Wireless Africa - the quest to connect 450 million rural people in Africa

Wireless Africa programme at Meraka, CSIR

Wireless Africa paradigm shift:
- Top-down changed to bottom-up
- Community wireless mesh networks
- Self-provision; shared use of broadband entry point

Wireless Africa role:
- There are technical issues which our R&D intends to solve.

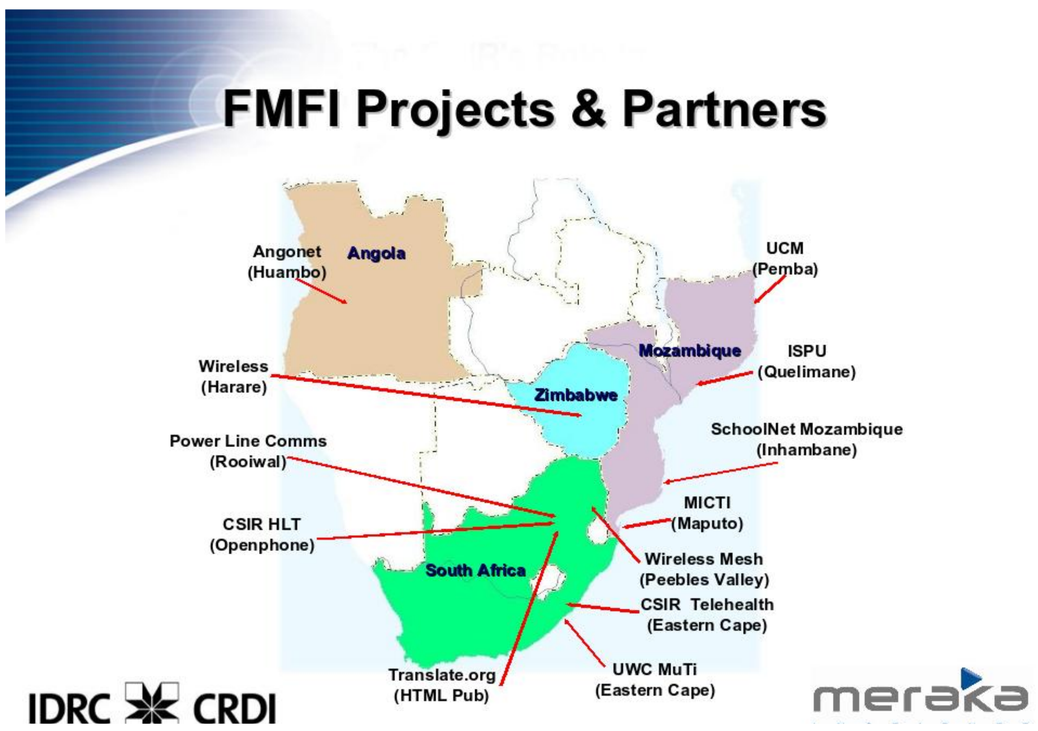
What would we like to see?
- Solve the 450M problem … systematic, coordinated attack!
- Multi-stakeholder partnership

The First mile First inch project

The vision for this project is to have social and technical innovation on service delivery models in different contexts of communities with low-density telecommunications

Basic access to communication and information services remains an obstacle in the economic development of rural (low-density) communities. The aim is to identify and develop models and technology that will overcome these obstacles.

The objectives of this project are:
- To implement “first mile” solutions
- To develop business models for first mile solutions, including replicability
- To research social issues, the user interface and context of “first inch”
- To understand and challenge institutional frameworks, regulatory considerations and national policies
- To network between different organisations in different countries researching first mile and first inch technology
- To apply the Outcome Mapping methodology in a multi-context, multi-party collaborative research project



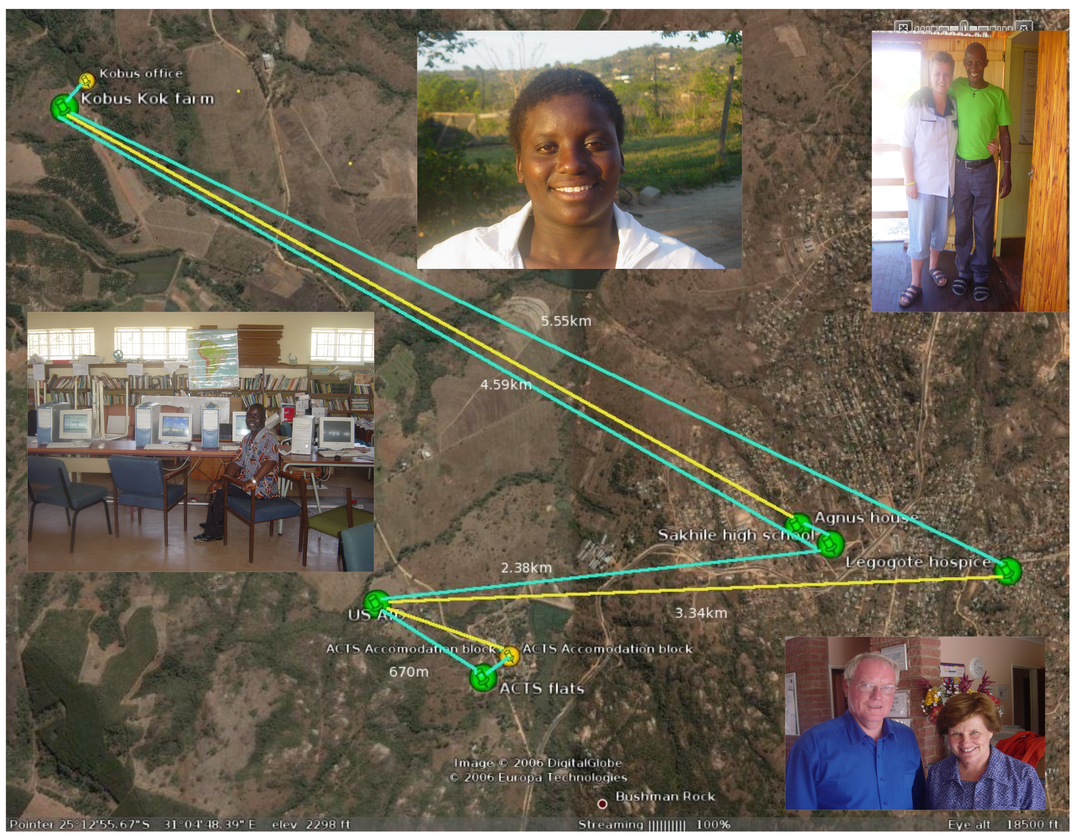
Partner Projects in FMFI

* Angola (Huambo) Angonet project: Assist the repatriation of displaced families and communities through the use of internet over VSAT and WiFi networks in war torn Huambo in Angola.
* Mozambique (Maputo): Equip tele-centres with voice mail boxes for voice and or pictures of loved ones for improving sustainability of telecentres.
* Mozambique (Pemba): Connect rural teachers in Pemba and Chiure districts in Cabo Delgado Province to their tutors at the Catholic University of Mozambique
* Mozambique (Inhambane): Improve education in remote parts of Mozambique, Inhambane by providing internet access to schools using WiFi technologies, refurbished PCs and open source software
* South Africa (Tsilitwa and Canzibe in the Eastern Cape): Improve communication between doctors, health workers and clinic sisters
* South Africa (Peebles Valley in Mpumalanga province): Save telephone costs between a clinic and hospice, and build a community mesh network which connects farmers, schools and community members to the internet
* South Africa (Tshwane): Make use of power line communication to connect a small community of municiple workers in Rooiwal to the internet
* Use Human Language Technologies to create an authoring environment for a telephone-based information systems at tele-centres (Open Phone)
* Use a HTML re-authoring tool to make it simple to translate web content into other African languages

Peebles valley - Mpumalanga mesh project

The initial thrust of the project was to connect the clinic to its community hospice using a multi-hop mesh network and thus allow them to extend their computer facilities to the hospice (practise management software and statistics gathering) and save on expensive cell phone bills between them by using VoIP.

The mesh network required a number of nodes in the area not owned by the clinic but that are part of the community such as schools and farmers. This enabled new outcomes to be achieved like giving the school access to a local wikipedia over the mesh and limited internet connectivity and giving the farmers an alternative to their expensive and slow dial-up option for internet connectivity. The ultimate goal was to seed a mesh network that would ultimately be expanded and owned by the community themselves.



Core achievements in Peebles valley project

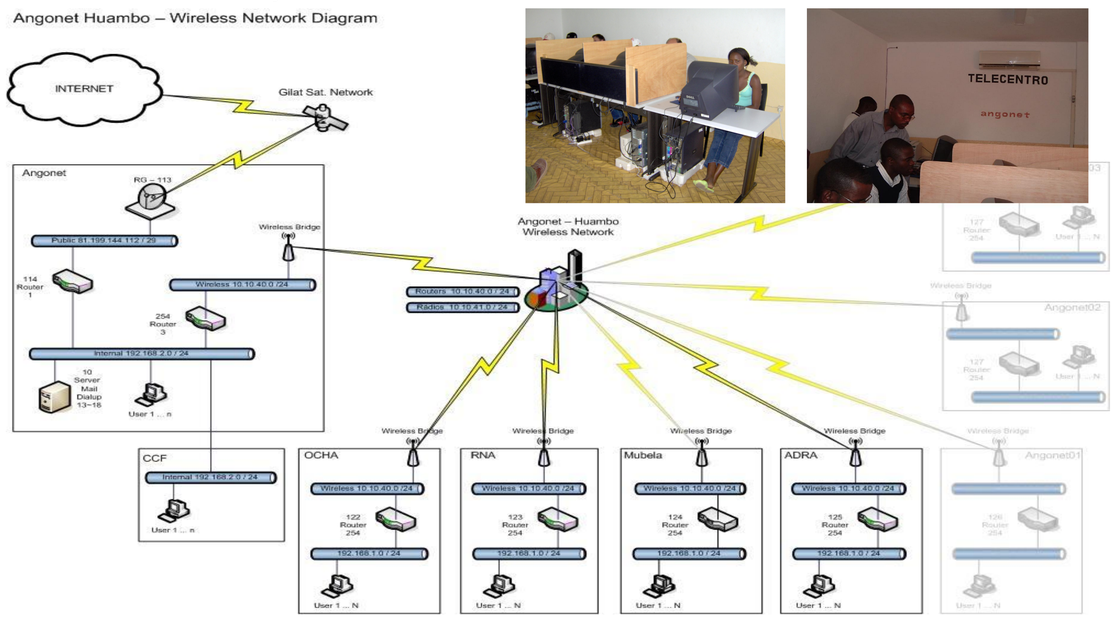
- Key boundary partner - Harry who manages ACTS aids clinic, has been very helpful and has helped with the role out of the network
- Successfully meshed 10 nodes in a rural environment with good throughput (up to 623 kb/s
- Interest being shown by some users to extend the mesh to other people
- Computer shop owner in nearby town wants to build a mesh network amongst farmers which will eventually link the town to a this rural area and remove the need for the expensive VSAT
- Our most active user - Portia (daughter of a nurse at the clinic) has taken her own initiative to use the nearby school lab as a training facility to train pupils on how to use the internet

Angonet project in Angola

AngoNet is a service provider for electronic communications (Internet access, E-mail and creation of electronic pages). It focuses on the development of community networks with the primary objective of facilitating communication between :

- Communities
- Educational institutions
- National and international organizations operating in human development and poverty reduction programmes within the post-war context in Angola.

It is based on the principle of self-sustainability, AngoNet is setting up community telecentres in the provinces of Luanda, Huambo, Cabinda, Malange, Zaire, Bié and Uige, with links (24/7) to the VSAT & Wireless Systems.



Core achievements in Angonet project

During a period of three months (October, November and December of 2005) the Telecentre was used by 4977 individuals (students, teachers, foreign visitors and national and international organizations) who had access to all services provided by the Telecentre. Their final revenue was $3.905, 00 US.

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