A case of learning and just doing it!

By Muroro Dziruni

Connect Africa - Zimbabwe

E-mail: muroro@connectafrica.org.zw

The project

The wireless school connectivity project is an initiative that has connected a secondary school in a poor township of Harare, to the internet using wireless technologies. The concept behind this project was as a result of participating in a Wireless Workshop where the fundamentals of building wireless links was demonstrated as an alternative low cost approach to connecting schools to the internet. The wireless technology itself is a bundle of solutions that use the licence exempt Industrial Scientific and Medical (SM) 2.4 GHz frequency band for connecting both the “first mile” to the Internet Service Provider (ISP) and distributing the internet using WiFi in the classroom.

Partner participation

Building up and rolling out the project required collaborative efforts from various stakeholders whose inputs were crucial in making the school connectivity project work. The project established relationships with four main stakeholders through whom the project was able to deliver internet to the school: the internet service provider, the backbone service provider, the regulator and the school ICT training organisation.

Zarnet - The internet gateway services were provided by one of the leading ISPs called Zarnet. The arrangement with Zarnet was that they would offer free gateway connectivity for the project and technical support in setting up and configuring the network.

Picture: The 60 metre Tower that PowerTel allowed the project to use to set up the wireless radios

PowerTel - The backbone infrastructure provider called PowerTel made available the fiber network connection from the school to the ISP. The agreement with PowerTel was that they would provide free of cost , data carrying services and allow the project to use their masts to mount the radios for the “first mile” wireless link.

The Regulator - Discussion with The Postal and Telecommunication Regulator (*Potraz*) allowed the project to get the necessary authority to use the 2.4GHz

frequency spectrum for the purposes of connecting schools to the internet. The use of this frequency band in Zimbabwe is very restricted and the project was allowed on the basis that it was for non-commercial application and for a limited period of use.

Training in ICTs - The Wireless solution comprised of two parts - one part was about the actual hardware and software required to make this work and the other part was about training of teachers in the use of the ICT technology in the classroom. Effectively this made the project, lessa bout technology in the eyes of those teachers and learners but more about how to integrate ICTs in teaching and learning. World Links Zimbabwe, an organisation involved in school networking provided support in training teachers in the use of ICTs in the class room.

Take away lessons

There are several learning points that the project team experienced that are worth documenting as useful take away lessons.

Lesson 1: Define the technology need correctly – just as any development action should be in response to an identified need, the same is applicable to ICTs in school networking. The proliferation of new technologies for connectivity into schools can easily distract the focus of the initiative into a "technology" driven solution rather than a project about connecting schools for better learning and teaching. Invariably it becomes tempting to assume that the more the technological solution, the better, without considering the true underlying need uppermost in the mind of the users. This project is really about better teaching and learning and the ICT component is an enabler of this fundamental intention.

Lesson 2: Firm partnerships assist in effective implementation – Technology focused projects are not without their challenges, particularly when using certain technologies that may require skills that project staff or partners have not used or obtained before. An important lesson that has been learnt is that building technology solutions into existing partnerships, where the need is commonly shared, increases the likelihood of success and can deliver learning effects across the partnerships. Both PowerTel and Zarnet are experts in wireless technologies in Zimbabwe in their own right and their knowledge, skills and access to appropriate assets was invaluable for the project roll out.

Lesson 3: Timing, can enhance implementation success **–** It was fortuitous that the other partners (PowerTel and Zarnet) were also considering similar interventions and the arrival of this project allowed them to channel their resources into this work. In other words the project came just at the right

moment because the partners were also in the process of planning for similar school connectivity interventions.

Testing the wireless link using Netstumbler and a Cantenna at the School. Note this is happening on top of the computer lab roof!

Lesson 4 – Building capacity to use the technology is key – A new technology innovation will only be useful if it is used. Whilst this may seem an obvious statement, it is important always to remember that technologies are an *enabler* of education rather than solutions in themselves. It is better education we seek and not better technology. The most important component in the value chain of delivering this education is a teacher who is ICT savvy and able to integrate the technology in curriculum. Equally the learner's appreciation of technology in their process of learning should be emphasised.

Conclusion

It is without doubt that the genesis of this project was a result of the wireless skills training workshop in Pretoria in 2005, facilitated by APC and the wireless gurus who made this possible. The plan going forward is to track the progression of wireless technology developments and to bring it to bear in the context of the school networking initiative in Zimbabwe. The project hopes to develop a "mesh network" using wireless technology, so that all schools in the Highfields Township have low cost internet in their computer labs.