

Insights Telecommunication Trends

Independent operators service the rural areas

Wireless access providers are filling the gaps and boosting communication

ABOUT 100 registered wireless access service providers across the country are providing wireless connectivity services in urban and rural areas where other broadband infrastructure is inadequate or non-existent.

They are doing this by using the unlicensed 2.4 and 5.8 spectrum frequencies that provide speeds up to 100 megabits a second and linking to other infrastructure providers over longer distances.

These entrepreneurial companies provide a varying range of coverage and offer telephony and internet services that in some cases are as much as 40% cheaper than any alternative.

In addition, they often come to the rescue when businesses and consumers find their wired services cut off due to copper cable theft.

For years many wireless access

providers operated under the radar until the regulations changed in 2007 and service providers were allowed to apply for a licence to set up their own infrastructure. Today, collectively, wireless access providers represent the biggest competition to the major service providers and operators, says Steve Akester, CEO of Vlocity.

"The mobile operators will not allow us to use their towers."

He says Vlocity started setting up wireless networks in the Cape Town area in 2004 to provide services to businesses and consumers that needed immediate connectivity.

One of its first customers was a pizza restaurant chain that wanted to broadcast video across 10 outlets and had struggled to do it with ADSL.

"It was more difficult to get ADSL connections seven years ago."

Since then Vlocity has set up wireless networks that provide last-mile connectivity in five of the major provinces and it is setting up networks in Kimberly and Bloemfontein to complete its national coverage, he says.

The company uses Dark Fibre Africa

and Neotel's fibre infrastructure for its interprovincial links, and interconnects with ISPs and operators through internet exchanges such as Teraco and Africa Internet Exchange.

"Our customers can link to each other across the country without leaving our network," says Akester.

He says much of the company's infrastructure is in rural areas where there is little or no infrastructure. This includes a network that reaches from Uppington to Kimberly along the Orange River and runs on solar power.

Johan Kruger started Saficom Telecommunications in Potchefstroom in 2006 to provide wireless internet services for farms, small businesses and university students in the area.

"We cover 80% of the area, reaching as far as Randfontein, Westonaria, Carletonville and Fochville, and we have about 1 000 installations."

The company has set up wireless hotspots in Potchefstroom for students that consist of 150 access points that provide coverage over a 2km² radius.

"Our network also connects to the North West University campus's

network in Potchefstroom, allowing students to roam between the two."

He says Saficom is providing wireless access to hotels and guesthouses in the area, where a lot of European athletes stay to train.

"Potchefstroom has very good sporting facilities and a high altitude, which is good for training."

The company provided wireless infrastructure for the TV stations to broadcast the 2010 Soccer World Cup coverage in the area, says Kruger.

In Phalaborwa in 2009 Eric Simpson and Emile van Rooyen set up BushGuru, which provides wireless connectivity to the town and surrounding areas, where there is a major problem with copper theft.

"The copper lines have been stolen so many times in this area that Telkom will not replace them any more and it is not cost-effective to put in fibre," says BushGuru director Kerry Simpson.

This is a problem because with the Phalaborwa gate to the Kruger Park on the doorstep the area attracts tourists who expect to be able to connect to the internet during their stay.

"Many game lodges around the park do not get a cellular signal, so there is no 3G coverage."

She says the company provides

Voice over IP (VoIP) telephony services over a wireless network that runs on the unlicensed 2.4 and 5.8 gigahertz frequency

spectrum. Customers that have had their fixed line stolen can keep their existing Telkom number and connect to BushGuru wirelessly.



SHORE LANDING: A worker checks an undersea cable at its beach base. The cables form a vital part of the communication chain.

Undersea links carry an enormous load of data

UNDERSEA cables have been in existence for many years, more recently for fibre optics and before that for telephone cables.

Thylan Chetty, West African Cable System (WACS) specialist at BroadbandInfracore, which is a shareholder in the cable, says there are about 17 major transatlantic undersea cables linking Europe and the US, with three more serving sub-level routes.

There are also about 16 transpacific cables linking Asia with North America, and about six running up the east and west coasts of Africa.

He says that traditionally most of the data traffic carried by the Asia to US cables was bound for overseas destinations, but they are being used increasingly to carry data in Asia to support regional economic activity. He believes the same will happen in Africa.

Chetty says one of the major challenges with undersea cables is the stringent environmental legislation that has been introduced in SA and many other African countries.

"There are processes that have to be followed involving local authorities and communities in the relevant countries, and sometimes a fee."

He says landing an undersea cable involves digging a trench in the beach to a manhole, but it is a passive cable that does not contain any fluid.

"But from an environmental perspective an undersea cable is classed in the same category as a nuclear power station," says Chetty.

Telkom is a shareholder in SAT3/WASC/SAFE, the East African Submarine Cable System (EASSy) and

WACS, which is expected go live in the first quarter of next year.

Johan Meyer, Telkom's executive for global capacity, says having access to three undersea cables locally improves reliability and availability.

"It can take five days to three weeks to repair a break in a cable."

Further afield, Telkom also has stakes in the European India Gateway (EIG) cable, which links Europe, the Middle East, North Africa and India; the Columbus III cable, which links Portugal and Spain with the US; and the SEA-ME-WE 3 or South-East Asia-Middle East-Western Europe 3 cable.

The 39 000km SEA-ME-WE 3 undersea cable is the longest in the world, stretching from north Germany to Australia to Japan.

Meyer says undersea cables are robust and suppliers typically warrant for them not to have more than two technical failures during their life span.

When the depth of the water is less than 1,5km, undersea cables are vulnerable to fishing trawlers, and at depths of 60m to 100m they are vulnerable to anchoring activity.

"In the early days shark bites were also found in cables at 1,5km depths."

He says in 2006 an earthquake in the Pacific, close to Taiwan, damaged five undersea cables in 30 places, and the last Japan earthquake took out four.

Meyer says a single undersea cable provides the equivalent capacity to that of all the satellites put together globally.

"In this era of broadband communication, those countries without access to undersea cables will be left behind," Meyer says.



MEETING GROUND: Executives in a boardroom tap in to colleagues overseas to discuss the latest business developments. The perception of videoconferencing has improved dramatically as the technology now provides much better reception and it is proving cost-effective as transport costs continue to escalate.

Talk the talk via a video conference

VIDEO conferencing is becoming viable as the technology improves and bandwidth becomes more affordable.

In the early days companies had to install expensive video equipment in their boardrooms, IT staff had to set it up, interoperability between multiple parties was a problem, quality was inconsistent and it required a dedicated line at a per-minute cost. But today, businesses can do video conferencing over the internet at a reasonable cost, either by installing the technology themselves or using it on a pay-per-use or prepaid basis over the internet, and there are plenty of options available.

"Skype for Business still works over the public internet, but it provides higher quality video conferencing than the consumer Skype service," says Wayne Speechly, executive for communications at Internet Solutions.

He says users can connect to the service with a 512 kilobits per second connection, and the Skype server gives them priority over consumer users.

Microsoft's corporate OCS offering can be implemented in-house or used on a hosted basis through a service provider. Polycom and Tandberg also provide boardroom and executive desktop video conferencing solutions that are designed specifically for this application, says Speechly.

"Having a range of options like this to choose from is great, but it also presents challenges when multiple parties are interacting with each other using different technologies."

He says to address this issue Internet Solutions has developed Hosted Video Exchange, a service that allows multiple parties using different types of video conferencing to interconnect on a pay-per-use or subscription basis.

Users can also access the IS WebEx hosted video conferencing service and hosted training centre through the exchange, says Speechly.

Craig Watson, MD of Q-Distribution, says hosted video conferencing services are ideal for smaller companies that have 10 to 20 employees that need to communicate on an ad hoc basis across different branches, and with customers.

He says the Vidoyo video conferencing solution costs R5 per minute per user, plus the bandwidth, on a hosted basis, which is viable for small amounts of usage.

"But for multiple meetings of a lengthy duration it is more cost-effective to install the system in-house."

For 10 concurrent users this would involve a one-off cost of R100 000 for the hardware and software, or R4 000 to R5 000 a month, says Watson.

IT'S A LOT EASIER TO MANAGE WITH BLACKBERRY ENTERPRISE SERVER.

- Harness the full power of mobility with BlackBerry® Enterprise Solution (BES). Get the software, applications, support and devices that allow you to manage everything - from your people's data usage to setting up bespoke company protocols, the time allocated to web browsing to the levels of sensitive information different staff members can be privy to.
- All from one central point.
- Remotely wipe lost or stolen devices, anywhere in the world, and reinstale information on the new device, right down to icons and favoured fonts!
- Increase your ROI by mobilising applications that streamline your processes - with its Software Deployment Function, BES can seamlessly integrate into your back-end applications by pushing them to your people's smartphones.
- BES increases productivity by putting the information into the hands of your people, when and where they need it, so they can make decisions on the move, process orders, hold meetings and conferences, report in and so much more, all in real-time, with the gold standard in mobile security.

Go to www.blackberry.co.za. You'll wonder how you ever managed without BlackBerry® Enterprise Server.

Love doing business with BlackBerry®. **BlackBerry**

blackberry.co.za

©2011 BlackBerry Limited. All rights reserved. BlackBerry, BES, Research In Motion and related trademarks, names and logos are the property of Research In Motion Limited and/or its affiliates in the U.S. and other countries.

Business anywhere, with one number.

MTN Unifrequency is the latest PSX solution from MTN Business, bringing all of your communication tools together in one streamlining your systems, making your employees that much more productive. It's the next big thing in business, giving each of your employees one number, over landline, laptop, tablet and cellphone, increasing efficiency and client satisfaction, whilst lowering your call costs. Get your business to number one with MTN Unifrequency.

Visit www.mtnbusiness.co.za or call 0277 40 40 40.

MTN Business

Businesses can do video conferencing over the internet at a reasonable cost