

UBUNTUNET ALLIANCE

*Research Education Network for Eastern and
Southern Africa*

Pre-Conference workshop
Africa Open science initiative
Addis, November 2017



- 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?

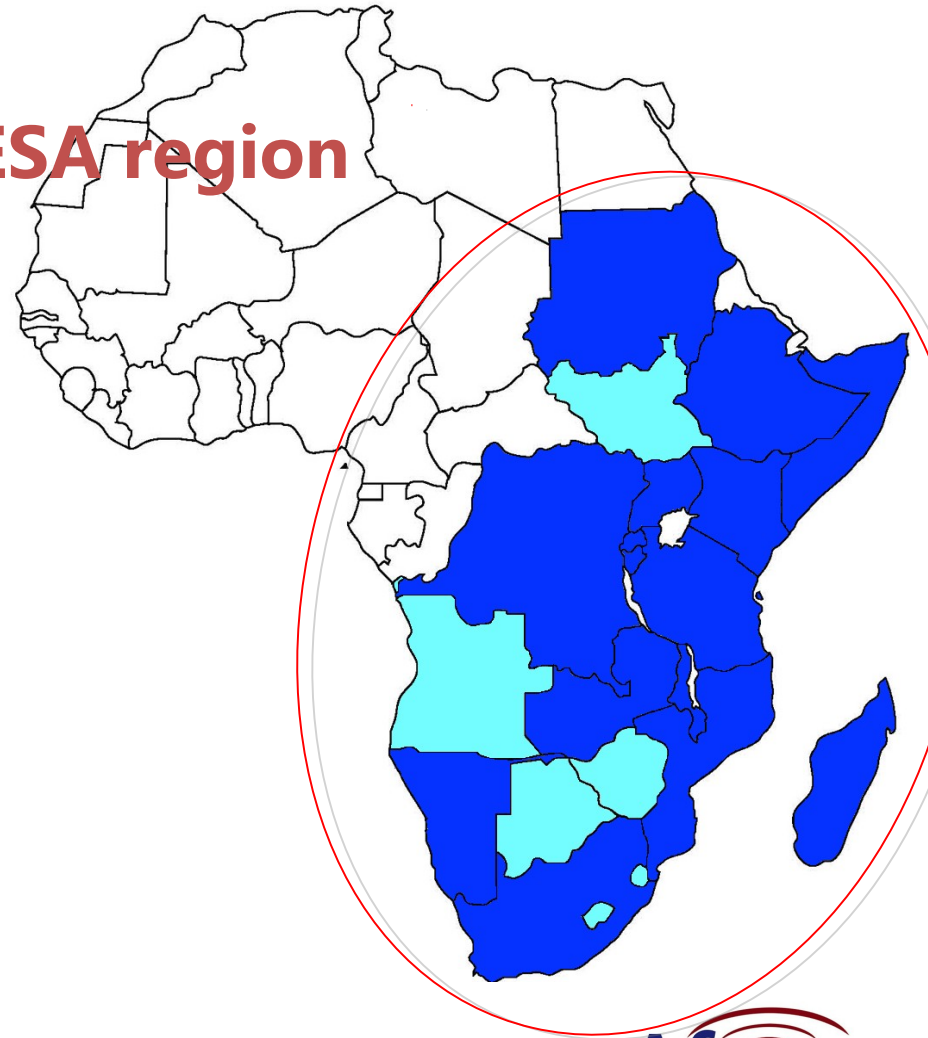
BACKGR OUND 



- **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



- 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 LINX 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]

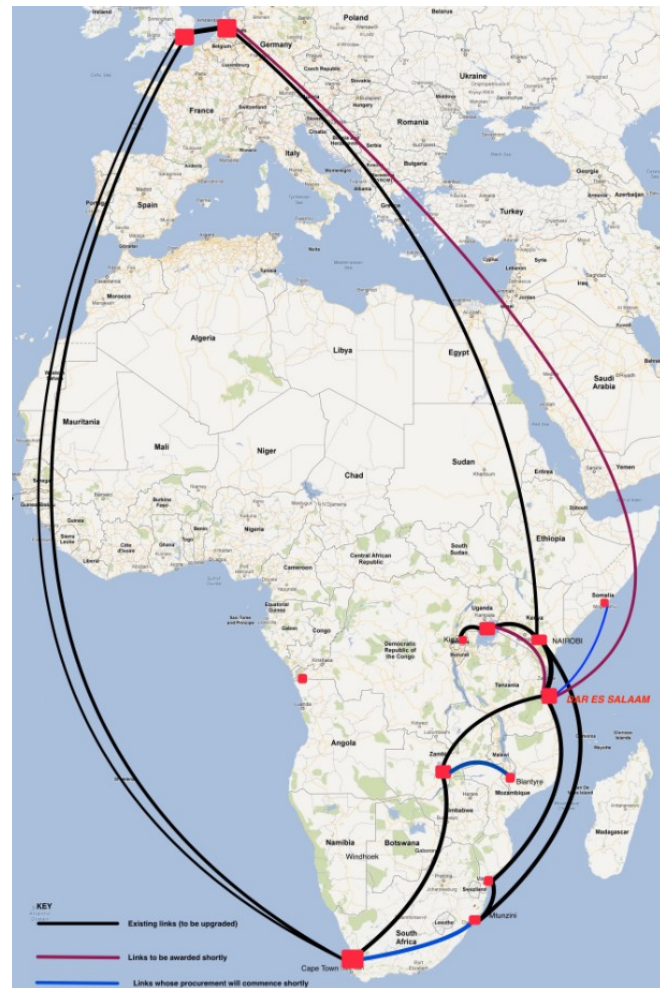
Backbone covering 7 countries in Eastern and Southern Africa (ESA) region

- 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.

Connected Countries (NRENs)	Institutions (Higher Ed & Research)
ASREN North Africa	
Algeria (ARN)	124
Egypt (EUN)	30
Ubtuntunet Alliance	
Kenya (KENET) - tbc	180
South Africa (TENET)	86
Mozambique (MoreNet)	83
Uganda (RENU)	42
Zambia (ZAMREN)	75
Tanzania (TERNET)	27
Rwanda (Rwednet)	20
WACREN	
<i>Network under construction</i>	na
TOTAL 2016	667

❑ 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 organizations to assist with specific phases of NREN development
- ✓ **Attachment of Engineers** from Alliance NRENs to Advanced NRENs



□ 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 Portfolio 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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- 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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