

Commissioning “Africa Connect”: Connecting Research and Education Networks of sub-Saharan Africa to the European Network, GEANT”

Margaret Ngwira, Special Projects Coordinator
UbuntuNet Alliance



*Fondation “Partager le Savoir”
Sharing Knowledge Foundation*

Rabat, May 2013

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ei4africa: raising awareness of e-research
opportunities**



What is Ubuntunet Alliance?

- The regional Research and Education Network of ESA region
- Member NRENs from 14 countries
 - Eb@le, DRC
 - EthERNET, Ethiopia
 - *iRENALA, Madagascar*
 - KENET, Kenya
 - MAREN, Malawi
 - MoRENet, Mozambique
 - XNet, Namibia
 - RwEdNet, Rwanda
 - SomaliREN, Somalia
 - SudREN, Sudan
 - *Southern Sudan (de facto)*
 - TENET, South Africa
 - TERNET, Tanzania
 - RENU, Uganda
 - ZAMREN, Zambia



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What is Ubuntunet Alliance?

- Established in 2006
- Regional Research and Education Network for Eastern and Southern Africa
- Secretariat in Malawi, but staff distributed between Malawi and Uganda
- Works closely with the other Africa RRENs, WACREN and ASREN planning for peering and interconnection to build the pan African network



What is UbuntuNet Alliance? Dissemination



NUANCE:

Newsletter of UbuntuNet Alliance: Networks, Collaboration, Education
[Africa-EU Strategic Partnership initiative open to universities in Africa](#)



The African Higher Education system is undergoing a tremendous transformation process. This includes a number of national, regional and continental initiatives which are the Nyerere programme, the African higher Education Harmonisation and Quality Assurance programme, the Pan-African University and many others. One initiative which links institutional, national, regional, continental and international endeavours is the African Higher Education Harmonisation and Tuning Project (Tuning Africa), which is part of the Africa-EU Strategic Partnership. This uses an internationally established methodology to enhance degree comparability, graduate mobility and employability. [Read more...](#)

[Knowledge without borders: Europe research networks in 2020](#)



Today's research is very different from that of 20 years ago. Location is becoming ever more irrelevant as scientists form collaborations and work on research across different labs, institutions and countries. Scientific collaborations today span Europe, Asia, North America and beyond are as likely to contact each other via email as face-to-face. And from their office they can access instruments on the other side of the world, simply by opening their laptops. In Europe GÉANT is at the heart of this connectivity. Spanning 40 countries, connecting 40 million researchers and students at over 8,000 institutions, giving them the ability to work together and share data across borders. [Read more...](#)



[Sparkling community around open-source NOC tools](#)

An open-source NOC Tool Workshop was for the first time held in conjunction with the 4th meeting of TERENA's Task Force on Network Operation Centres (TF-NOC) on the 11-12 October 2011 in Brussels, hosted by Belnet, the Belgian National Research Networking organisation. The workshop attracted more than 35 participants. There, Belnet presented their developments in the Nagios monitoring tool plug-in, which gained significant interest among the workshop participants and led to an agreement to organise a Nagios plugfest session during the next TF-NOC meeting. Other NRENS, regional networks and campus NOCs. [Read more...](#)



Rolling out the Regional Infrastructure: from dreams to achievement



Annual Report 2010

Covering period from 1st January to 31st December 2010

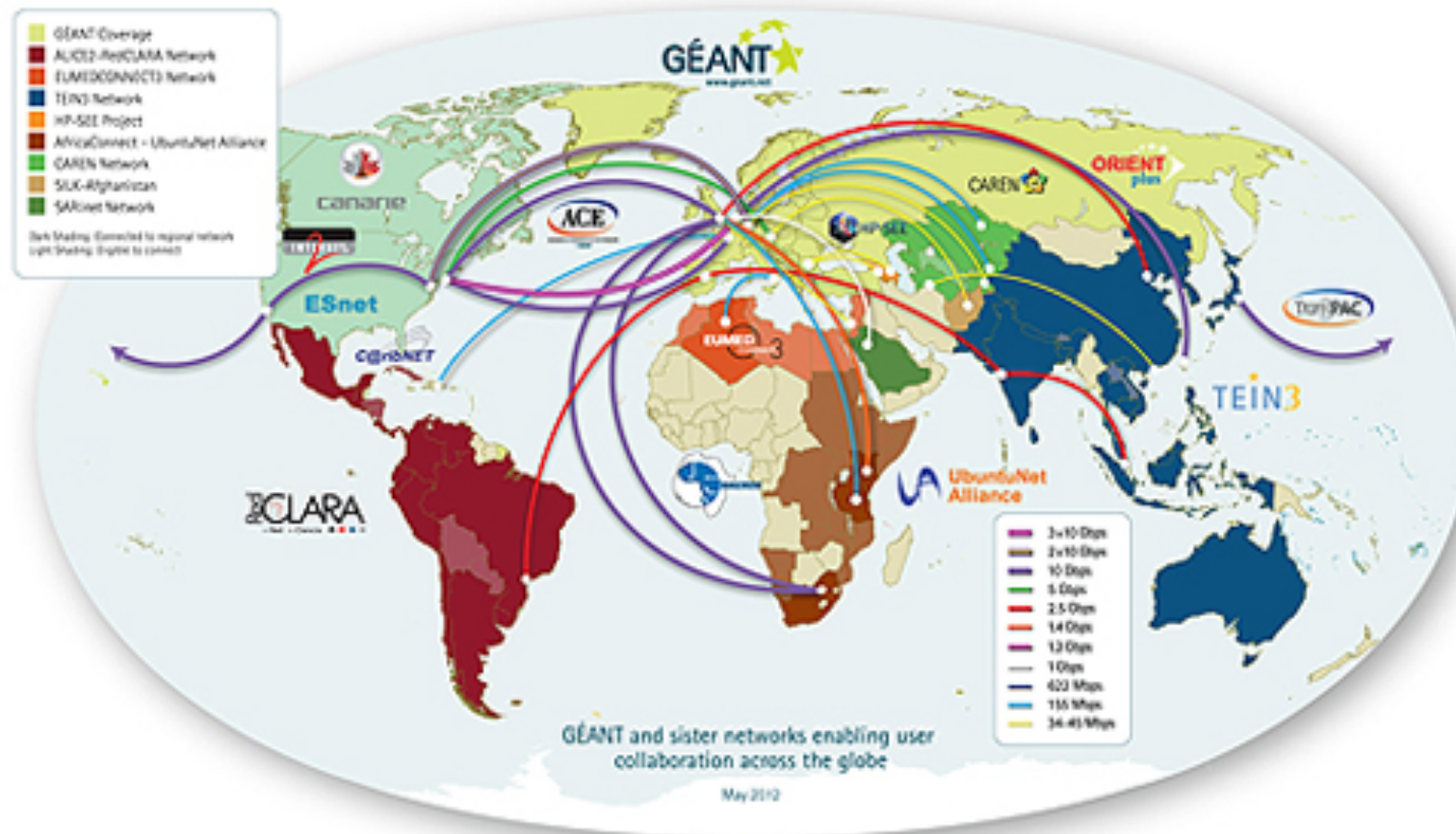
- Communication Strategy Document
- Website www.ubuntunet.net
- E-Newsletter
- <http://www.ubuntunet.net/nuance>
- 4. Annual Reports
- http://www.ubuntunet.net/annual_reports
- 5. Social media – Twitter
- www.twitter.com/ubuntunet



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Global RREN interconnections



AfricaConnect – Keeping African traffic Local

- Project to Implement the regional component of UbuntuNet (the network)
 - Interconnect NREN networks within Eastern and Southern Africa
 - Connect to GÉANT and the rest of REN community through UbuntuNet PoPs in Europe
- Budget - € 14.75 M for 4 years
- Cost sharing 80:20 between EU and participating NRENs
- Aims to;
 - Foster the development of cooperative research programmes (EU-Africa)
 - Stimulate research activities in the region and build co-operation with researchers in the rest of the world;
 - Support NREN staff capacity building



AfricaConnect – Keeping African traffic Local

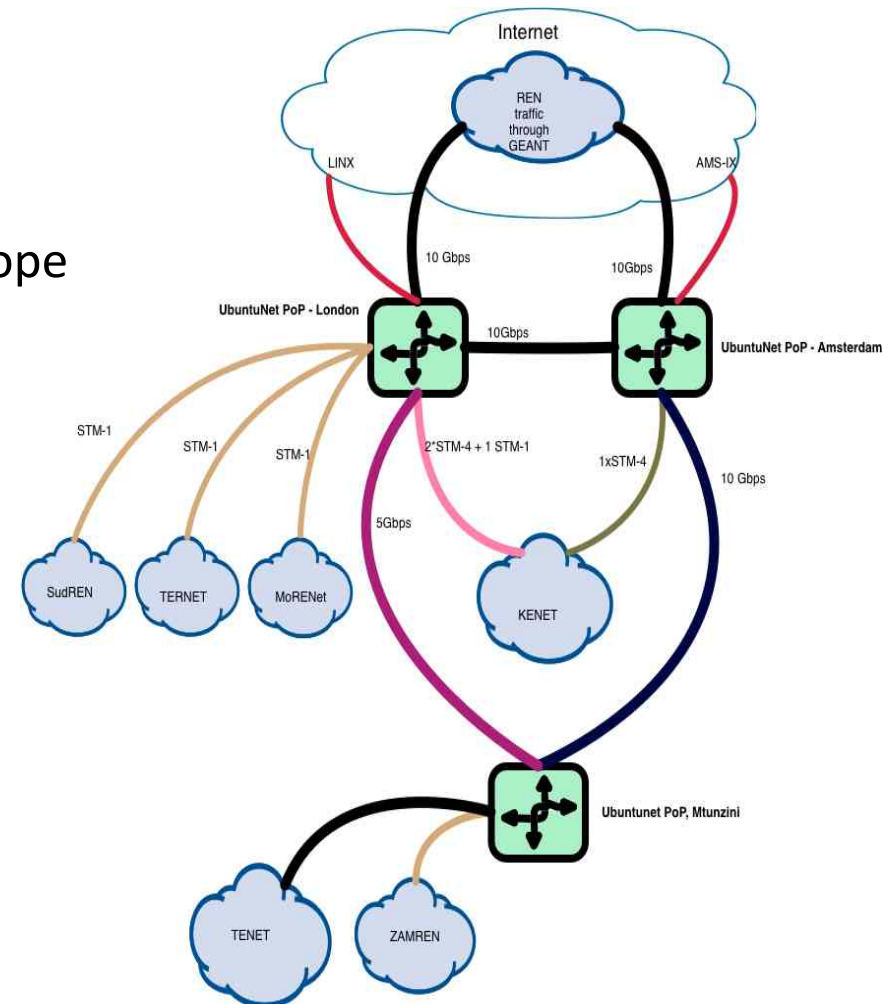


- Block one (Mtunzini, Maputo, Dar es Salaam, Nairobi, Kampala and Kigali)
 - Contracts awarded
- Block two (Windhoek Capetown Blantyre , Maputo, Kinshasa and Lusaka)
 - ITT issued.
- Block 3&4:
 - Addis Ababa, Khartoum



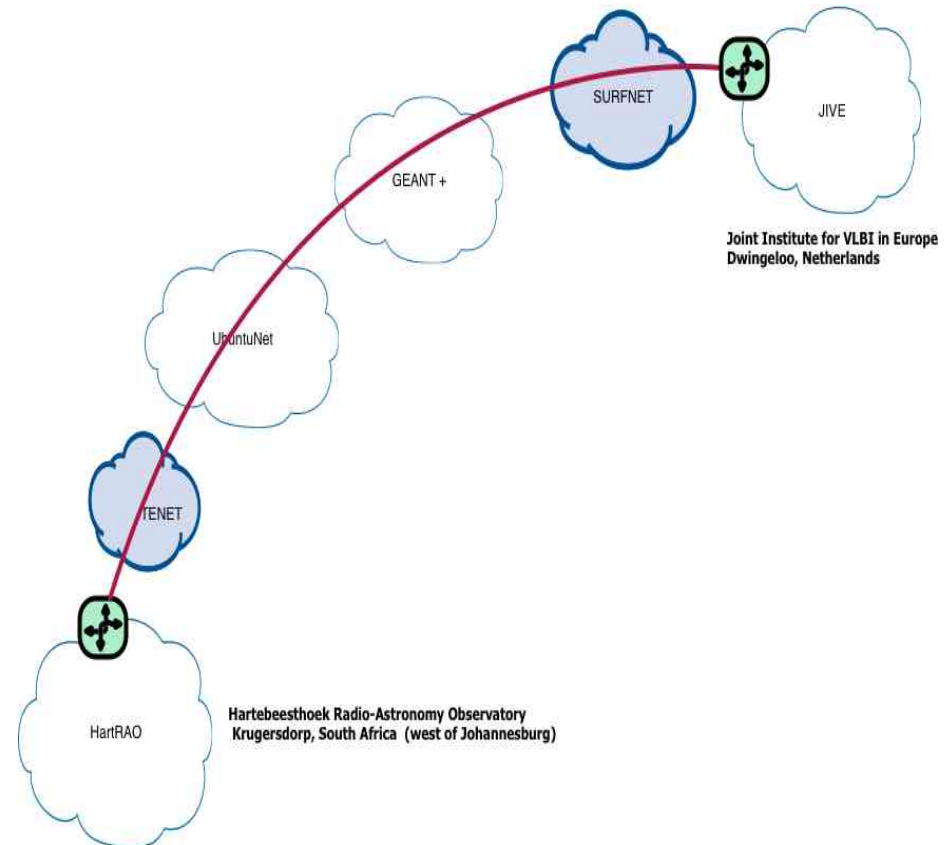
Current network operations

- 3 POPs
- 2 Links from Mtunzini PoP to Europe
- All traffic exchanged in Europe



Current network operations – Direct link (light path)

- One light-path currently operational
 - Between HartRAO and Jive
 - Transfer of e-VLBI data from the observatory in HartRAO to JIVE in real time
 - 2 Gbps capacity



Fostering collaboration among European and African Researchers

- UbuntuNet is currently consortium members in its 4th (eI4Africa) and 5th (CHAIN-REDS) EU FP7 projects
- In these they collaborate with partners from RRENs across the world including WACREN in eI4Africa and ASREN in CHAIN-REDS
- These projects help bring the applications that are vital to harvest the benefits from the new infrastructure



E-infrastructure initiatives

- Ubuntunet Alliance is a partner in the e-infrastructures for Africa (el4Africa) (www.el4Africa.eu)
 - an FP7 project funded by the European Commission aimed at promoting e-infrastructures in Africa.
 - Promote Euro-Africa collaborative research on e-infrastructures and their applications
 - Develop a science gateway (<http://sgw.africa-grid.org>), and use it to demonstrate applications to researchers and policy makers.
 - NRENs have just completed the implementation of Certificate Authorities for authentication.
 - In readiness for infrastructure under AfricaConnect.
- The Alliance is also a partner in the CHAIN-REDS project (www.chain-project.eu)
 - Interoperability of grid infrastructure to allow virtual research communities to access worldwide resources.
- ERINA4Africa collaboration (Completed) (www.erina4africa.eu)
 - Providing policy makers with information on existing e-infrastructures in Africa.



On to e-Science

- ei4Africa 1st Thematic Workshop held in Lilongwe, Malawi on 2 May 2013 looking at introducing new ways of doing science that can capitalise on the new network resources that are rolling out
- Three more Workshops scheduled : in Rwanda, Nigeria and Tanzania



Lilongwe Workshop: On to E-Science

2 May 2013



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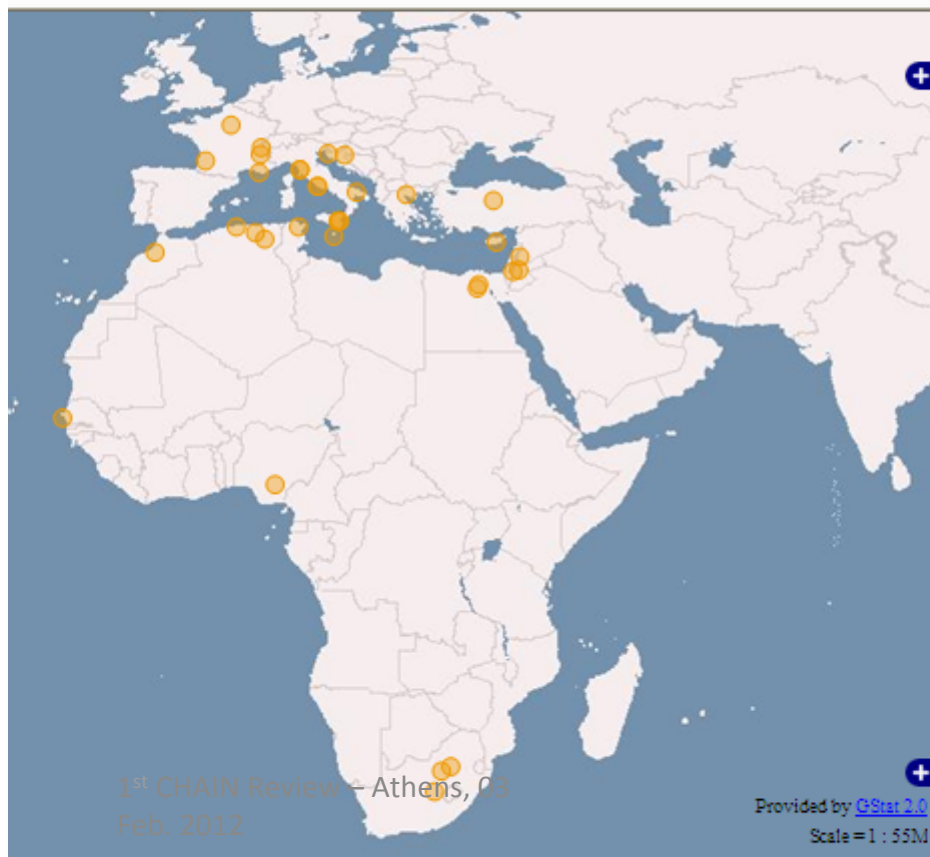
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Africa & Arabia ROC

http://roc.africa-grid.org

Africa & Arabia ROC
Regional Operation Center

Home User Pages Site Manager Pages Virtual Organisations Grid Services Monitors User Support



en by Roberto Barbera

C for short) has been created as a coordination and support point for all relating and challenging endeavour of creating a common Grid infrastructure.

. They are listed on the right frame of this page.

y the Africa ROC and those sites belonging to other ROCs but participating circles, referring to sites, to get more information on their status.

please visit the pages of this site and/or feel free to contact us.

Supporting Projects/Initiatives

- ASREN
- CHAIN
- EPIKH
- EUMEDGRID-SUPPORT
- SAGRID



Africa Grid Science Gateway

<http://sgw.africa-grid.org/>

The screenshot shows the homepage of the Africa Grid Science Gateway. At the top, there is a navigation bar with a logo of Africa on the left, the title "Africa Grid Science Gateway" in the center, and "Register" and "Sign In" links on the right. Below the navigation bar, there are two tabs: "Welcome" and "Applications". The main content area features a banner for the "ASTRA Project" by the University of Malaga, with the text "BRING HISTORY BACK TO LIFE" and icons representing various scientific and historical themes. Below the banner, there are two columns of text. The left column, under the "Welcome" tab, explains the gateway's purpose and provides instructions on how to access it. The right column, under the "Contributors" tab, mentions the project's development context and includes the "el4africa.eu" logo.

Welcome | Applications

Register Sign In

BRING HISTORY
BACK TO LIFE

ASTRA
Project
Universidad de Málaga

Welcome

The Africa Grid Science Gateway is a standard-based web 2.0 demonstrative platform to show the lighthouse applications identified by the [el4Africa project](#) and execute them on a worldwide (including Africa) e-Infrastructure.

The access to the Africa Science Gateway requires federated credentials issued by an Identity Provider. If the organisation you belong to has an Identity Provider, click on the "Sign In" link which appears in the top right corner of the page. Otherwise, you can get federated credentials registering to the "[open](#)" Identity Provider which belongs to the GrDP "catch-all" federation. Once you have gotten your credentials, click on the "Register" link which appears in the top

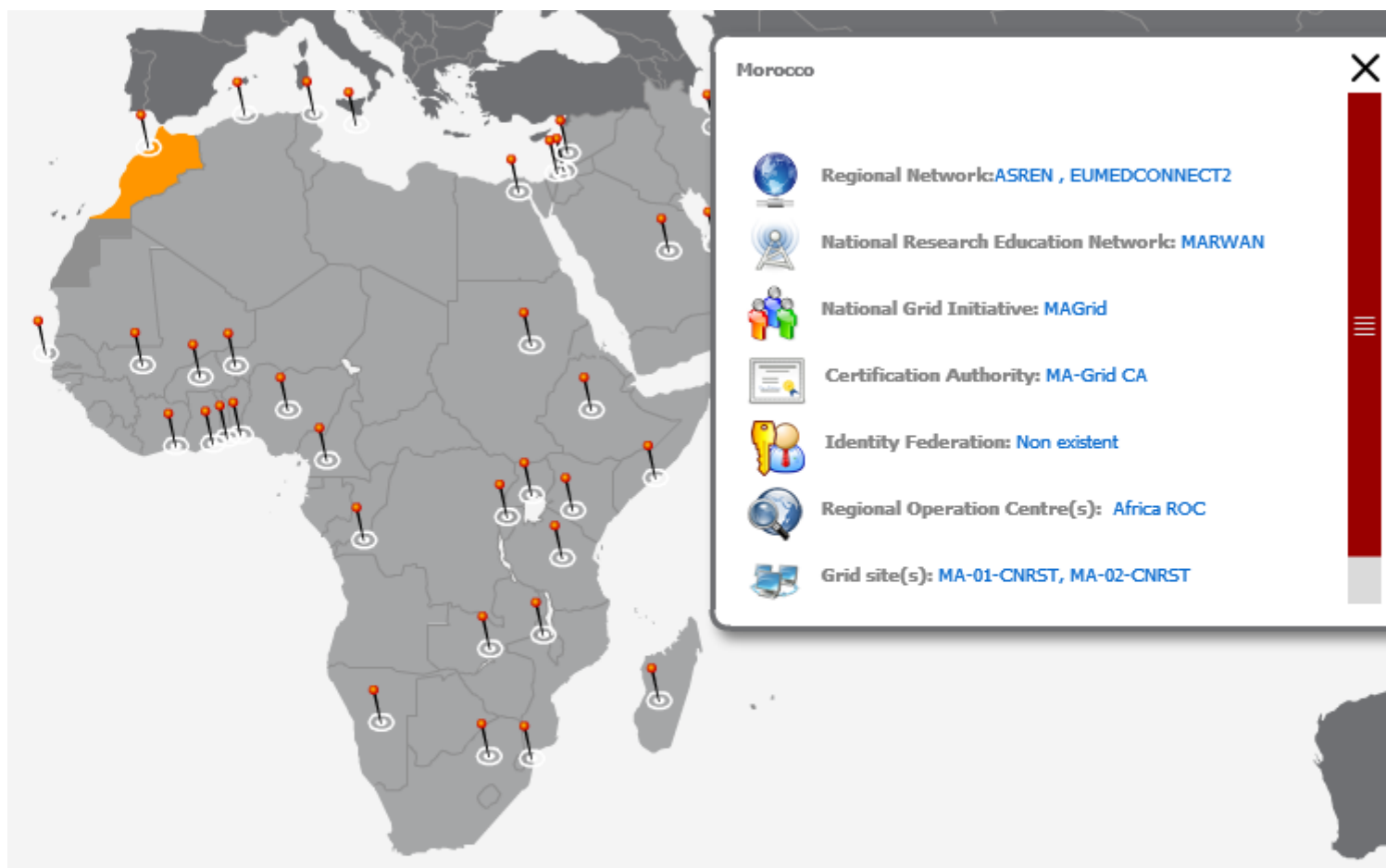
Contributors

The Africa Grid Science Gateway has been conceived and developed in the context of

 **el4africa.eu**
e-Infrastructures for Africa

CHAIN Knowledge Base

<http://www.chain-project.eu/knowledge-base>



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Sustainability after the EU FP7 projects

- This is a challenge that is being addressed by working closely with the scientists in building capacity to participate in global e-research teams , eg
- Non typhoidal salmonella genomics research between Malawi College of Medicine and Sanger Institute, Cambridge UK
<http://www.mlw.medcol.mw>
- Lake Victoria Climate Change Research Project with National Science Foundation and several East African organisations including UbuntuNet Alliance



Capacity building for Engineers

- The Alliance recognizes the general lack of human resource capacity in the region
 - able to plan, implement and operate advanced data networks
- The Alliance has put in place a capacity building program incorporating:
 - Training workshops
 - Secondment of expert personnel
 - Attachment of Engineers from Alliance NRENs
 - Scholarships to attend workshops- mainly to AfNOG
- NREN twinning
- Support from AfricaConnect Project, NSRC, ISOC, INASP



UbuntuNet-Connect 2013

- Kigali Rwanda 16-18 November 2013
- Preceded by CHAIN-REDS and ei4Africa workshops
- Theme: Transforming Research and Education
- Abstracts welcome
- Full details: www.ubuntunet.net/uc2013_cfp



- To follow progress in Africa Connect and related activities please sign up for NUANCE (English and French) www.ubuntunet.net and www.africaconnect.eu
- Please follow us on twitter @ubuntunet

Thank you, Merci!

Also thanks to CEO Tusu, Tech Manager Joe Kimaili and F&A Manager Tiwonge Banda for access to materials and other help

mengwira@ubuntunet.net

