswana, Swaziland, Lesotho, Ethiopia, Namibia, Somalia, Eritrea**
Part 2: The current reality and our thesis
Reality - Africa remains isolated from the GII

The internet's undersea world

Source: The Guardian
Internet access costs remain incredibly high
(Cost of VSAT access, 2006)

Price per Mb, ranked in ascending order

Our thesis..

• “Improved and affordable regional and international connectivity will enable African researchers to produce proportionate intellectual output and generate a proportionate amount of intellectual property goods to achieve parity with the rest of the world”

• Lemma: “World class connectivity will cause a reverse brain drain to Africa”
• *Part 3: Identifying and Addressing Challenges*
**Challenge 1: Africa is Huge!**

The following countries could fit within Africa:

<table>
<thead>
<tr>
<th>Country</th>
<th>Area (sq. mi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>3,705,390</td>
</tr>
<tr>
<td>United States</td>
<td>3,618,770</td>
</tr>
<tr>
<td>India</td>
<td>1,266,595</td>
</tr>
<tr>
<td>Europe</td>
<td>1,905,000</td>
</tr>
<tr>
<td>Argentina</td>
<td>1,065,189</td>
</tr>
<tr>
<td>New Zealand</td>
<td>103,736</td>
</tr>
</tbody>
</table>

\[11,664,680 \text{ sq. mi} \text{ or } 30,211,551 \text{ km}^2\]

Africa's area: 11,707,000 sq. mi. or 30,321,130 km²

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Africa if Huge and Varied

- Africa is not only geographically extensive – it contains multi-dimensional differences: National identity; Political economy; Culture; Language; External linkages; level of economic development

- Fortunately it also has a strong sense of historical, cultural, and geographical identity.

- Our approach: recognising the need to work through partnerships in a mutually supportive environment, based on common architecture and/or interface standards; & Cluster approach
**Challenge 2: Disabling telecomm policy and regulation**

- Most of the countries still have either monopolies or very limited competition in the provision of access services, especially the international gateways.

- **Our approach: engagement of national and regional administrations, making a research-based case for liberalisation, and for special consideration for research and education networking as a development stimulant**
Challenge 3: Scarcity of technical human capacity

- Competing with a rapidly growing and lucrative industry for limited human resource.
- Challenge of poor training in institutions...

- **Our approach:**
  - *Share expertise (communities of practice)*
  - *Work with organisations like Afnog, and offer internships to address capacity deficits;*
  - *Create a network engineering group*
  - *Guide universities on improved curricula*
Challenge 4: Very limited fibre to Africa

- Background given in earlier presentation by Duncan

- **Our approach:**
  - Opportunistic approach…
  - Seek donation of IRUS where possible on upcoming fibre (working with IEEAF which has donated 10Gb capacity on Seacom to the Eastern Cluster)
  - Secure IRUs at concessionary rates (TENET has done this on Seacom for the Southern Cluster)
Challenge 5: The global mindset

• Most organisations look at creating access for African researchers as “taking Africa to the world” – means Africa must bear the cost

• **Our approach:** We urge a new mindset: “bringing the world to Africa”. The message – “Come and meet us at the cable landing points in Africa – It is an investment. Not only are you better able to afford it, we shall all benefit”
Challenge 6: Limited effective NREN activity

• Background given in an earlier presentation by Boubakar.

• Our approach:
  – Promote awareness of benefits of REN activities
  – Seek contact in all countries in each region to start NRENS and to become part of the regional RENs
  – Organise and/or participate in events in countries with emerging NRENS
  – Work with continental and regional organisations (AAU, E-Africa Commission, Nigerian ICT Forum, etc)
Challenge 7: Limited funding

• Funding of research and education networking is a new thing in almost all African countries, due to lack of awareness of benefits

• **Our approach:**
  – *Support lobbying and advocacy at national level to increase public funding to the growth of connectivity and NRENs (it is working)*
  – *Develop a clear business case and model that will create continuing relevance and withstand competition*
  – *Develop a clear master plan as a basis for engaging development partners (CORENA)*
Appreciation to our supporters to-date

• IDRC and Connectivity Africa
• Cisco
• KTH (Sweden)
• DANTE
• IEEAF
• Open Society Institute
• Open Society Initiative for Southern Africa
• TENET's FRENIA (Fostering Research and Education Networking in Africa) Program, funded by The Andrew W Mellon Foundation.
• USAID
• GEO
• University of Washington
Conclusion: We are creating the future..

- We are creating the future of Research and Education Networking in Africa. We own this challenge as Africans. We must and we shall address it. If our development partners support us, success will come much faster. If they do not, we shall still succeed, albeit taking much longer.

- Thank you