



April 28th, 2014

John Traversy  
Secretary General  
Canadian Radio-television and Telecommunications Commission  
Ottawa, Ontario K1A 0N2

via GC-KEY

RE: Joint Bell/CNOC Application to Review and Vary and Stay for Telecom Decision CRTC 2013-659 (VDSL2 modem certification)  
CRTC: 8622-B92-201316646

Mr. Traversy,

1. With this filing, Vaxination provides its comments on the joint Part 1 application by the Canadian Network Operators Consortium (CNOC), Bell Aliant and Bell Canada (Bell) (the "Applicants") seeking a Review and Variance of Telecom Decision 2013-659 on VDSL2 modem certification (section III, Modem testing guidelines and related matters).

### ***Requirement for tariffs and a supporting cost study for modem testing***

2. Vaxination supports the Applicants' request to rescind the requirement for tariffs and cost study for modem testing as defined in paragraphs 134 and 135 of the Commission's 2013-659 decision. Vaxination supports the Applicants's argument that since the regulatory burden for tariffs and supporting cost studies is higher than the cost of providing the modem testing, it is simpler and more cost effective for Bell Canada to offer the testing at no charge. However, Vaxination adds that the Commission erred in applying existing modem certification precedents to this particular case.
3. Paragraph 132 of the 2013-659 decision notes:  
*Accordingly, the cable-specific requirements should be removed or slightly modified to better suit the telephone companies' environment.*
4. In "slightly modifying" the cable specific modem testing aspects, the 2013-659 decision failed to recognize the fundamental difference of WHY modem testing is required for Bell Canada's VDSL infrastructure.

5. Cable operators can choose from a large number of CableLabs compliant modems and make the minor customizations to cater to their own network. Bell Canada can choose from 0 modems because no modems are being designed today to support noncompliant discontinued DSLAMs with very limited deployment.
6. As a result, Bell Canada (and the ISPs) have to convince a manufacturer to produce a special OEM version with the kludges to support the incomplete implementation of the VDSL2 "12" profile on the Stingers.
7. The other significant difference is that Bell Canada continued to receive and deploy Stingers after Lucent was purchased by Alcatel with the Stinger product line quickly discontinued. At that point, Bell Canada was already aware of problems with the Stingers (even in ADSL-1, the old Ikanos chipset was problematic with zeroed line statistics etc). Yet, instead of negotiating for conversion of the Stinger order into a 7330 order with the new merged company, Bell Canada decided to continue to receive and install those discontinued models until 2012.
8. It is quite possible that Bell Canada calculated that the cost of special ordering and certifying OEM modems was far less than the huge discount Bell Canada may have gotten on the unpopular product line that was discontinued not long after the order was placed. While it is not the Commission's role to second guess an incumbent's technology decision, it does have a role in establishing responsibility for costs.
9. It should also be noted that while Bell Canada stated that life expectancy for those DSLAMs is 7 years, Bell Canada continued to deploy the discontinued model for about 7 years, and in its filings, refused to acknowledge any plans to replace those DSLAMs.
10. In this case, the Commission's 2013-659 decision erred in assigning responsibility for modem certification costs to ISPs when this should clearly be a Bell Canada responsibility due to its decision to continue to deploy incompatible DSLAMs with full knowledge they would require special OEM versions of modems.
11. While the above argument may be moot in light of Bell Canada having agreed to provide modem certification at no cost to ISPs, the precedent set by 2013-659 must be corrected to show that the case of the Stingers is different from cablecos (and telcos using standard compliant infrastructure) and that in this case, the responsibility for modem testing lies with the incumbent.

## *Modem testing priorities*

12. Bell Canada and CNOOC propose that 5 modems be tested per year. Vaxination has no objection to the extension of the testing period for new modems from 6 to 8 weeks, and thus limiting to 5 modems per year.
13. However, as this deal proposed to be part of the regulatory apparatus, Vaxination proposes that the text of the reviewed decision not grant any specific organisation a preference to testing slots. Instead, Vaxination proposes that priority for modem testing be based on total number of DSL customers represented by the ISP (or group of ISPs) making the proposal.
14. Proposals would be ordered by total number of DSL customers represented, except for the next slot which could not be displaced. When a modem is next in line to be tested with the ISPs having contacted the manufacturer to arrange for travel/testing period, it would be too disruptive to see this schedule wrecked by the arrival of a new proposal representing greater number of DSL customers. (perhaps the next 2 testing slots could be immune from arrival of new proposals if greater advance notice of scheduling is required).
15. In practice, this proposal would give CNOOC the same or greater testing opportunities, while remaining neutral at the regulatory level, and giving the possibility of a group of ISPs to make proposals outside of CNOOC, as well as not require regulatory changes should CNOOC change its name or some other ISP association emerge.
16. It should also be noted that due to the small market, there won't be a rush of modem manufacturers agreeing to make OEM versions, and while the Bell Canada testing will not cost ISPs, it is not clear whether modem manufacturers will charge to develop and test the OEM version or whether they will embed those costs into the price of units sold to ISPs.
17. And one should not expect a rush of small ISPs striking deals with modem manufacturers who are not likely to be interested in creating an OEM version for only a few thousand customers.
18. It needs to be reminded that this is not a case of taking an off the shelf modem and offering it up to be tested, the modems have to be tweaked and kludges made to baseband firmware to sync with those old discontinued Stingers which are not supported by modern chipsets.

## **Series of modems from same manufacturer**

19. The CNOc/Bell proposal includes the option to bundle multiple versions of the same modem during testing. (for instance, one with Wi-Fi, the other without). While Vaxination is not opposed to this, there is a concern about the lack of ability to test a derivative at a later time when such derivative becomes available. (assuming same chipset and baseband firmware).
20. To this end, Vaxination would suggest a shortened "derivative modem" testing qualification (for instance 4 weeks instead of 8) when a previous modem with same baseband chipset and firmware has passed the tests. This would take up a slot (and thus sorted by number of DSL subscribers). So theoretically, during a year, Bell could be testing 10 derivative models (from modems tested the year before) instead of 5 new modems, using the same resources and not requiring additional investment. Bell Canada would have to device the allocated time period for a derivative modem, beyond which testing would be "failed" and work would move on to the next modem on the list.

## **Testing results**

21. Vaxination's own unfortunate experience with an upgrade to VDSL2 shows that the problem caused by the Stingers is not transparent to end users. Similarly, the number of bugs found in a modem is not transparent to users.

*27. Prior to the tests, the ISPs will have to submit a signed release from the modem manufacturer that the tests results will be posted on the Bell Companies' ISP portal if the modem passes the tests.*

22. Because of the peculiar behaviour of the modems when connected to Stingers, end users have no information when selecting a modem. Industry specifications for a modem are no longer valid when it has been modified to operate with the Stingers.
23. As a result, Vaxination strongly urges that the wording of the above be changed to allow the modem performance results to be made fully public. Bell/CNOc can decide whether the results should be posted on a Bell web site or whether it should be up to individual ISPs to publish those results.
24. Furthermore, Bell should publish exactly what is being tested in the modems under what circumstances. This way, end users are not given any wrong impressions about the reliability of a modem.
25. Case in point, the first such modems to be release was the SmartRG 505N. The modem was riddled with bugs in the layers above the DSL sync. Were those evaluated by the Bell testing and documented as "acceptable", or were those not tested ?

26. More importantly, that particular modem appears to not be able to sync at roughly 2mbps upload when the Bell automated profiling tool sets the maximum speed to 3mbps (the modem synch down to 1.2 to 1.0 in upload speed). Since a large number of FTTN customers are outside the range of advertised upload speeds, information on the modem's performance under such conditions is quite important so a customer can judge whether to go DSL or Cable which now offer more reliable upload speeds than Bell's Stingers.
27. While other modem manufacturers may have different policies, SmartRG has refused to accept problem reports from end users and offers no support nor documentation. This is an unfortunate trend amongst modem manufacturers who are shifting support responsibilities to ISPs (many of the smaller ones are not equipped to provide such tech support and also do not have the technical information to provide such support).
28. This is why the use of nonstandard OEM version of a modem require as much information from the testing to be made public as possible.

### ***Installer education***

29. Installers cannot be expected to support every modem made. However, *\*all\** of them need to be provided with information necessary for them to accomplish their job. For instance, the SmartRG takes an eternity to sync with the Stingers, so technicians must be made aware of the normal time period for it to sync, and that the word "Disabled" in the user interface in fact means "trying to sync" and it is normal for it to take a "coffee break" to sync.
30. Similarly, in cases where performance of a modem is different from what their testing tools provide (for instance, the SmartRG giving only roughly 2mbps upload when the technician's tool says the line is good for 6), the technicians should have some tech sheets indicating such. Providing misinformation on line performance expectations is a primary cause of customers being discontent with DSL service advertised at higher speeds than achievable.

### ***DSLAM Availability***

31. Because Stinger DSLAMs are not "normal" and require special modems, and provide inferior performance when further away (profile 12 instead of 17), customers should be able to know ahead of time (and ahead of paying the \$85 installation fee and buying a modem) whether they can expect a real DSLAM or a Stinger. While a guarantee of getting a 7330 port may not be possible, the lack of 7330 ports signifies a guarantee of a Stinger port, requiring special modem and likely inferior performance.
32. To this end, ISPs should be given access to a tool which tells them whether a 7330 port is available to serve a customer or not. When no port is available, the customer can then decide to stick with more reliable legacy modems (avoid VDSL2) or move to Cable.
33. As said previously, there is an impact on end users because Bell Canada decided to keep on deploying nonconforming DSLAMs. The provision of greater information on the custom modem performance as well as DSLAM type availability would go some way towards alleviating the bad surprises when someone orders 25-10 and get far inferior service.

## Conclusion

34. Vaxination generally supports the Bell Canada/CNOC combined Review and Variance, with some modifications, namely to a more neutral prioritization of modem certification requests, and greater information dissemination TO END USERS to help them cope with the nontransparent impacts of the continued use of noncompliant and discontinued old Stingers by Bell Canada.
35. Vaxination notes that the joint Bell/ISP proposals for modem testing is not covered in this application with respect to the 5 slots per year. Perhaps the final reply can specify how such proposals would be handled.
36. Please note that while Bell Canada may focus only on download speed (its Fibe TV, using multicast, does not require much upload since no Acks need to be sent), customers of independent ISPs place far greater importance on upload speed, and this is where Bell's FTTN service is still very much an "up to" service with often disappointing results. 2mbps upload is bare minimum to achieve 25mbps in TCP download, and variable upload speeds wreak havoc on QoS settings on router which expects a stable upload speed.

Regards,  
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