

Part 1 application

to

**Canadian Radio-television and Telecommunications
Commission**

by

Vaxination Informatique

regarding

Access to FTTP

Aggregated Wholesale High Speed Access Service

respondants: Bell Canada, MTS, Sasktel, Telus

Jean-Francois Mezei

Vaxination Informatique

jfmezei@vaxination.ca

Montréal, Québec

27-January-2017

Table of Contents

Introduction	3
Executive summary	4
Relief Sought.....	6
Alternate relief	6
Is this a Review and Variance?	7
A changing reality	8
Number of central offices	8
Rapid conversion to FTTTP	9
Shutting down copper	9
Competitively neutral policies	10
Availability of commercial transport	12
FTTP is more than speed.....	13
Render reliable and affordable 7(b)	14
Conclusion	15
Appendix 1	16
Relevant transcript.....	16
APPENDIX 2.....	18
Parties Served.....	18

Introduction

1. Pursuant to Part 1 of the Commission's Rule of Practice and Procedure, Vaxination Informatique is making this application seeking access to FTTP last mile for aggregated wholesale high speed access service.
2. This application relies mostly on Section 7 of the Telecommunications act as well as TRP 2015-326 and 2016-496, the 2016-379 decision and Bell Canada's R&V, as well as recently filed tariffs.
3. Much of the evidence is obtained from a speech made by BCE CFO Glen Leblanc with audio links and relevant transcript in Appendix 1. The most relevant portions of this 45 minutes speech are between 13:00 and 20:00 minutes. The arguments in this submission are supported by the text in Appendix 1 and thus text from Appendix 1 not repeated throughout the submission.

Introduction (cont)

Executive summary

4. An administrative tribunal's policies should be grounded in reality, not political ideology. Policy decisions must result in consumers seeing a positive outcome, lower prices, more competitive choices, more reliable service. To this day, no consumer has seen a positive outcome of 2015-326.
5. The CRTC's overall objectives, as outlined in its 2016-2019 three year plan:
6. Guided by its legislative mandate, "the CRTC seeks to ensure that Canadians have access to a world-class communications system." The Commission's Connect pillar "focuses on ensuring that Canadians can connect to a choice of accessible, innovative and quality communication services at affordable prices.
7. While disaggregation may confer some advantages to individual ISPs where it is deployed, it has become clear that it will never cover the full telco territories across Canada, leaving large areas where ISPs will be limited to serving customers on copper.
8. Copper is becoming obsolete. The carriers have quickened the pace of FTTP deployment because it costs less to maintain than copper and want to retire copper as soon as possible. Even the Commission's 2016-496 decision has set speed targets that are beyond realistic copper capabilities as currently deployed.
9. Yet, the current policy continues to expect ISPs to rely on copper to compete where disaggregation does not make economic sense. Instead of allowing ISPs to grow their customer base using aggregation to eventually justify disaggregation, the policy condemns them to losing customers to the incumbent's FTTP, reducing chances of investment in disaggregation.
10. As the pace of FTTP deployments increases and the outlook for disaggregated footprint shrinks, more and more consumers will be faced with a telco monopoly for modern broadband in areas where there is no cable (or TPIA).
11. The Commission is faced with a choice:
 - regulate the incumbent's retail Internet where there is no/insufficient disaggregation (forebear like telephone service when sufficient competition has developed through disaggregation at a CO)
 - allow aggregated wholesale access to FTTP.
12. Since the second option represents a far lighter regulatory touch with greater benefits to

market forces and consumers, it should be the chosen one. The status quo is not acceptable as the current policy condemns large number of consumers to obsolete and unreliable copper which incumbents need to shutdown to realise huge cost savings.

Relief Sought

13. The relief sought is to ensure consumers do not lose access to competitive ISP services in all areas of Canada.
14. Because copper is now obsolete, aggregated wholesale high speed service needs to include access to FTTP last mile, with a top speed at least matching the 2016-496 objective of 50/10. This matches the telco incumbents current tariffed speeds for copper with aggregated connections
15. Vaxination will welcome and support arguments to go beyond the existing 2015-326 framework and call for matching speeds for both aggregated and disaggregated as this would eliminate any preference incumbents confer onto themselves wherever they deploy FTTP, especially where disaggregation does not make financial sense.
16. To reduce incumbent resistance, the ISPs should be prevented from acquiring retail customers from the telco incumbent within 6 to 12 months of FTTP being lit up in a neighbourhood. A similar moratorium would be imposed at the time the telco shuts down copper with forced migration of remaining customers.

Alternate relief

17. Should competitive ISPs be relegated to copper infrastructure where FTTP has been deployed, the Commission's "Obligation to Serve" (35(1) and/or 42(1) is needed to force the incumbent to upgrade, at its own expense, the copper infrastructure to deliver a sync speed capable of at least the 2016-496 speed of 50/10¹ to all wholesale end users anywhere in that FTTP footprint.
18. The reason the incumbents must bear these costs is simple: they are the ones refusing to move wholesale business to the more cost effective and reliable FTTP infrastructure. This should be viewed as a predatory practice in the hope of acquiring customers with a superior FTTP service.
19. Refusal to allow aggregated access to FTTP should be accompanied by a moratorium on shutting down copper in any part of the incumbent's network.
20. Logic dictates that as soon as FTTP is lit in a neighbourhood, policies should foster accelerated move to the more reliable and cost efficient infrastructure so the older costlier one can be shut down as quickly as possible.

1 This should also include standards on how many times per day the sync is lost.

Is this a Review and Variance?

21. Some may accuse this Part 1 to be a Review and Variance of 2015-326. In such a case, Vaxination points to paragraph 10 of 2011-214²:

... Where an application raises substantial doubt as to the correctness of the original decision at the time it was made, the Commission will generally consider the application to be a review and vary application. However, where the application essentially relates to the continuing correctness of a decision rather than its original correctness, the application will generally be treated as a new application.

22. The 2015-326 decision was premised on many aspects which have since changed:

- The 5/1 speed expectation, generally achievable on copper has evolved into a 50/10 speed target which is not reliably achievable on copper.
- Telcos are deploying FTTP at a quickening pace not only because it is needed to meet consumers' needs, but also because of the compelling business case due to significant cost reductions in both urban and rural settings.
- Incumbents now tell shareholders that shutting down the copper will represent euphoric cost savings and definitely part of the plan.
- It has become clear that disaggregation will never reach large areas of the Bell Canada footprint let alone any part of Canada outside of QC/ON, leaving consumers without competitive access to the new standard for broadband infrastructure.

23. A policy which had expected ISPs to remain competitive on copper outside of disaggregation needs to be reviewed once copper ceases to allow ISPs to compete against incumbents' FTTP in those areas.

24. The history of wholesale high speed access regulations is replete with 180° changes. An early decision to not regulate wholesale DSL/TPIA was changed once it was realised that dialup was no longer a viable platform for competition.

25. Then came 2008-17 which set GAS/TPIA on a path to forbearance, followed by the 2010-632 decision which reversed that course by declaring that GAS and TPIA, with matching speeds and aggregation were necessary to avoid formation of a duopoly.

26. Fine tuning 2015-326 to ensure ISPs remain competitive outside of disaggregated areas is nowhere near as big the 180° for the UBB decisions which caused enough dust and skid marks to make the Dukes of Hazzard proud.

2 2011-214 Revised guidelines for review and vary applications
<http://www.crtc.gc.ca/eng/archive/2011/2011-214.htm>

Number of central offices

27. Since the 2015-326 decision, much information has been released to provide better grasp on possible scope of disaggregation deployment and how much of the territory will remain without any. The original pre-decision estimate was "over 400" given by Bell Canada became over 890 COs after the decision was released.
28. In the December 9th version of its R&V for 2016-379, Bell Canada released further numbers: 426 COs have co-location capabilities (47% of total) and of those, 146 have competitive carrier services (16% of total COs). Bell Canada's filing does not confirm how many of the 426 "co-lo capable" COs have tenants.
29. Such information is not publicly available from Telus, Sasktel and MTS.
30. While ideologically, the Commission may wish to provide incentives for ISPs to ween themselves from the incumbent's aggregation this must not come at the expense of losing market forces where disaggregation has not happened since it is consumers who suffer the consequences. Consumer do not know whether they are served by a CO where disaggregation has been deployed , nor by which ISP(s). So the policy should be transparent to them.
31. This becomes significant as the prospects for widespread disaggregation diminish with costs becoming clearer.
32. Paragraph 200 of TRP 2016-496³: (in referring to 2015-326 and 2015-177)
200 These wholesale and retail policies have facilitated, and will further facilitate, sustainable competition, resulting in innovative service offerings and more competitive prices for consumers.
33. The problem is that the 2015-326 is designed to explicitly prevent competitive access to FFTP except in the limited cases where disaggregation has been deployed. So the current policy conflicts with the desired objectives set by 2016-496.
34. In short, with all that has come out since 2015-326, disaggregation will only serve a very limited footprint, and to fulfil Policy Objectives, the Commission must ensure its policies foster competition in all regions of the country.

3 TRP 2016-496 Modern telecommunications services – The path forward for Canada’s digital economy
<http://www.crtc.gc.ca/eng/archive/2016/2016-496.htm>

A changing reality (cont)

Rapid conversion to FTTP

35. The 2015-326 policy underestimated the rapid pace of FTTP deployment in Canada, as well as the rapid pace at which copper is losing its ability to provide acceptable services just as happened with dial-up.
36. With incumbents having ramped up and fine tuned their FTTP deployments, the costs have gone down significantly. Bell Canada now claims to its shareholders that costs are at or below \$1000 per home passed. It also now has a scheduled to cover 9 million homes within a few years within its existing capital spending envelope. And that is a lot more than the 1.1 being discussed by Toronto-centric media who only saw the one press release about FTTP deployment for GTA.
37. Bell Canada has been aggressively deploying FTTP in Québec since 2010 with the launch of the Québec City project 7 years ago. The Commission also ignores the accelerated pace of FTTP deployment in other provinces as well. All telcos know that deploying FTTP brings rapid and significant cost savings, and eventual shutdown of copper will bring huge savings.

Shutting down copper

38. While incumbents during 2013-551 hearing made self-serving arguments to downplay plans to shut down copper, they claim to shareholders that they can't wait to realise this euphoric cost savings which adds to the already reduced maintenance costs for FTTP compared to copper. (see Appendix 1).
39. As moving consumers to more reliable and more affordable FTTP fulfils Policy Objectives, the Commission should encourage such moves. Policy Objectives do not favour continued reliance on old less reliable and more costly infrastructure incapable of meeting new speed objectives set by 2016-496.
40. As moving all consumers from copper to FTTP is in the best interest of both incumbents and consumers, the Commission needs to adopt policies which accelerates the move instead of prolonging reliance on antiquated copper.

Competitively neutral policies

41. The creation of disaggregated access is a good means to decrease reliance on incumbent facilities and increase market forces. (the innovation part was killed by mandating Layer 3 connections). This application does not challenge this and welcomes disaggregated access where it is feasible.
42. However, paragraph 130 of TRP 2015-326 states:

Based on the above, the Commission finds that there would be a substantial lessening or prevention of competition in the downstream retail Internet services market, in all incumbent carrier serving regions, by denying access to wholesale HSA services, including those over FTTP access facilities.

43. With copper now deprecated, a policy which limits FTTP access to a small subset of the geography results in substantial lessening and prevention of competition wherever disaggregated has not been deployed, and where it has been deployed, lessens competition by limiting access only to those ISPs who have deployed disaggregated.
44. Because a small number of ISPs are CLECS or owned by a CLEC, the 2015-326 decision results in the granting of a significant advantage to them since they already have a presence in some COs whereas all the other ISPs start from scratch with unknown economics of connection costs versus revenues from few customers at each CO.
45. An an example, Primus, stated in its CCAA filings that it has co-location⁴ in 74 Bell Canada central offices and states in paragraph 43 of Exhibit B⁵:

However, Primus Canada believes that it would enjoy a competitive advantage over other secondary carriers under the DBS regulatory structure because Primus Canada's co-location infrastructure is significantly more developed than other secondary carriers.

46. Granting CLECs a headstart for disaggregated is not, in and by itself, an unfair advantage. However, it becomes unfair when it is combined with depriving other ISPs the ability to continue to compete in an evolving market where copper is no longer viable. It is also unfair because the CLECs will be in a position to trigger the 3 year timer in those COs where they already have a connection, putting all other ISPs at a serious disadvantage.

4 Paragraph 28, Exhibit B (see below for link).

5 Motion Record - Approval of Sale Transaction and Assignment of Agreements (Feb 2 2016). Exhibit "B" Affidavit of Michael Nowlan starting page numbered 69 (page 77 of .PDF file) [http://cfcanada.fticonsulting.com/Primus/docs/Motion%20Record%20\(Returnable%20February%2017%202016\)%20Re%20Approval%20of%20Sale%20Transaction%20and%20Assignment%20of%20Agreements%20et%20al.pdf](http://cfcanada.fticonsulting.com/Primus/docs/Motion%20Record%20(Returnable%20February%2017%202016)%20Re%20Approval%20of%20Sale%20Transaction%20and%20Assignment%20of%20Agreements%20et%20al.pdf)

Competitively neutral policies (cont)

47. The Policy Direction states:

(a) (ii) when relying on regulation, use measures that are efficient and proportionate to their purpose and that interfere with the operation of competitive market forces to the minimum extent necessary to meet the policy objectives;

(b) (iii) if they are not of an economic nature, to the greatest extent possible, are implemented in a symmetrical and competitively neutral manner, and

48. The evolution of the market beyond what copper can provide has transformed the 2015-326 policy into a significant interference with market forces where, the incumbents are granted a monopoly outside of disaggregation deployment, and within those areas, CLECs given an opportunity to force competitors out of business within 3 years unless they have sufficient number of customers to deploy disaggregated links.
49. Furthermore, because ISPs will not have access to FTTP outside of a few disaggregated areas, they will quickly lose market share against the incumbent's FTTP. Since deployment of disaggregated links to POIs depends on having sufficient number or customers at that POI, a policy which causes reduction of customers will defeat the purpose of motivating ISPs to build (or cause to be built) competitive transport infrastructure.
50. Therefore, to increase incentives for investment in and construction of competing telecommunications network facilities, the Commission must set its policy to grow ISP's market share where such facilities do not yet exist because sufficient market share is a prerequisite to cost justify such investments.
51. Where incumbent telcos have deployed FTTP, ISPs limited to copper are condemned to losing market share, the very opposite of what is needed to foster investment.
52. Meanwhile, it is the consumers who bear the pain from a Commission policy designed to implement some "investment ladder" philosophy that is not realistic at a time when infrastructure is changing from copper to fibre. The lose choice of providers unless they are lucky enough to live where disaggregated will happen, and face higher costs of dealing with a monopoly/duopoly environment elsewhere.

Availability of commercial transport

53. In its December 1 2016 Review and Variance of 2016-379⁶, Bell Canada disclosed that 421 central offices have co-location capabilities and that 146 COs had alternative fibre backhaul. Earlier, Bell Canada had disclosed it had roughly 890 central offices in Québec and Ontario. A number not part of the public record that lead to the 2015-326 decision.
54. In its January 10th 2016 TN 7522 tariff (for disaggregated access) Bell Canada states:
- (f)The Company determines those COs which will support DBS, and the available speeds and technology platforms available in each CO. DBS, including individual DBS Accesses, is provided subject to the availability of suitable equipment and facilities. (emphasis added)*
55. While the fate of this tariff is yet to be decided, it leaves the door open for Bell Canada to further limit the number of Central Offices eligible to support DBS.
56. While Bell Canada has stated that 146 COs have alternative transport, the public record does not show whether the alternative transport options would be available to any/all ISPs or whether CLECs who consider this a competitive advantage would balk at offering this to competing ISPs. Even if transport is available to all of those 146 COs, that leaves over 744 COs without alternative transport usable by ISPs, and 100% of COs outside of QC and ON where disaggregation is not available.
57. The public record did not show how many of the cable POIs would have alternative carriers present at/near the meet-me point.
58. The Australian NBN, for all its flaws, based the location of POIs on availability of existing competitive transport. Where such transport does not exist, aggregation extends to a location/town that has competitive transport.
59. In contrast, the Commission's 2015-326 ideology is based on hope that competitive transport will magically materialize as a result of the decision. Until this happens everywhere in Canada:
- Consumers are hurt because they do not have competitive access to current broadband technology except in a few areas (if/when disaggregated tariffs are approved).
 - ISPs are hurt because the lack of access to FTTP causes a decrease in market share in the very areas where they need to increase the number of customers to cost justify the investment in disaggregation.

⁶ The numbers were disclosed on December 9th 2016 following requests for disclosure.

FTTP is more than speed

60. While FTTP is (rightly) portrayed as being future-proof and capable of gigabit and higher speeds, there are other advantages which are significant to an ISP's ability to compete and significant to consumers.
61. Mr LeBlanc from Bell Canada mentioned a higher satisfaction level⁷, lower truck rolls (aka: calls due to problems). Wholesale copper is less reliable and carries the risk of DMC charges which incites wholesale consumers to live with inferior service to avoid that bill.
62. The other significant advantage of FTTP is its ability to deliver the subscribed sync speeds. A Sam Knows survey may show a customer getting "near" 15/1 speeds subscribed to, but it won't know the customer actually wanted 25/10 but had to downgrade after the 25/10 service proved to be too unreliable with multiple loss of signal events per day, each taking over 10 minutes to reestablish sync between the custom modems and the antique discontinued Stinger DSLAMs.
63. One of the reasons that ARPU rises where FTTP has been deployed is that consumers can get the speeds they want, not the speed that the old copper is able to give them. In the current wholesale environment, that pent up demand cannot be met by competitive ISPs as long as they are limited to copper.
64. **So even within speed ranges advertised for copper, FTTP proves to have substantial advantages for customer satisfaction and ability of ISP to reliably deliver the advertised speeds to the consumer.**
65. Therefore, in any area where the incumbent has deployed FTTP and disaggregated doesn't make financial sense, the ISPs are at a significant competitive disadvantage especially in rural areas where FTTP's reach of 10km⁸ can serve everyone with great service quality whereas copper's distance sensitive limitations can only serve a few homes near the DSLAM at half decent speeds, and even fewer at the current 50/10 speed target.
66. Even for speeds of 50/10 and below, FTTP still provides the incumbent with an unfair advantage compared to ISPs who advertise the same speeds. In essence, to use a 27(2) vernacular, **by preventing wholesale aggregated FTTP access, the incumbent is conferring an undue preference onto itself.**

7 At time marks 15:45 and 17:52 of Glen Leblanc's speech in Appendix 1

8 Some systems are deployed with 20km range between the OLT and furthest home passed.

Render reliable and affordable 7(b)

67. Seven years after Bell Canada began FTTH deployments⁹, 0% of consumers have access to competitive FTTH services on incumbent infrastructure. . And if/when disaggregated is deployed, only a small subset of Québec and Ontario will see competitive services on FTTH, and 0% outside of QC/ON.

7(b) to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada;

Reliable: In areas where FTTH has been deployed, DSL/FTTN is either not present, or has a footprint too large for serve all residents reliably at current broadband speeds. A policy which forces consumers to stay on unreliable infrastructure does not meet the objectives.

Affordable: By forbearing retail Internet services, the Commission has chosen to reach the objective of affordability by ensuring there is competition. Yet, with the 2015-326 policy, it has allowed large parts of the country to revert to a monopoly or duopoly because competitors will not have access to modern last mile that allows them to compete. This lack of access has already allowed Bell Canada to recently announce a rate increase, citing its superior technology showing it isn't afraid of ISPs lowering their rates as they are stuck with inferior, less reliable copper service.

All regions: As FTTP is progressively deployed, especially in areas with no cable service, a progressively larger number of consumers will be deprived of competitive access to the only infrastructure capable of providing current broadband service. And while some limited areas of Québec and Ontario may see disaggregated access, there are no plans afoot to provide a solution which fulfils the goals of 7(b) to competitively serve all regions.

68. With the needs of the digital economy having evolved beyond what copper can realistically provide, the 2015-326 policy is creating a monopoly where the incumbent telco has deployed FTTP and there is no cable and/or disaggregated access to wholesale.

69. **As a result, logic dictates that the Commission regulate incumbent's retail internet rates except where sufficient competition exists, emulating the framework used for local telephone service forbearance.**

70. The alternative, proposed by this part 1 represents a far simpler regulatory intervention by allowing FTTP access, tariffs already being developed, irrespective of whether the CO is reached via aggregated or disaggregated. This achieves policy objectives by sustaining existing competition in all regions, and helping incumbents increase efficiency and lower cost by moving to FTTP and shutting down old copper at a faster pace.

⁹ Bell Aliant began aggressive FTTP deployment earlier than 2010.

Conclusion

71. With speed standards having evolved beyond what copper can reliably provide to everyone in its footprint, and with incumbents deploying FTTP at a rapid pace while already planning to decommission the costly old copper plant, the direction set by the 2015-326 is no longer viable as ISPs will give incumbents undue preference wherever they have deployed FTTP and disaggregation has not or will never be deployed. During this time of undue preference, the incumbents will steal market share from ISPs who will see the business case to deploy disaggregation evaporate as their customer base in those areas will diminish.

Regards,

Jean-François Mezei
Vaxination Informatique
CP 1016 Succ Pointe Claire
Pointe Claire, Québec H9S 4H9
514-394-0348
jfmezei@vaxination.ca

*** END OF DOCUMENT ***

Appendix 1**Relevant transcript**

1. The text below contains transcript of relevant portions of a speech made by Glen Leblanc, Executive Vice President and Chief Financial Officer, BCE at: TD Securities Telecom and Media Forum, June 16 2016.

2. Link to the stream:

<http://bell.media-server.com/m/p/vk4wp845>

3. Link to an .mp3 copy:

<http://www.vaxination.ca/CRTC/2017/FTTP/TD-Securities-BCE-Glen-Leblanc.mp3>

(note: time indexes listed below are based on the full .mp3 file).

- 13:44 ...No bigger part of our strategic imperative is that of fibre and advancing our fibre footprint. We have about 2.5 million premises covered with fibre today. We see ourselves at about 3 million premises by the end of calendar 2016. The focus right now is Toronto, we made an announcement that we'll build fibre to about 1.1 million homes here in Toronto. That will be virtually complete by the end of '17, early '18. And that's about a third of the premises we ultimately would like to cover with fibre. Out of the 10 or 11 million homes we serve, we think we could bring fibre to about 9 million of that, now, frankly, that's gonna take 8 to 10 years to get there and do that...
- 14:39 ...Albeit it is a costly investment, it is about \$1000 per home passed on average, and that's a blend of where you have aerial plant and where you have buried plant, but on average, \$1000. And we've got about 6 million (homes) to go, call that \$6 billion over the next decade. We spend about \$3.7, 3.8 billion dollars a year in a capital program at 17% intensity so that can fit into our capital envelope...
- 15:45 ... and now the benefits that we are seeing 6, 7 years down the road , lower customer churn, higher ARPU per household, we're seeing *significant* cost reductions on the network, lower truck rolls, lower calls to the contact centre, and ultimately, when you fast forward through the next decade, we're going to end up with a very different cost structure telco in the future.
- 16:09 There's no electronics in the field, and that's one thing I can't overstate of how important that is. Whether that be a copper network that quite frankly over time in Canada doesn't behave well in humidity and rain and our Canadian weather, or even a Fibre to the Node or networks that have substantive electronics on the field, DSLAMs or Nodes, those nodes ultimately lead to troubles which lead to service troubles with customers, truck rolls and calls to the contact centre.

Appendix 1 (cont)

- 16:39 Fibre is all about elimination of all of that. It's a glass strand from our central office to your home. There are no active electronics in the field. It's a passive network and the cost savings for that in the long term are *very* substantial. Payback, yeah, 7 to 10 years we would say on average we would say is the payback for an investment like this.
- 17:02 This is about re-inventing who we are, this is about, 135 year old company that has lived off of copper networks for most of that, having another 135 years on a network of tomorrow...
- 17:24 [Interviewer] ...I think Verizon in the past talked about 30 percent OPEX reduction once they had a city all fibre . Is there a figure , maybe from your Bell Aliant experience that you guys can quote now ?
- 17:40 [Mr Leblanc] Yeah, I think the numbers that we're seeing from Verizon are absolutely achievable, and we've seen that, but I want to separate cost savings you see today from cost savings you ultimately see in the long run.
- 17:52 The first cost savings I have already alluded to, and that's the lower truck rolls, better customer experience, the network performance savings and lower calls for the context and we're absolutely enjoying that right out of the gate. We see about 40 to 50% lower truck rolls on a fibre network than on our historic Fibre to the Node network, so , material.
- 18:12 **The great savings, or the ultimate euphoria is when you can shut down your copper network. And that's when I think you see the telco of tomorrow.¹**
- 18:23 I don't want to overstate where we're at along that continuum, because it is a ways out then, but ultimately you need to get penetration levels of probably north of 75% before you're going to be so bold as to force migrate customers...
- 19:02 ...So you have to get to a point I think of high penetration in the community before you force migrate. But when you do that, it means shutting down the (copper) network, and the costs savings are sizeable, i think , Verizon are playing around with a couple hundred thousand homes in communities that they are doing that with now, and the early findings are exceptional. And I think we'll ultimately get there, albeit, lets not overstate the pace, we're a way ways from that....

(end of transcript portions)

1 emphasis added

Parties Served

RESPONDANTS:

Bell Canada	bell.regulatory@bell.ca
Sasktel	document.control@sasktel.com
Telus	regulatory.affairs@telus.com
MTS	regulatory@mts.ca

Courtesy copies to participants to the 2015-326 followup process:

bell.regulatory@bell.ca	monique.moreau@cfib.ca
blackwell@giganomics.ca	nels2510@telus.net
cedwards@ccsa.cable.ca	regaffairs@quebecor.com
chall2k5@gmail.com	regulatory.affairs@telus.com
corinne.pohlmann@cfib.ca	regulatory.matters@corp.eastlink.ca
ctacit@tacitlaw.com	regulatory@allstream.com
curtis.eagan@crtc.gc.ca	regulatory@bcba.ca
darrellkrahn@shaw.ca	regulatory@bell.aliant.ca
david.watt@rci.rogers.com	regulatory@cnoc.ca
dennis.beland@quebecor.com	regulatory@distributel.ca
derek.leschinsky@bc-cb.gc.ca	regulatory@fibernetics.ca
dmckeown@viewcom.ca	regulatory@mts.ca
document.control@sasktel.com	regulatory@primustel.ca
george.burger@vmedia.ca	regulatory@sjrb.ca
gwhite@piac.ca	regulatory@ssimicro.com
harry.sharma@canarie.ca	regulatory@teksavvy.ca
heather.b.gold@ftthcouncil.org	reza.rajabiun@ryerson.ca
isabel.mackay@zayo.com	rob.olenick@tbaytel.com
james.e.dingwell@yahoo.com	robin.winsor@cybera.ca
jeff_mcnamee@sympatico.ca	ron.murch@haskayne.ucalgary.ca
jfmezei@vaxination.ca	rs@summer.com
john.pecman@cb-bc.gc.ca	slambert-racine@uniondesconsommateurs.ca
jonathan.holmes@itpa.ca	steve.sorochan@gov.yk.ca
jpanter@auroracollege.nt.ca	steve@openmedia.ca
lyne.renaud@crtc.gc.ca	telecom.regulatory@cogeco.com
marc.pilon@crtc.gc.ca	tom.vilmansen@crtc.gc.ca
maryanne.bendfeld@calgary.ca	