



## Source delivering fibre to the home with new GPON solution

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By Greg O'Brien

HAMILTON – Independent network owners are always looking for an edge and are in constant search for technology that will let them provide services on par with or better than their bigger competitors – but without breaking the bank.

Source Cable, which serves almost 20,000 customers in southwest Hamilton is no different. It was one of the first companies in the country to begin offering fibre to the home, using RFOG (RF over glass) technology, [back in 2007](#). Fibre to the home is not a cheap proposition, but Source began pushing the technology through to greenfield areas then because running a fibre network is cheaper over the long haul as far fewer power supplies and amplifiers (and their subsequent maintenance) are needed.

But, as technology marches on – along side burgeoning residential growth in Source Cable's footprint – the company began earlier in 2011 to examine the various iterations of passive optical network (PON) technology to improve its network performance, offer something new to the new home market and cut future network costs. It settled on Aliphion's GPON solution (distributed in Canada by Capella Telecommunications), which accommodates RF and removes coaxial almost completely from the network, except inside customers' homes.

"What's key to their system is not only the GPON but the RF overlay – which gives us the TV video signal – which was included in their one device at the house. At the same time, that included RF return, which allows us to do pay-per-view and VOD on the cable plant," said Source Cable's general manager, Darryl Chandler (pictured) in a recent interview.

"And what was even more special about it is we do it without a digital return coming back to the headend... What that means is we're only using three wavelengths on the fibre versus four. Aside from that being a lot of technical wavelength stuff, it just means lower costs because in the headend we don't need to have separate receivers for a fourth wavelength and the device at the other end doesn't have to transmit on the fourth wavelength, as well. So we saved a lot of money on our side, which enables us to deploy that wide-scale in every home. What we end up with is a full GPON system in one device with RF overlay, and return, that we can now turn, even TV services, on and off, addressable from our billing system, whereas most other systems it's still two pieces."

From the customer point of view, this new network delivers a far better TV experience, clearer digital phone service and has the potential for fantastic Internet speeds. "On the video side it definitely helps with sharper and clearer pictures because there's no active equipment. (The signal) leaves the headend here and the next active piece of equipment it encounters is the GPON unit right on the side of the house," he explained.



"The only thing that comes in between is passive splitters, optical splitters. So that's definitely an improvement on the video side. On the VOD and pay-per-view side the speed is a lot faster to communicate back to us because, again, it's coming all the way on fibre versus traditional HFC plant," said Chandler. "And then on the Internet side... our GPON customers get actually double what the regular customers would be getting (25Mbps)." It's also worth noting that at Source, there are no bit caps.

For now the company's new technology (Source was the first in North America to deploy Aliphion's GPON system) is going into new builds only, where its technicians can wire homes as they are built. However, the company is hoping to be able to install it in the future with the 25% of its customers in existing

townhouses, apartment buildings and condos. Unfortunately, it's not economical to roll it out to existing single family homes.

For now, the company is going to learn about how the unit performs in an MDU setting by installing it during the build of a new, 59-unit building. "We will be installing the GPON within the walls of each unit. Potentially we're going to be activating customers in there without even having to roll a truck, which means they can call up for service and within minutes they can have their cable, Internet, and phone provisioned and working in their unit without us visiting the building at all," says Chandler.

And with Bell pre-wiring the same new buildings with fibre, readying for a Fibe TV and Internet service rollout beyond Toronto in 2012-13, Source has to be ready to respond to keep its customers, by pushing any points of differentiation.

"In this MDU, we've actually been able to insert the lobby camera into this GPON feed, which up until we did it, we didn't think it could be done. We had to actually figure out the architecture to do that work, since everything is fibre at the residence. So, the residents in that building will be able to tune to channel 75 and see the lobby camera on the GPON system," explained Chandler.

"We're hoping that differentiates us because as far as we know Bell is not offering that bit. So, again, we're looking for ways to make ourselves different and better."