

# ***Final Reply***

**to**

**Canadian Radio-television and Telecommunications  
Commission**

**by**

***Vaxination Informatique***

***regarding***

**Telecom Notice of Consultation CRTC 2013-551  
Review of wholesale services  
and associated policies**

**File number: 8663-C12-201313601**

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1. Pursuant to Telecom Notice of Consultation 2013-551 and the Commission's letter dated October 23rd 2014, as well as closing statements in the public hearing, Vaxination Informatique files its final reply comments.
2. The end goal is to ensure consumers and businesses have access to a variety of competitive service offerings. This goal must be achieved by the most realistic and pragmatic manner. The Policy Direction and general government direction may favour "facilities based", but only where this is feasible.
3. *The current wholesale structure along with matching speeds are the correct and most realistic policy to reach the goal of proper market forces for retail.*

### **"Facilities based" is outdated**

4. A century ago, it made sense to treat the telephone as a monopoly: the utility infrastructure (the copper) allowed only a single service (telephone) from a single provider. Today, the last mile supports different services from different service providers. It is only an enabler of the new services.
5. The Commission must accept that in a service based economy, the wire (which defines "facilities based") is no longer the defining attribute as it carries a variety of services using commodity equipment using standards such as GPON, DOCSIS. Deviation from standards for the utility last mile generally leads to failures (such as Bell's use of noncompliant Stinger DSLAMs requiring proprietary modems giving a service with very high failure to achieve advertised speeds).
6. With a properly performing utility last mile, competition and innovation happen at the service level. Such competition cannot happen when there is no access to last mile.
7. The Commission must therefore accept that not only will duplication of last mile not happen on any scale, requiring permanent regulation for shared access, but such sharing is actually desirable as it makes more efficient use of investment/facilities which makes it easier to justify deployment of modern infrastructure in the country.

## Duplication

8. Using regulation to artificially induce duplication of facilities where market forces and the realities of urban plant<sup>1</sup> would not make it happen naturally is inefficient and results in higher costs for consumers who have to pay for duplicated facilities which are under used. This is especially important for FTTP deployments where sharing raises the percentage of homes connected, a critical metric to help justify FTTP investment and reduce risk.
9. None of the evidence presented shows an independent deployment of FTTP after an incumbent deployed in that town. Vianet's FTTP deployment in 10% of Sudbury happened prior to Bell Aliant coming to town. Installing FTTP when you are first to a town is quite different from duplicating an existing system operated by an incumbent.

## Matching speeds limits

10. It was suggested that the Commission limit its speed matching based on current maximum demand (eg: 50mbps). Having a neutral and timeless "matching speeds" policy is far superior to having maximum speeds explicitly set in regulation needing constant updating and always put the ISPs at a competitive disadvantage because of the year long delay before they have access to a new speed which would likely always be 2 or 3 generations behind incumbents, preventing them from advertising competitive services. When one chooses an ISP, you want to know the ISP can offer high speed for when you need them. If an ISP cannot advertise anything higher than 25mbps when Bell can advertise 175mbps, it puts the ISP as a severe disadvantage even when the customer only needs 25mbps for now.
11. How could the Commission re-evaluate the speed limit at a regular interval when the statistics cannot possible show demand for speeds which ISPs are not allowed to advertise/offer ?
12. Such constant re-evaluation of maximum speeds would result in the Commission micromanaging retail offers for ISPs and impose higher regulatory burden on everyone. The end result would be to slow adoption of new technologies by delaying their availability. Not compatible with Section 7 objectives.

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1 Limits on access to poles and underground conduits render duplication unrealistic and in many cases physically impossible as was outlined by the City of Calgary. In cases where poles need to be upgraded, an ISP deploying first would bear the full cost of new poles, and the incumbent can come in a year later and hang its fibre without paying for any pole upgrades.

### 13. **Investment**

14. Telcos in Canada made a conscious decision to delay FTTP as long as possible, pushing their copper to its limits. Those limits have been surpassed and telcos must now scramble to invest in FTTP to stay in business. This is especially true of Bell Canada which hindered by a shortsighted decision in early 2000s to buy discontinued Stinger DSLAMs which it continued to deploy until 2012.
15. Faced with the need to race to convert their entire copper plant to FTTP to stay in business, the telcos have to prioritize which towns get the upgrade first. It can't be all done at the same time. At first, the low hanging fruit is done and as time progresses the more difficult installs will be done. And as time progresses, cost of deploying may go down.
16. Incumbents tend to use the "we'll stop investing" arguments when facing regulators, but the same people will gladly state to shareholders that they will continue investing to stay in business. This was recently seen with Verizon statements in the USA. During the hearing, Bell Canada even tried to blame the halt in FTTP deployment in Sault-Ste-Marie on the threat of wholesale regulation but later had to admit it was halted due to cost of upgrading telephone poles.
17. The process leading up to CBB was interesting in this regard. One of the reasons to move from the original fixed pricing was due to constantly increasing usage requiring constant investment in their network to keep up with the demand. Threats of reduced investment, not deploying FTTN in a number of cities, cat videos causing data apocalypse, network collapse bringing down the universe with it etc.
18. But after the CBB rates were implemented, those **incumbents who adopted CBB have been happily investing in extra capacity** and not complained about ISPs end users consuming far more than their own. There is a simple reason: they have the motivation to invest since it will generate higher CBB revenues.
19. Therefore, arguments that wholesale regulation will curb investment should be treated as desperate spin. Incumbents will be more than happy to connect ISPs to FTTP-served homes as it will increase the revenues and increase percentage of homes connected relative to homes passed. But they have to try to convince the regulator to give them back their monopoly if they think there is a chance, or at least have a monopoly for another 5-10 years.

20. Telcos' antique copper fails to deliver advertised speeds<sup>2</sup> in a large footprint. So even though they advertise 50mbps service, it is only able to deliver the advertised speeds to a small footprint or a couple hundred metres around a DSLAM. Beyond that, upload speeds quickly degrade, making it impossible to make use of the download speed (ACK packets are sent as upload to confirm reception of downloaded packets, and require significant bandwidth at high download speeds).
21. So even though on paper, FTTN and FTTP services are advertised to be the same at the same price for same speed, the FTTP service is superior in that it actually delivers advertised speeds reliably. It is not just its ability to offer higher speeds which is important with FTTP.
22. The incumbents are asking for a delay discussion on wholesale access to FTTP. They have already had their 5 years since they started (Bell Canada began in February 2010). And after the Commission decides to include FTTP in the wholesale service, it will take a fair amount of time for the incumbent to develop the wholesale software to allow ISPs to order/manage customers, time to debate the rates, CPE policies etc.
23. Furthermore, it is important that the Commission decide now that this infrastructure is to be shared to ensure technology decisions by incumbents are compatible with wholesale requirements.

**ULLs**

24. Vaxination believes that ULLs should be forborne only in areas where FTTP has been deployed. With wholesale access to FTTP, withdrawal of ULL would be competitively neutral as competitors can simply evolve their services from copper to fibre.
25. This would also be in line with the need to not hinder telco's undisclosed desire<sup>3</sup> to shutdown the copper plant, and provide further incentive to deploy FTTP since it makes it easier to shut down the copper plant. The faster customers are migrated to FTTP, the better it is for the telco. ***The Commission's policies should therefore foster migration from copper to fibre where fibre is available.***

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2 Bell Canada's web site now admits that its advertised 25/10 service can deliver as little as 0.9mbps for upload, less than 1/10 of advertised speed and failing "obligation to serve" minimum of 1 mbps upload.

3 Telcos downplayed shutting down copper at the regulatory level, but at business conferences and financial analysts teleconferences openly admit that savings from ability to shut down the copper plant are part of the FTTP equation.

## **CNOC's dis-aggregation proposal**

26. The ISP industry is still too small to make the dis-aggregation proposal viable. However, it may be the "shape of things to come" and to this end, a pilot project would be quite acceptable and further deployments done commercially with Commission supervision (or perhaps mandate). More suggestion were made in Vaxination's undertaking filed on December 12th.
27. There will need to be a CISC to seriously discuss technical issues and designs. Bell Canada's undertaking did provide some ideas on how they plan to implement this, but the devil is in the details. For instance, if CNOC wishes to enable multicasting, there are details to be verified on whether multiple separate multicast services can coexist on the same switches and in particular on the same trunk between the switch and the DSLAM which would handle multiple VLANs and whether the switches have the capacity to handle that many multicast IPs (each TV channel is given an IP address). It is one thing for a switch to handle Fibe TV's 200 or so channels, but another thing if 10 ISPs each have 200 channels on different VLANs.
28. Bell Canada's undertaking mentions having an AHSSPI fee, as well as having ISPs pay for the aggregation switch at the CO. If ISPs pay for the switch at the CO, then there should not be any AHSSPI as they have already paid for the port. There would however still be a small CBB charge for use of capacity within the existing CO switches.
29. As numbers from both CNOC and Bell in their undertakings were "#" out, Vaxination is unable to comment on how many COs could be targeted by dis-aggregation, and how many ISPs could participate.

### **Cable**

30. Some cable companies have indicated long term plans to move from fixed 6mhz TV channels to an IPTV based system. There should be thoughts given ahead of time on technology choices to be made that might enable ISPs to make use of the multicasting that would become enabled on the data path in the cable plant. It should be noted that at present, because ISP packets are tunnelled through the cable network via MPLS, that technology does not support multicasting, so in the current environment, multicasting by ISPs on TPIA is a no-go.

## **Conclusion**

31. The concepts behind the 2007-17 are generally agreed upon. However, the Commission must ensure that decisions are pragmatic, not ideologic.
32. It is important to note that forbearance does not foster or create competition. It is made possible when competition has grown to an acceptable level. And in cases where infrastructure is not duplicatable (such as last mile) attempts to discuss forbearance should be dropped or spaced by at least 20 years. Trying to forbear the un-forbearable every 5 years is a waste of time.
33. The test for whether forbearance should happen must not be whether a facility is duplicatable, it must be whether a facility has been duplicated.
34. FTTP must be made part of wholesale access to last mile for internet. The process was to discuss it and the best incumbents could come up with was ask for discussion to happen later. As stated my Vaxination's original filing, after 2 years of deployment, an incumbent has good grasp of costs, and by now, 5 years later the costs are well known and ready for wholesale service.
35. The ISPs will help incumbents connect more homes and this make FTTP investment easier to justify.

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