Second Intervention

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

Jean-Francois Mezei

Vaxination Informatique

jfmezei@vaxination.ca

Montréal, Québec

27-Jun-2014

Table of Contents

Introduction

1. Pursuant to Telecom Notice of Consultation 2013-551 and the Commission's May 15th procedural letter, Vaxination Informatique files its second intervention.

Canada needs competitive telecommunications

2. While the above statement appears to be so blatant it need not be mentioned, it is important to bring it up in light of the fact that Canadian telcos have morphed into broadcasting companies with investment and emphasis placed on the broadcasting side, and a focus on using their telecommunications infrastructure to distribute their broadcasting signals instead of competing for telecommunication services which often compete against their new broadcasting endeavours.

3. This often puts incumbents in a conflict of interest situation when a telecommunication endeavour competes against their broadcasting endeavour. This has additional impacts with regards to Section 7 of the Telecommunications Act when their investment decisions are geared towards building broadcasting distribution systems that serve the incumbent's own purposes instead of building pure telecommunications capacity that serve Canadian industry.

4. Access to last mile by pure play ISPs is thus necessary to ensure a diversity of offerings and keep the incumbents in check. Should they abuse their position as both broadcaster and telecom, customers can switch to another ISP who has no vested interest in limiting the access to Internet and has every motivation to offer the most neutral access to the Internet with the highest possible usage limits.

5. However, to ensure ISPs do not become simple resellers of incumbent dictated services and service limits, it is important that ISPs be granted cost based last mile access so that they can shape their own ISP retail offerings without any of the incumbent's business practices. ***Resale of incumbent's retail is unacceptable***. This must be a true wholesale service in order to allow different business plans, retail offerings and service priorities.

Competition is more than number of players

6. Incumbents brag about how competitive they are and that mandated access is an unnecessary burden as there is a sufficiently high level of competition and rivalrous behaviour between the 2 duopoly players. Two players competing on who can raise ARPU the most is also considered rivalrous behaviour despite being a clear sign of market failure.

7. Competition is more than the number or players, it is also about a diversity of business models within the industry. A limited number of players who all share the same business model will more likely price match each other and offer nearly identical services because they share the same goals. It is the introduction of competition with different business models which brings about true competition as it promotes different retail offerings and thus choice to consumers.

8. Because the duopoly which controls the last mile are both primarily broadcasters, it is all the more important to ensure a diversity of TELECOM offerings be available through independent ISPs whose core business in the provision of Internet/Telecom services and not content/broadcasting.

Competition from wireless

9. The TRP 2010-632 and other debates have often assumed that mobile wireless would eventually provide competition to wired internet access, reducing the need for regulated access to wired last mile. While there may be cases where wireless is an option (such as areas with no modern wired internet access), it should not be considered a general solution applicable to most markets and thus excluded from decision on mandated wired internet access.

    - Capacity does not come close to what FTTP or Cable can sustain, especially for widely deployed data intensive applications. Just because one can get a high speed when alone on a cell does not mean the same speeds can be achieved if everyone has won the lottery and can afford to watch Netflix on mobile wireless at same time.
    - Performance is sufficiently different for many applications such as gaming which require low latency. While there have been improvements with 4G, mobile wireless still has sufficiently high latency to make it undesirable for many internet applications
    - Pricing is still nowhere near competitive with wired access and thus cannot be seen as a competitor.
    - Access is not as widespread as incumbents like to brag about. In many cases, only 2G service is available where a map shows LTE coverage[1]. As well, LTE performance is dependent on distance from antenna.

10. It is also important to note that the because the mobile wireless networks are owned by the same oligopoly that runs the wired internet access, it cannot be viewed as increasing market forces for wired internet access.

1 For instance a few km south of Rigaud.

FTTP is a mature technology

11. Some may make arguments that there is insufficient information to mandate FTTP wholesale access or that the technology is too new. Incumbents such as Bell Canada had been down playing their FTTP deployments, perhaps to reduce the importance or urgency to include FTTP as part of mandated wholesale requirements.

12. While it is true that there is insufficient information for the Commission to issue regulated wholesale pricing, there is no justification for the Commission to postpone a ruling on the principle of mandating wholesale access to home served by FTTP just as it did for copper (ADSL/VDSL) and coax.

13. It is evident that as a follow-up to a decision to mandate wholesale access to FTTP, a costing consultation will happen and many of the details of implementing this solution will be discussed.

14. While Canada is late to the game in terms of FTTP deployments, FTTP technology is mature and in widespread use elsewhere in the world. Furthermore, Canadian telcos have now had sufficient experience since roughly 2010 to have stable and well developed FTTP deployment procedures and costing. But they would still need to develop management portals to let ISPs manage subscriptions and access line statistics etc.

15. The urgency for telcos to upgrade to FTTP increases as their aging FTTN technology (Bell Canada's dates from 2005) requires replacing on a fairly large scale to remain competitive.

Bell Canada Optical splitter for FTTP deployment on Rang St-Dominique (corner of Ménard) between St-Lazare and St-Clet Québec. Rural farming area without DSL.

16. With investments in broadcasting hopefully over, perhaps Bell Canada will finally focus on increasing the pace of upgrade from its aging FTTN services and this increases the need for the Commission to decide on wholesale access instead of postponing a policy decision.

Incentives to invest

17. There have been arguments made that removing mandated wholesale access will stimulate investment. One of the examples provided was what happened in the USA in the mid 1990s.

18. The Commission must be careful in correlating events because investments are often timed with introduction of new technologies, not regulatory changes. For instance, waves of investments in USA for wired internet happened not because of regulatory changes, but rather due to the introduction of DSL and DOCSIS technology in late 1990s, and with each generational changes that required upgrades. The success of the lobbying efforts happened to be timed with the introduction of new technologies but changes in regulatory issue were not causal to start of investment.

19. It should also be noted that Canada has lagged behind many other countries in terms of FTTP deployments despite lack of mandated wholesale access. In the USA, despite regulatory freedom, incumbents have lagged, forcing a number of municipalities to deploy their own. Verizon has stopped expanding its FIOS because its business plan requires BDU licences in a city. And the timing of stopped FIOS investment coincides with a spectrum/wireless deal with Comcast. Philadelphia, due to get FIOS many years ago hasn't gotten it. Philadelphia is a Comcast fortress.

20. Verizon has also off-loaded many less dense territories to companies such as Frontier because it was not interested in deploying new technologies there. The regulatory environment has made the off-loading of non-urban systems by Bell Canada to Bell Aliant (Ontario) and Télébec (Québec) more transparent than in the USA.

21. The message is that left to their own devices, these incumbents do not act in the nation's best interests this results in large swaths of population that remain underserved or without any competition.

22. Regulation to enable competition at the retail level is the least intrusive regulatory lever that can be used. This may or may not be sufficient to ensure every Canadian is served by multiple competitive retail service providers, this may or may not be sufficient to ensure every Canadian is served by up to date technology, but it is a prerequisite foundation to achieve such goals.

Risk factors

23. Incumbents like to talk about the increased risk involved with FTTP deployments.

24. There was a risk with FTTN deployments because it was at the time unknown how long such service would remain competitive. Original FTTN deployments with a 1km range around the DSLAM are already past their expiry dates with a large percentage of homes beyond competitive speed capabilities and the "up to" marketing rearing its ugly face again.

25. For Bell Canada, the risk was even greater as it knowingly deployed end of life antiques (Stingers) that had even more reduced range around the DSLAM and required custom modems because the Stingers are not compatible with VDSL2 specs.

26. Yet, Bell Canada was successful in pulling the wool over the Commission face and obtained a premium profit margin to compensate for strategic mistakes. So not only did it get a 40% markup, but in the follow-up to 2013-80 process on modems, it stated it had no plans to replace the 2005-era Stinger DSLAMs.

27. In contrast, FTTP deployments are known to have a very long lifetime because fibre is reliable and fast and has the range to guarantee high speeds. And future upgrades are simpler to execute as only the equipment at the CO and in homes need to be upgraded, with no upgrades in the field.

28. The unknown factor is how quickly a telco can move customers from the old copper to the fibre (eg: convert from homes passed to homes served). Beyond a certain point thought to be around 80%, it pays to convert the remaining 20% to move to fibre so the copper can be decommissioned. The speed of conversion is dependent on business practices, not on technology choices.

29. Therefore, the choice of FTTP over FTTN has extremely low risk factor from the point of view of the choice of technology.

30. The other consideration is the risk of not choosing or delaying FTTP: The longer FTTP is delayed, the more customers the telco will lose to cable because its copper service is no longer competitive nor reliable.

31. While a number of parties have proposed minor adjustments to the definition of essential services in the TRP 2008-17, most agree with the major principles.

> *It is not practical or feasible for competitors to duplicate the functionality of the facility.*

32. Incumbents can point to a few examples where non incumbents deployed their own FTTP systems (such as Olds Alberta) and argue these systems are easily duplicatable.

33. However, there needs to be an important distinction. When, due to lack of incumbent investment, a municipality (or small enterprise) deploys its own FTTP in a limited geographical area, it is not duplicating a facility, it is filling a huge void which has left that municipality unable to attract investment because fast internet has become essential[2] for business and consumers alike. And technically speaking, they are not "duplicating" an infrastructure, they are first to deploy it.

34. In areas where an incumbent has deployed FTTP, it is absolutely not practical nor feasible for an independent party to deploy their own. However, in areas where a non incumbent filled a gap, and incumbent can duplicate the system even if it si not economically feasible. This is because the incumbent can use predatory practices to weaken the independent provider, at which point the duplicated system becomes the only functional one and the incumbent has made it feasible.

35. Such predatory practices are not possible by small ISPs who lack the financial resources to battle a giant media baron.

36. So, while incumbents such as Bell Canada would like to pretend that they should be treated as any small independent ISP when they deploy FTTP systems with no regulatory obligation to wholesale the service, the reality is quite different because as large incumbents, they not only have existing facilities which they simply augment when deploying FTTP, but also existing market power and ability to use predatory practices to displace any small player already in place.

2 The word "essential" is used in common sense meaning, not in the 2008-17 regulatory meaning.

37. As part of the recent round of interrogatories, there is some information to enable a look at various unbundling scenarios for FTTP systems:

Unbundling at the last mile

38. This consists of ISPs setting up a full end to end FTTP system. With the size of ISPs, this is absolutely not workable in Canada because of the potential number of customers that could be served relative to the costs, and this is assuming all independent ISPs merged into a single entity. It becomes even less workable if all ISPs remain independent.

Unbundling at the splitter

39. This consists of ISPs having their own OLT at each CO, and leasing a fibre strand to each splitter cabinet. Each ISP would have its own splitter, and the strand to a home would then be connected to the optical splitter belonging to the appropriate ISP. Works in principle if you have but a handful of ISPs, but not with the current Canadian market because each ISP having its own optical splitter is not technically realistic.

40. Furthermore, the economics also do not work. With a splitter cabinet "passing" from 144 to 864 homes (with most in the 450-500 homes range in urban areas based on interrogatory responses), the realistic potential number of customers an ISP could serve from one splitter cabinet does not make it feasible to lease the fibre strand to the cabinet and the cost of the OLT port on its own OLT. In fact, with the current market share of all independent ISPs combined, there would be very few locations where this scenario would work should all those ISPs merge into one.

Unbundling at the CO

41. Such a scenario was discussed and dismissed in the TRP 2010-632 decision. The introduction of FTTP makes interfaces more complex as one ISP would need to interface with the DSLAM at the CO, remote DSLAMs as well as the OLT at the CO, and some cases, handle different protocols (PPPoE vs DHCP, ATM vs Ethernet etc). With over 400 Central Offices in Bell Canada's territory, this makes the task of providing comprehensive competitive services unrealistic and unfeasible.

Aggregation

42. As as the conclusion reached in TRP 2010-632, the only logical means to make wholesale access to incumbent's last mile is through aggregation.

43. However, in the case of Bell Aliant, its FTTP service uses layer 2 and DHCP, while ADSL1 and ADSL-FTTN use PPPoE. This would represent some aggregation challenges which can be surmounted but need to be discussed. MTS has similar situation where ADSL1 is PPPoE and its VDSL and FTTP use DHCP.

44. There would also have to be some discussions on whether the FTTP system would hand over the DHCP requests to the ISP, or if it would be implemented as with cable with the incumbent handling DHCP requests (undesirable). Based on interrogatory responses, since those system appear to be switched as with GAS-HSA, it would appear easy to switch the DHCP requests all the way to the ISP and grant the ISP the IP address management responsibility.

45. Note that even with a total aggregation of traffic from different last mile technologies, incumbents would need to develop new provisioning portals to support different ONT configurations and allow ISPs to access ONT status to help debug problems etc. (eg: LANTERN equivalent for FTTP).

Side note on Télébec

46. Contrary to Bell Aliant in Ontario whose access network in integrated with Bell Canada's, in Québec, rural areas assigned to Télébec service are not aggregated with Bell Canada's service, making those regions inaccessible to independant ISPs. The fact that neither Télébec nor Cablevision du Nord have GAS/TPIA services makes matters worse.

47. The Commission should look into the issue of either Télébec/Cablevision du Nord offering separate GAS/TPIA services, or allowing aggregation with Bell Canada,s existing GAS service to allow ISPs to reach customers outside main urban centres. This is especially true of regions where a monopoly exists because the only options are Télébec DSL or Cablevision du Nord cable, both of whom are subsidiaries of Bell Aliant.

Unbundled Local Loops

48. As part of interrogatory responses, Bell Canada and Bell Aliant confirmed that their FTTP ONTs support SIP protocols for VoIP. It should therefore be possible, pending provisioning changes at incumbents, to provision individual ONTs to point to a SIP server of their choice (aka: CLEC service on FTTP).

49. Some incumbents may be running H.248 MEGACO (Media Gateway Controller) instead of SIP in their ONTs. This theoretically allows CLEC functionality but would require more in depth study on feasibility for both in-CO equipment and provisioning of the ONT to point to the CLEC's gateway controller instead of the incumbent's.

Premium profit margin

50. As part of its arguments in the matching speeds consultation and confirmed in the 2010-632 decision, Bell Canada got a 40% profit margin on costs for its FTTN services. (versus 30% for others).

51. In light of the information that has come out since, especially with regards to its Stinger DSLAMS dating back from 2005, premium installation costs that are actually very generic installs that don't even change the splitter and especialy the fact that the VDSL2 service is just as "up to" with no speed garantees as the legacy service, Vaxination urdes the Commission to review its policy to grant extra profit margin to certain services. Instead the Commmision should consider any copper twisted pair service to be "legacy" with encouragement to decommission such technology ASAP to make way for FTTP service.

52. There should be no encouragement to deploy any legacy technology in Canada today. This is not only for urban but also rural areas who shouldn't be getting "hand me down" DSLAMs decommissioned from urban areas.

53. While current policy aims for 5/1 speed, the Commission must accept that such speeds date back from late 1990s technology which current DSL technology can't promise (FTTN can't provide 1mbps upload to all cases) and that it should foster current technology (fibre) instead of 20 year old copper tech.

Conclusion

54. The principles that lead to the 2010-632 decision remain as valid as ever, and apply equally to FTTP deployments. The small changes recommended in this consultation to the wording of the essential services definitions of 2008-17 are essentially refinements to reflect all the work that has happened since the decision was written, notably the 2010-632 and UBB decisions.

55. FTTP systems are simple evolution of telco incumbent's cable plants. FTTP is not a revolution, nor is it science fiction. It is a well established mature technology that is in widespread use oustide of North America.

56. In fact, Bell Canada has long claimed in its marketing that its it copper cabling was optical, so the replacement of copper with glass strands should increase efficiency of light transmission and reduce cos

**** * * END OF DOCUMENT * * ****