UBUNTUNET ALLIANCE

Research Education Network for Eastern and Southern Africa

Pre-Conference workshop
Africa Open science initiative
Addis, November 2017
OUTLINE OF THE PRESENTATION

- What’s ubuntunet alliance?
- Services to our members
- Update on our network
- AfricaConnect1 & AfricaConnect2 project
- Capacity building
- New service portfolio
- With type of collaboration with the Open science initiative
How UbuntuNet Alliance started?

1. AAU - Association of African University
2. Support from SIDA, Canada & Launching of AU Nov 2005
3. AfricaConnect 1 2010-2015
4. AfricaConnect 2 2015-2019
5. MALAWI as a host
WHAT IS UBUNTUNET ALLIANCE?

- The regional Research and Education Network of ESA region
- NRENs from 16 countries
  - Eb@le, DRC
  - EthERNet, Ethiopia
  - iRENALA, Madagascar
  - KENET, Kenya
  - MAREN, Malawi
  - MoRENet, Mozambique
  - XNet, Namibia
  - RwEdNet, Rwanda
  - SomaliREN, Somalia
  - SudREN, Sudan
  - TENET, South Africa
  - TERNET, Tanzania
  - RENU, Uganda
  - ZAMREN, Zambia
  - BERNET, Burundi
  - ZARNET, Zimbabwe
CURRENT NETWORK, Cont...

- Peering with GÉANT in London and Amsterdam
  - Transit to Research and Education community world-wide
- Peering at London Internet exchange (LINX)
- Peering at Amsterdam Internet Exchange and (AMS-IX)
- Peering at NAPAfrica (Johannesburg)
- Transit to Internet at LIXN and AMS-IX

* Services
- Ubuntunet Alliance offer: Global transit deliver in Europe & Global Transit deliver in Africa.
The UA network today

10 POPs in total
– 8 in Alliance region
– 2 in Europe (London and Amsterdam)

2.18Gbps capacity between Africa PoPs and European PoPs
– 2 links on the eastern coast [2 x STM-4]
– 2 links along the west coast [1xSTM-4 + 2xSTM-1]

Backbone covering 7 countries in Eastern and Southern Africa (ESA) region
– 1xSTM-4 from Dar es Salaam to Cape Town via Lusaka
– 2xSTM-4 along the Eastern seaboard (Mtunzini<>Nairobi)
– 1xSTM-4 from Nairobi to Kigali via Kampala
– 1xSTM-1 to Moanda (DRC) from Cape Town (not yet live...)
objectives

- Consolidate and extend the UbuntuNet network (resulting from the AfricaConnect), including the inclusion of new e-infrastructure services and the extension to the newly ready countries;

- Increase intra-regional and international communication and collaboration between research centres and universities, including the increased use of online applications for research cooperation;

- Increase the responsibility of African actors in the African continental research and education network (through UbuntuNet Alliance) and overall improved institutional capacity of African NRENs and self-sustainability.
## Nrens in their countries

<table>
<thead>
<tr>
<th>Connected Countries (NRENs)</th>
<th>Institutions (Higher Ed &amp; Research)</th>
</tr>
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<tbody>
<tr>
<td><strong>ASREN North Africa</strong></td>
<td></td>
</tr>
<tr>
<td>Algeria (ARN)</td>
<td>124</td>
</tr>
<tr>
<td>Egypt (EUN)</td>
<td>30</td>
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<tr>
<td><strong>Ubtuntunet Alliance</strong></td>
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<tr>
<td>Kenya (KENET) - tbc</td>
<td>180</td>
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<tr>
<td>South Africa (TENET)</td>
<td>86</td>
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<tr>
<td>Mozambique (MoreNet)</td>
<td>83</td>
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<tr>
<td>Uganda (RENU)</td>
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<tr>
<td>Zambia (ZAMREN)</td>
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<tr>
<td>Tanzania (TERNET)</td>
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<tr>
<td>Rwanda (Rwednet)</td>
<td>20</td>
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<tr>
<td><strong>WACREN</strong></td>
<td></td>
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<tr>
<td><em>Network under construction</em></td>
<td>na</td>
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<td><strong>TOTAL 2016</strong></td>
<td>667</td>
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</tbody>
</table>
A partnership between Ubuntunet Alliance, NSRC

- To train Network Engineers at campus and NREN level

Mode:

- Training workshops (NREN engineers)
- Secondment of expert personnel from advanced NRENs and similar organizations to assist with specific phases of NREN development
- Attachment of Engineers from Alliance NRENs to Advanced NRENs
CAPACITY BUILDING: AREAS COVERED

- **Campus Network Design**
  - Switching and routing
  - Network monitoring
  - IPv4 and IPv6 addressing
  - Network Security

- **Advanced Routing for RENs workshop**
  - how to build a scalable routing infrastructure
    - internal routing, inter-domain peering and traffic etc
• New Portfolio of servie (1)
  Eduroam
    National: Radius Proxy Server
    - Institutional: Radius Server
  • eduID:
    National: Discovery Service (DS)
    - Institutional: Identity Provider (IdP)
      * Institutional User Directory (LDAP)
      * Web Applications
New Portofolio of service (2)

- Repository (DSpace, Invenio)
- LMS: Moodle
- Filesender (http://filesender.org/)
- NextCloud (https://nextcloud.com/)
* Wordpress websites
* E-library
* Institutional repository and Design of Academic Plagiarism Detection System
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Eduroam

• Free secure wifi provided by NRENs between campuses.

• A global network of users across 70 countries. Over 1 million authentications.

• Access to educational resources thanks to 1 single ID

  • Kenyatta university connects 70,000 students thanks to eduroam

  • In Zambia, over 40,000 can access digital resources on and off-campus thanks to eduroam

partners have deployed eduroam; 9
Which type of Collaboration with Open Science initiative
THANK YOU FOR YOUR KIND ATTENTION

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