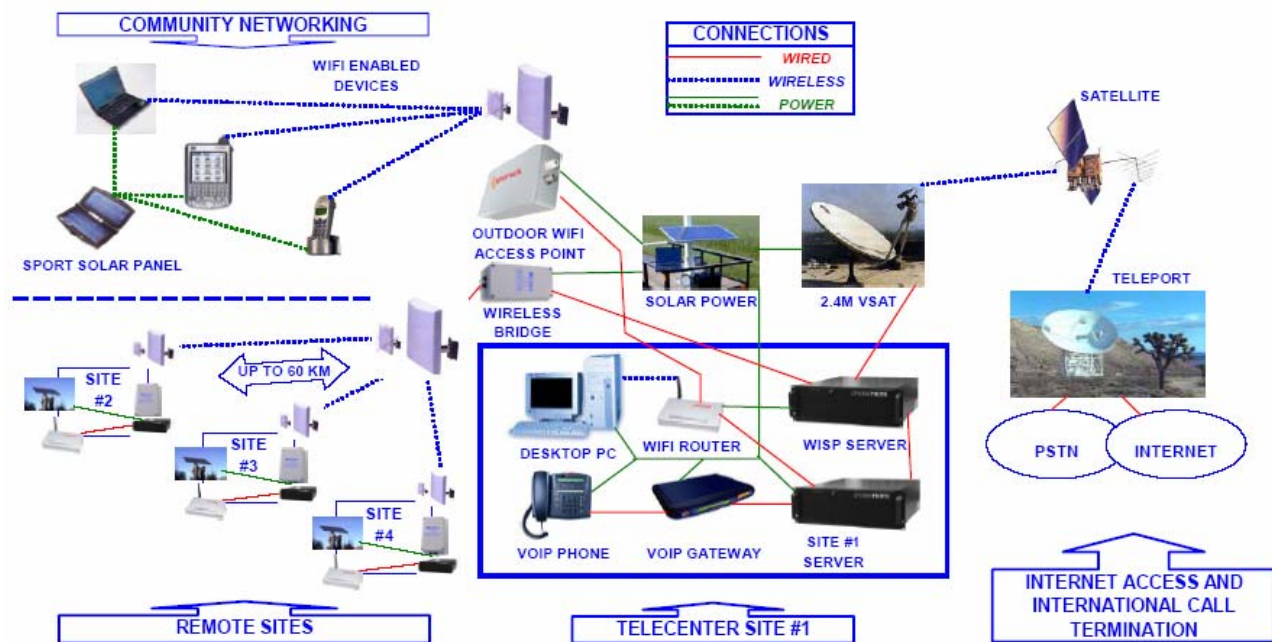


## LEAPFROGGING DEVELOPMENT

It has become somewhat of a truism that satellite and fixed wireless technologies can be employed by developing countries to leapfrog telecommunications infrastructure development. Hybrid models such as the one shown here illustrate how combinations of such technologies deliver last-mile connectivity to entire communities in a cost-effective and sustainable manner. The days of expensive infrastructure projects to dig up the earth and lay cable are numbered.



## SHARED BANDWIDTH, SHARED COSTS

### Shared VSAT bandwidth

Central to this model is the concept of shared bandwidth. A 2.4m VSAT (Very Small Aperture Terminal) dish is installed in a central location to provide reliable, high bandwidth connectivity via satellite. The costs of installing and maintaining this service are distributed amongst local Internet Service Providers (ISPs) who share the bandwidth and extend service over a larger area by using WiMAX and Wi-Fi terrestrial fixed wireless technologies.

### WiMAX extends coverage to remote sites

The WiMAX system utilizes the VSAT connection to provide point-to-multi-point service to remote sites. All sites are configured with IEEE 802.16a-based wireless broadband equipment. Current WiMAX systems can extend coverage from the central point to a radius of 60 kilometers (approx 37 miles). In this way, a large town that hosts the VSAT connection can extend this access to a smaller village within range of the WiMAX system.

### *Wi-Fi to enable community networking*

A remote site such as a school, clinic or telecenter taps into the extended WiMAX coverage area and provides access to the community. The remote site can use Wi-Fi routers to further extend this wireless connectivity to network entire buildings, community spaces, or offices. Voice over Internet Protocol (VoIP) services can also be provided by connecting a VoIP Gateway and an IP phone. Similarly, data and fax services are easily within reach of the community.



### *Financial Sustainability Models*

I-LINX recognizes that the best technologies cannot simply be grafted on to existing communities without adequate sustainability strategies and local buy in. This is why we have a proven methodology for working with local stakeholders to configure these solutions for the unique political, economic, and social environment of the community. Our consultants are problem solvers who combine their regional experience and cultural sensitivity with their telecommunications and international development expertise to deliver pragmatic and sustainable solutions.



In addition to donor funding, private equity funding is also sought for the initial hardware investment. In some cases, due to the relatively low cost of the upfront investment, local entrepreneurs and community leaders are also encouraged to contribute financing.

Community Access Points serve as a valuable source of basic education and health programs. Basic communications services (e-mail, phone, fax) are provided for a nominal, cost-recovery based fee. In addition, Access Points can become sources of revenue generation by providing additional services. For example, a school that has connectivity will offer fee-based services such as e-mail, phone, and Internet browsing to the general public after school hours.

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