

Unloaded Copper can connect tens of thousands of Albertans to the Alberta Supernet

March 27th, 2008

Overview

The Alberta Supernet is a wonderful high speed digital optical network that allows schools, hospitals, government buildings to connect computer networks and video conferencing equipment together. This is the most advanced, most capable, best designed network in North America. And in Government offices and schools around the Province, office workers, professional people, administrators, students, are experiencing life in a digital world, and love it. Commercial companies can also connect to the Supernet for their own purposes.

Need a face-to-face with your colleagues in Brooks to talk about swine flu, and you're in Red Deer? – go online.

Want to talk to your manager or your boss or your employee in Edmonton, and you are in Banff, and the roads are snowed under? – go online, meet all your colleagues without driving anywhere, on high definition video conference TV, with crystal clear sound, and right now.

For people in various Government buildings all over the Province, this is happening now, and is expanding rapidly as online video conferencing and meetings over take the need to travel. Wouldn't it be terrific, though, if we could ALL do this, in our homes and offices, wherever we are, and whenever we want?

Well, in so many places throughout Alberta, especially in small town Alberta, it IS possible – at least technically - and at very low cost. In fact smaller town Alberta is the perfect place to get connected to the Alberta Supernet. It is easier to do this than in downtown Calgary.

The Problem: We all know that installing fiber optic cable into a home or office is expensive – in fact prohibitively expensive.

The Solution: What most people don't know is that we can use the existing telephone wire that's been installed in homes and offices since the early 1900s. The process is simple. All that needs to be done is for the telephone company (Telus) to tie the telephone wire in your home or office, to the telephone wire that runs into the Supernet fibre connection point. Put a commonly available modem on either end of this now long, local telephone wire, and turn the modems on. Done!!! Now the Supernet is into your home and office, ready to plug in your routers, firewalls and computers.

It is that simple. So simple that in one form or another, Telus – and before that AGT – have been wiring these kinds of connections for their own use for decades – since the start of modern digital communications.

This method is cheap, easy, reliable and manageable. And telephone wire is, as everyone knows, everywhere.

Current newer digital modem technology now provides us with fibre quality communications over this cheap wire over distances of up to 6 kilometres or more. This telephone wire will handle transmission speeds up to 45 Mb/s (that's 45 million bits per second, or 5.6 million characters per second – very fast) from the home or office, to the Supernet backbone, in both directions. That's good enough that an oboe player in his or her home in High Level could play in perfect harmony with an orchestra in a music class in Medicine Hat. This is Rock Band on steroids – and all the players can see each other!!!

We could have farmers in ad hoc video conferences in 10 communities hundreds of miles apart to talk about a sudden outbreak of a disease, complete with wireless camera tours of the barn or the field!!

With this technology, it would be possible to have a cancer patient in Three Hills video conference in a meaningful fashion simultaneously with a GP in Calgary, and a cancer specialist at the Cross Cancer Clinic in Edmonton, without anyone, especially the chemo treated person, traveling anywhere.

This is the dream of the 21st century, capable now.

The cost of renting the wire from Telus is \$10 to \$50 per month, and the modems cost anywhere from \$10 (on eBay) to \$2,000, depending on speed required. And of course on top of that the access costs to Supernet and if requested, to the Internet. Compared to traveling for meetings – a small percentage of the cost.

Obstacle: However, there is one major obstacle to use of this wiring and technology, and that is that our Province-wide telephone company – manager of all telephone wire in Alberta– Telus - does not provide this service.

And this is the major thrust of this letter.

We want to enlist the support of all Albertans, all Alberta Government officials and corporations, to ask Telus to start providing this service at reasonable costs outlined above, throughout the Province.

This situation is unique in Canada, in that an Incumbent Local Exchange Carrier stands in the way of completion of a compelling Provincial initiative. That is because there is no other kind of ubiquitous, high quality fibre optic network, that runs into all communities, in any other Province in Canada, or for that matter any other State in the United States, like the Alberta Supernet, to which to connect. This is a whole new world not contemplated by Telus or Bell, nor by the regulator of communications in Canada, the CRTC.

New rules, new accounting, new standards, new management and a whole lot of understanding need to be in place to connect people in Alberta using this excellent technology. The good news is that the two biggest parts of all of this are already in place – Alberta Supernet is in every small and large town and city in Alberta, and so is this unloaded copper telephone wire (also referred to as a “local loop” and “alarm circuit”). The issues are bureaucratic and management, not technical. We’re 95% of the way there.

So this letter asks those reading this – you – to start asking your Telus representative, your MLA, the Government of Alberta, the CRTC – everyone – how we get this started, and how soon can Telus deliver. With thousands upon thousands of unused circuits out there that are not generating any revenue for Telus and not providing services for Albertans – what a great business opportunity for Telus, and what a great step forward to get the rest of Albertans connected to each other, and the rest of the World!!!!

Sincerely

**Graham Fletcher
President
The Internet Centre**

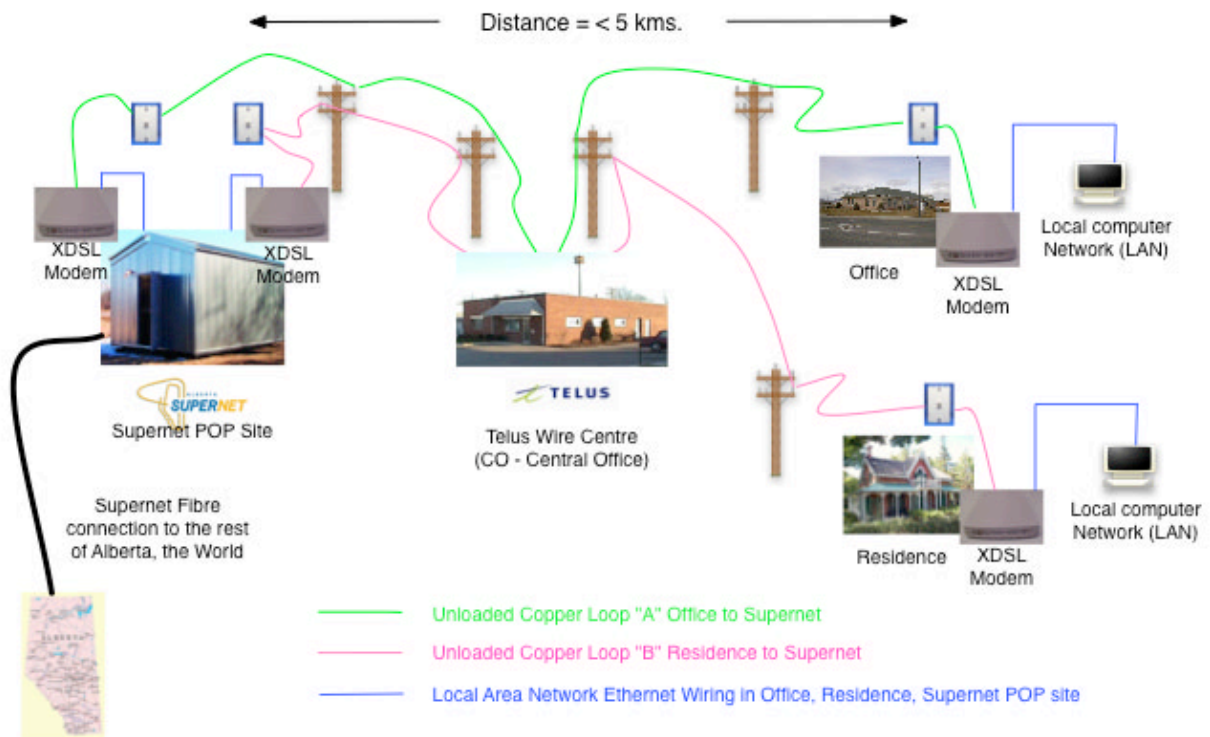
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Unloaded Copper – quick random notes:

1. Regular telephone wire with no services on it (no dial tone, no filters, bridge taps etc.) to be connected between two locations – a customer and the commercial Supernet POP – through the Telus wire centre (sometimes referred to as the “CO” – Central Office” - a central office for wire and equipment, not people)
2. This unloaded Copper Wire is everywhere throughout the Province – it is the unused 3rd or 4th or 100th pair of copper wire brought in to your home or office respectively.
3. Costs Approximately \$125 to have Telus install and test, end to end, one time
4. Takes approximately a week to order and be installed and tested
5. Costs Approximately \$10 to \$50 per month to rent depending on length of wire
6. Will sustain speeds of up to 45 Mb/s in both directions, depending on overall resistance of wire: resistance is a function of thickness (gauge) and length of wire – roughly 4 to 6 kms maximum.
7. Performance specs (throughput, latency) same as fibre over these short distances.
8. Modem costs: From \$10 on eBay to \$2,000 for new current generation at 45 Mb/s.
9. Will allow multiple video conferencing sessions.
10. Technology has been used and tested for over 30 years, lines in Alberta paid for many times over by taxpayers and ratepayers over the last 100 years.
11. Service not available anywhere in Alberta – Telus used to offer this service and now no longer does. Orders placed to Telus for this service are rejected. Telus could change its policy and provide this service starting tomorrow – there are no technical reasons for Telus to not provide this service.

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BASIC UNLOADED COPPER WIRING SCHEME



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Graph showing typical distance vs. performance for XDSL

