

Spectrum is the solution to bring broadband to all of SA

Bringing internet to people in rural areas where infrastructure deployment is expensive and tricky, is becoming a priority throughout the world.



Mitchell Barker

Twenty three companies and organisations from around the globe - including South Africa - recently got together and created the Dynamic Spectrum Alliance. The aim of the organisation is to promote regulatory policies concerning "Dynamic Spectrum Access" technologies, such as the unused and inefficiently used radio and TV band frequencies (otherwise known as the "white spaces" spectrum) to create more wireless connectivity. According to reports, the Dynamic Spectrum Alliance will also focus on promoting laws and regulations to ensure that spectrum technology can be used to extend broadband to rural areas.

Avoiding interference

Mitchell Barker, CEO of WhichVoIP.co.za, a comprehensive online directory listing South Africa's voice over Internet Protocol (VoIP) providers, applauds any attempt to enhance the utilisation and allocation of the spectrum in South Africa. "The ISM (which stands for industrial, scientific and medical) radio bands refer to the electromagnetic spectrum in a range of frequencies such as the radio waves used for AM/FM radio, terrestrial television broadcasting, satellite communication, mobile communication and broadband internet," Barker says. "The purpose of spectrum management and allocation is to avoid interference among all the different spectrum users. However, spectrum allocation in South Africa has been in dire need of an overhaul for a long time already."

Barker explains that, at the moment, there is only so much spectrum to go around. "To put a visual example on it, if you look at an FM radio receiver, you can only turn the dial so far in either direction to pick up stations. After digital migration is complete, the white spaces spectrum will increase to such an extent, it would be like turning a narrow, heavily congested two-way street into a six-lane highway where much more traffic moves quickly and easily."

Why would migrating to digital broadcasting free up so much more space on the spectrum? "Because terrestrial television, which uses analogue broadcasting technology, uses up far more space than digital broadcasting does, which means that switching to digital broadcasting will make far more white spaces available on the spectrum which could then be allocated for broadband purposes," Barker says. "The South African Department of Communications (DoC) has been dragging their feet on the migration. It was supposed to have happened in November 2008 already, but now the deadline has been set back to mid-2015, with many suspecting that it will be pushed back yet again."

Broadband for everyone

Barker adds that freeing up the spectrum will bring broadband coverage to everyone in South Africa. "Much of the country's rural areas fall outside the country's fixed line infrastructure. And even in urban areas, the last mile connectivity

for high speed internet is also heavily reliant on wired technologies. Access to last mile technology is usually only reserved for wealthy communities, since it is costly to roll out fibre and copper lines and sometimes not even an option at all in sparsely populated rural areas. Copper has also been prone to rampant theft in South Africa, which is incredibly disruptive, having an adverse impact on productivity and the economy, since it is costly to repair.

"Although satellite can also deliver coverage to remote areas, spectrum is far more affordable than satellite and will therefore be the most cost effective way to bring broadband connectivity to everyone in South Africa," Barker concludes.

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