eduroar goes Africa
Agenda

- eduroam Overview
- African eduroam Confederation
- Regional Proxy Server (RPS)
- Switchboard
UbuntuNet Alliance | 16 Members

- BERNET, Burundi
- Eb@le, DRC
- EthERNet, Ethiopia
- iRENA LA, Madagascar
- KENET, Kenya
- MAREN, Malawi
- MoRENet, Mozambique
- XNet, Namibia
- RwEdNet, Rwanda
- SomaliREN, Somalia
- SudREN, Sudan
- TENET, South Africa
- TERNET, Tanzania
- RENU, Uganda
- ZAMREN, Zambia
- ZARNet/ZIMREN, Zimbabwe
Eight existing PoPs

- Cape Town
- Dar es Salaam
- Kampala
- Kigali
- Lusaka
- Maputo
- Mtunzini
- Nairobi

Three PoPs currently being established

- Blantyre
- Harare
- Moanda

Two PoPs in Europe

- Amsterdam
- London
UbuntuNet Alliance | Service Portfolio

For NRENs
- Cloud Infrastructure
- Monitoring & Alerting
- Central Logs
- Service Desk
- Wiki
- Forum & Chat
- Software Repository

For End Users
- eduroam
- eduID
- eduDrive & Filesender
- Data Repository
- Certificates

UbuntuNet Alliance | Service Portfolio
What is eduroam?
eduroam (education roaming)

- Global (wireless) roaming service for users in research & higher education
- Provides researchers, teachers, and students easy and secure Internet connectivity across campus and when visiting other participating institutions
- User authentication performed by home organisation - Authorization to access Internet handled by visited organisation

- Hierarchical Stack
  - Local Level – Service provided by institution (University, Research Lab)
  - National Level – Federation operated by National Roaming Operator (NRO, usually the NREN)
  - Regional/Global Level – Confederations run by regional REN (AfREN, GEANT)
African eduroam Confederation
Confederation | Motivation

- African Federations connected directly to European Top Level RADIUS
- Intra-Continental Traffic travelled via Europe
- Regional RENs provided assistance and training to NRENs, but were dependent on European Operations Team for technical implementation
- Frustrating role as middleman
- Bring visibility to the eduroam activities in Africa
- Provide a vehicle to coordinate the continental efforts and speak as one voice
Confederation | Current State

• Initial meeting at UbuntuNet-Connect 2017, idea was well received
• Representative from each region in the eduroam GeGC (Global eduroam Governance Committee)
• Joint Support across the continent under the AfREN umbrella
• http://eduroam.africa reserved for future use
• Informal; Community approach; No policy and constitution yet
• Setup and operation of Regional Proxy Server (RPS)
Regional Proxy Server
African RPS
African RPS | Pilot Phase

• Up and running as a (production-level) pilot since September 2017
• Instances running in WACREN (Lagos) and UbuntuNet Alliance (Kampala, Cape Town) region
• Fail-over, Backup
• Shorter response times thanks to proximity
• More to follow: An instance in every PoP
• Being the technical (as well as support) proxy between African NRENs and global eduroam activities facilitates deployment and support
RPS | Statistics

- Ten NRENs are connecting through the African RPS
  - UA: Ethiopia, Malawi, Tanzania, Zambia, Zimbabwe
  - WACREN: Benin, Ghana, Mali, Nigeria, Togo
- A few thousand authentication requests a day
- Mostly outgoing to Europe, US and South Africa
- Central logging and monitoring infrastructure
- Troubleshooting through the whole stack: IdP, FLR & RPS
Switchboard
Switchboard – Motivation

• Supply metadata to global eduroam database
• Statistics, Monitoring, CAT (Configuration Assistant Tool) & eduroam Map
• Simplify management of federations by the NRO
• Auto-generate configuration files for IdP
• Automatically announce changes throughout the stack
Switchboard – Current State

• Beta version is live
• Publish federation metadata to global eduroam database
• Work on additional features is ongoing
• Integrate feedback from pilot federations
  • TERNET/Tanzania | ZAMREN/Zambia | ZIMREN/Zimbabwe
• Interested to participate? Get in touch
Similar solution for eduID

- eduID: Federated Identity Management solution for accessing web application using Single Sign-On (SSO)
- WACREN and UbuntuNet Alliance licensed a solution that allows the deployment of an IdP in less than 5 minutes
- Currently working on adding some missing features
- Connection to existing User Directories: LDAP, Database, Active Directory
- Closer integration with Federation management application
- Simplify process to join eduGAIN
Thank you!
Questions?

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