

African Research and Education Networking - An Overview



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Agenda



- About AAU
- AAU and R&E Networking
- Connectivity issues
- Bandwidth cost issues
- Key challenges for R&E Networking in Africa
- Established RENS
- RENS in formation
- Towards an AfREN - Opportunities

About AAU



- Established in November 1967 in Rabat, Morocco. Based in Accra, Ghana
- 200+ members (public and private), in all African sub-regions
- General Conference once every 4 years, with election of Executive Board
- Conference of Rectors, VCs and Presidents (COREVIP) once every 2 years
- Several programmes and services (QA, Mobility, Leadership and Management, HIV/AIDS, DATAD, Gender, R&E Netwg,...)

AAU and R&E Networking



- 11th General Conference in February 2005 in Cape Town, SA: four-year Core Programme approved
- Prominent among other foci: ICT for HE
- Strong mandate to the Secretariat to act as focal point for ICT initiatives for African higher education institutions
- Focus on R&E Networking for collaboration and improvement of access to information and knowledge



AAU and R&E Networking (cont'd)

● The REN Unit

- With support of PHE in Africa and IDRC: set up of a REN Unit within AAU Secretariat
- Activities also funded by ACBF
- Activities so far include:
 - ➔ Establishment of strategic partnerships (e.g. MoU with AfNOG and AfriNIC for capacity development and access to IP resources)
 - ➔ Participation in relevant events (e.g. this meeting)
 - ➔ Organisation of workshops (awareness raising, policy dialogue and capacity building); LEDEV
 - ➔ Development of policy guides
 - ➔ Clearinghouse on R&E networking and ICT policy



Connectivity issues

- Africa is the least connected continent
- In most of the countries, incumbents telcos rule over telecommunications market
- Poor infrastructure except in few countries
- Resources concentrated in major urban areas
- Absence of or no implementation of ICT policies
- Predominance of copper infrastructure on national backbones
- Very few IXPs, leading to inefficient use of international bandwidth
- Absence or weakness of regulatory bodies
- etc.



Connectivity issues (cont'd)

● Fibre infrastructure

- SAT3 cable (full capacity: around 120 Gbps)
 - ◆ Problem: consortium with monopolistic pricing policy
- EASSy
 - ◆ Different access policy than SAT3
 - ◆ Separation of shareholders' rights from access rights
 - ◆ Programme for connection of land-locked countries
 - ◆ Finally launched with funding from WB, ADB, AFD
- Other Projects: TEAMS, SEACOM, NEPAD, WA, etc.
- Unused resources: dark fibre (on-going study)



Connectivity issues (cont'd)

Global Connectivity





Bandwidth cost issues

- African bandwidth prices probably the highest in the world
- Main reasons:
 - lack of competition
 - use of costly technologies (VSAT)
 - absence of or inappropriate regulatory frameworks
- Medium bandwidth price in Africa: US\$5,000 per 1 Mbps
- Prices as high as over US\$10,000 per 1 Mbps
- Efforts in some countries to apply lower tariffs for the Education sector; but BW costs still prohibitive
- One of the short term solutions for HEIs: bandwidth consortia



Established NRENs

- Active RENS essentially established in Northern and Southern/Eastern Africa
- Well established NRENs include:
 - TENET (South Africa)
 - KENET (Kenya)
 - MAREN (Malawi)
 - EUN (Egypt)
 - MARWAN (Morocco)
 - RNU (Tunisia)
 - CERIST (Algeria)
- Most of other NRENs are in a more and less advanced stage of formation



NRENs in formation

- Several initiatives in all African regions
- Most of the initiatives located in Southern/Eastern Africa (UbuntuNet momentum)
- Most advanced initiatives:
 - MoRENet (Mozambique)
 - Rwandan NREN
 - TENET (Tanzania)
 - RENU (Uganda)

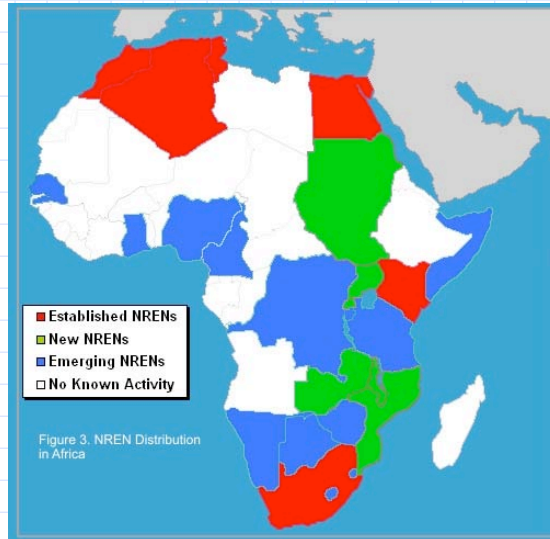


NRENs in formation (cont'd)

- Some activities in West and Central African countries
- Quite promising initiatives in
 - Nigeria (Ng ICT Forum)
 - ◆ ngREN in 2008?
 - Ghana (GARNET)
 - ◆ Formally launched in Nov 2006, but slow progress
 - Cameroon (RIC)
 - ◆ Embryo already exists
 - Senegal (RENER)
 - ◆ Ongoing consultations among stakeholders
 - Côte d'Ivoire



The actual picture



Regional initiatives

- First regional initiative in Africa is the EUMEDConnect project
 - Links Mediterranean African countries with Europe through GEANT
 - Direct links from individual countries to GEANT
 - Now, over to interconnection between the countries
- Other major initiative: UbuntuNet
 - Alliance of several Southern/Eastern African NRENs to interconnect and share bandwidth
 - Strong commitment of members under difficult regulatory environments
 - Now connected to GEANT



Regional initiatives (cont'd)

- RESAO: initiative of Francophone universities as component of curriculum reform process
 - Essentially West and Central Africa
 - Commitment at high level (Education Ministers and VCs)
- Commitment of stakeholders in the region to build on RESAO and establish a West and Central African Regional Research and Education Network (UbuntuNet model)
 - Slow development, but on-going discussions



Key challenges for R&E Networking Africa

- Awareness raising at highest level (Vcs, Ministers, Heads of State) on the importance of R&E Networking for African development
- Development of clear and coherent national ICT policies taking into account both regional issues and R&E specific needs
- Regulatory environment
- Power supply
- Disparity of market environment throughout the continent; need for harmonization
- Human capacity development



Towards an AfREN - Opportunities

- Despite the enormous challenges, real opportunities to move the African R&E Networking agenda forward
 - Awareness of the key players on the ground
 - Emergence of community at continental level which shares the same vision
 - Begin of involvement of governments
 - Support from donor organizations (particularly from EC, Canada and the US)
 - Support from the international REN community
 - Positive signals from the private sector
- Key point: to build a partnership framework involving all stakeholders and international partners



THANK YOU !

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