

## Choosing an Internet Service Provider: “The Devil You Know vs the Devil You Don’t Know”

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Many universities that I’ve been working with are focused on purchasing their satellite dish so they can access the Internet. But a satellite dish represents much more than access to the Internet. For some it’s a matter of pride, a visible symbol of their Internet capacity. A satellite dish has a certain sort of cachet, a muscular machismo that is extremely attractive to planners, decision makers and those in the the upper echelons of the university. However, it is important for these same individuals to recognize that their true goal is Internet bandwidth and not necessarily a satellite dish.

All institutions want bandwidth with which to service their community’s information and communication needs, the more bandwidth the better. And, I would argue, the cheaper that bandwidth, the better. The cheaper bandwidth is more sustainable and more likely to be available over time. If one’s bandwidth needs are inexpensive enough, one can actually improve the amount of bandwidth that their institution receives much more flexibly.

For some universities, the better, more reliable, and least expensive bandwidth may not come from satellites. There may be local vendors who already have satellite dishes that can provide bandwidth far cheaper. For example, take the case of the University of Ibadan: they have two organizations near the University which already have functioning satellite dishes – Skannet, a local ISP, and IITA, the International Institute for Tropical Agriculture. Both of these organizations have already invested in satellite dishes and have several years’ of experience running them fairly reliably. Both are within such distance that they could provide wireless connection to the University using radio Ethernet equipment. Both would benefit from such an arrangement since their bandwidth costs will decline bit for bit the more bandwidth they purchase from their vendor. And both have equipment which is capable of handling several times their current bandwidth needs. The technology for sharing bandwidth and controlling the amount of bandwidth used by sharing parties is relatively straightforward and built into the equipment they already have.

So, in a sense, there are very few technical constraints to these organizations providing extra bandwidth to the University of Ibadan, so what we have to do is look at the political and personal constraints that stand in the way.

IITA, for example, has the reputation of not playing well with others. While ostensibly a part of the University of Ibadan, they have set up their systems entirely separate and have offered little assistance to the University of Ibadan in the past. Independently funded from international sources and staffed by both foreign and Nigerian technical experts with a great deal of training, there appears to be little fiscal incentive for IITA to want to work with its mother campus, the University of Ibadan.

Ostensibly the supply of bandwidth via a wireless Ethernet radio setup should pose little trouble for the IITA, but in practice these things are never quite so straightforward.

When two parties share such a link and something invariably goes wrong, of course one points the finger at the other and pretty soon confusion ensues. The University of Ibadan, in the position of truly needing the bandwidth, and the IITA, which could feel "put upon" to assist Ibadan, would be on unequal footing in such disputes. The IITA might also call into question the quality of installation, maintenance, and staffing of the Ibadan end of the connection and simply determine that it's too much of a headache to bother supporting.

Hence, in this sense, it really falls to Ibadan to make it worthwhile to the IITA to provide them bandwidth, providing some sort of insurance or insulation against Ibadan's technical travails.

Skannet is a different story with a lot of the same twists.

Skannet is a local ISP who continues to make significant money in providing wireless IP connectivity for customers around Ibadan. However, Skannet will lose that capacity in a year, as new vendors have purchased the rights to provide wireless Internet connectivity on a commercial basis in Ibadan from an auction held by the NCC. At this point the folks at Skannet expect that they will roll their wireless Internet access up into one of the three winning bidders' licenses when they establish their services.

Skannet currently provides the University of Ibadan with a 32k connection so the hardware and the relationship are already established. Ibadan pays good money for this Internet connection, and as the customer might be expected to have more of an equal relationship with the provider in terms of settling disputes.

And disputes there are...

From Ibadan's accounting, Skannet is more or less reliable but has some serious problems sometimes providing connectivity. For its part, Skannet points out that they have many satisfied customers in the area who have no problems and they point to unreliable power supply and unreliable equipment at the University for causing much of the trouble. So, assuming that Skannet accomplishes the transition of its commercial wireless fees to one of the new licensed companies operating Ibadan, Skannet remains a potential provider for Internet bandwidth, albeit one that poses serious reliability questions.

Finally, the University of Ibadan needs to consider the potential of there potentially being three licensed commercial wireless Ethernet providers in Ibadan within the next year.

One can assume that having spent the money to buy the licenses that these organizations are planning a full implementation of commercial wireless services in Ibadan, hence the University could be entertaining yet another array of Internet connectivity options very soon down the road.

Finally, it is too soon to discount NITEL entirely. It would be worth the time and effort to approach NITEL and see if they have or are planning some form of high-speed modem or dedicated line capabilities either now or in the near future. There even may be other options to consider in terms of broadband access in Ibadan, but these are the options which are immediately apparent at this point.

Now let's turn our attention to the original option: the University of Ibadan purchasing a satellite and bandwidth from a satellite service provider and becoming in a sense its own ISP. The satellite dish itself may cost between twenty and forty thousand dollars US. The installation cost can run from two thousand to ten thousand dollars. Besides the satellite dish, in order to provide consistent and adequate service the University would also need to build in security systems and around-the-clock power protection. This adds another five to ten thousand dollars to the installation of the satellite dish and also adds another layer of complication for the technical support people who are supporting the satellite dish.

Speaking of which, in its ongoing plans the university needs to consider that the satellite dish and the power protection equipment will need to be maintained which may call for several people to be trained to provide 24-hour support for the system.

Still we have to ask the question: how reliable will the university be in maintaining and repairing and providing this service?

Past behavior being the best predictor of future performance, so it's up to the university to look at how successful it has been in providing local area network and desktop systems support, and hence predict how reliable they will be in operating the satellite Internet connection.

Of course the most critical question is this – can the university predict that they will be more reliable than NITEL or any other wireless service provider in their area?

In discussions with those in Nigeria who already support their own satellite dishes, I'm led to believe that when the satellite dishes work they work very well, but when something malfunctions, it can take weeks to find a replacement part. Are universities willing to accept the risk? Are they willing to buy redundant spares to provide redundancy? Can they tolerate being disconnected for weeks? I'm sure for many universities these raise some serious questions.

Reliability, being such a major concern, is well worth considering creative options for improving reliability. For example, one way that Ibadan could work with Skannet to improve reliability is to have Skannet provide the equipment and support for the university's end of the link. Obviously this would cost the university more, but this arrangement would leave Skannet with no excuse should the Internet bandwidth not reach the campus.

The local wireless option being significantly less expensive than the purchase and maintenance of a dish means that the university could afford to pay Skannet for the equipment and the maintenance and still recognize a significant savings over purchasing a dish.

Yet it remains that the only true cure for reliability is redundancy. For a far greater sense of dependability, Ibadan may want to get wireless service from both IITA and Skannet. Or the University may want to purchase a satellite dish and set up a wireless link with one of the two organizations. In an ideal world, the two organizations would enter into an agreement whereby they would back each other up in the event of equipment failure. Yet the construction of such agreements and arrangements could be years away.

Something else to consider is this, if the University of Ibadan buys wireless equipment to create a wireless connection, it can redeploy that wireless equipment in the future should a better more reliable connection come along. However the purchase of a satellite dish offers little such flexibility. Should better and cheaper bandwidth come along in another form, the satellite dish becomes just another relic. Any way you look at it this is not an easy problem to solve.

New wireless and satellite technologies will be introduced over the next couple of years and as early as 12 months down the road one's options could look entirely different. Still there are no clear choices at this point.

I wish universities the best of luck in their deliberations.