

Review of Mobile Wireless Services Notice of Consultation CRTC 2019-57

Submission

Executive Summary

1. ISCC will make the following points in the course of this submission with respect to the issues that the CRTC proposes to address in these proceedings:
 - a) The incumbent wireless carriers continue to exercise market power which results in high prices to business and individual users;
 - b) That the exercise of market power has slowed the rate of adoption of wireless technologies;
 - c) The new entrants are unlikely to provide effective competition to the established incumbents for the foreseeable future – if ever;
 - d) In the short term, mandated wholesale access by MVNOs is the only means by which price and service competition will take root in the wireless services market in Canada;
 - e) The presence of MVNOs will enhance innovation in services and expand investment opportunities for their telecommunications dependent customers;
 - f) MVNOs should be considered a permanent part of the Canadian telecommunications market;
 - g) Mandated MVNO access should be limited to incumbent carriers that exercise market power;
 - h) The rates charged to MVNOs for wholesale access should be compensatory to the incumbents, but the current wholesale rates charged by incumbents to new entrants are so high as to be fundamentally unsuited to serve as the basis for MVNO wholesale access rates;
 - i) The CRTC should look to other regulatory systems for innovative models to address issues of competition and consumer protection;

- j) The CRTC has ignored significant issues of critical importance to consumers, including heavy-handed sales tactics, and has not exercised its authority to protect the privacy interests of consumers;
- k) The CRTC will need enhanced statutory authority to ensure that the build out of telecommunications infrastructure (not just for 5G networks) is not unduly hampered by resistance from municipalities, or from municipal and provincial utilities; and
- l) The CRTC should require that carriers relying on federal authority to access municipal and public utility infrastructure maximize the sharing of infrastructure to minimize disruption and reduce wasteful duplication of facilities.

Who we are

- 2. The Internet Society Canada Chapter (ISCC) is a not-for-profit corporation that engages on internet legal and policy issues to advocate for an open, accessible and affordable internet for Canadians. An open internet means one in which ideas and expression can be communicated and received except where limits have been imposed by law. An accessible internet is one where all persons and all interests can freely access websites that span all legal forms of expression. An affordable internet is one by which all Canadians can access internet services at a reasonable price.
- 3. ISCC intervenes in this proceeding because wireless has become a ubiquitous means of reaching the internet, and hence the quality, pricing and availability of wireless services has enormous impacts on both business and individual users of internet services.
- 4. In this submission, ISCC will briefly set out its principal arguments, and then, in Appendix 1, set forth its responses to the questions articulated by the CRTC in its Notice of Consultation. Our focus will be primarily on the role and importance of MVNO's as a means of bringing and preserving the benefits to internet users of competition in the retail wireless market.

Facilities Based Competition in the Retail Market

- 5. The concept of facilities based competition (FBC) has dominated the discussion of both wireline and wireless communications for the last generation. While many economists have supported the doctrine, the history of actual FBC suggests that FBC should stand for Faith Based Competition: a concept that cannot be empirically demonstrated.
- 6. It has been clear for the better part of a generation that FBC will not be coming to wireline communications – no one is going to duplicate in copper, wire or fibre the infrastructure that it takes to reach a critical number of residences and businesses in the country.

7. Limited wholesale access to wireline networks has been granted since the 1990's, but only in CRTC Regulatory Policy 2013-551 did the CRTC open the doors wide to the resale of wireline network capacity.
8. That openness to resale was not mirrored when the CRTC examined competition in the wireless market in Canada (CRTC 2015-177). Despite finding that the incumbents were exercising market power in the wireless market, the CRTC refused to mandate wholesale access by MVNOs to incumbent wireless networks out of its concern that providing wireless wholesale access might discourage infrastructure investment.
9. 2015-177 in many ways marks the high-water mark of the concept of FBC. Since that time the CRTC has twice considered whether to permit wireless wholesale access, and while it refused permission on both occasions, it is increasingly clear that the Government is committed to seeing greater competition in the wireless sector, and it remains unlikely that FBC will provide that in any politically acceptable timeframe.
10. The retail wireless telecommunications landscape has remained essentially unchanged since the release of 2015-177: the retail market remains dominated by the incumbents Bell, Rogers and Telus, who together enjoy a 92% share of the retail wireless market nationally. The three remaining new wireless entrants resulting from the spectrum auction of 2008 retain a small share of the retail market, and appear to have had little impact on retail pricing.
11. The fact that the surviving new entrants are all owned by cable undertakings speaks volumes to the risks inherent entering the retail wireless market: the independent new entrants could not find investors or lenders willing to invest sufficiently to compete with the incumbents. Only cable companies, with steady and unregulated revenues from their distribution arms – and established telecommunications infrastructure - have proven able to embark upon the investments necessary to establish networks that are able to provide some regionally limited competition. None have built out networks able to match the coverage enjoyed by the incumbents. There is no evidence that the presence of new entrants has imposed competitive discipline on the incumbents.

Wholesale MVNO Access

12. As the incumbent carriers continue their domination, the question arises as to how to realise a measure of price and service competition in the wireless retail market. The answer, at least in part, is opening up the wireless networks of the incumbent carriers to wholesale access by Mobile Virtual Network Operators (MVNOs).
13. MVNOs are a kind of reseller of network capacity. They acquire capacity from incumbent carriers and repackage and rebrand it and resell their capacity to their business or individual customers.

14. The incumbent carriers have always regarded reselling of any kind as a basically parasitic activity. That view ignores the beneficial effects that MVNOs can bring to retail markets.
15. A curious anomaly is evidenced by the fact that there are not three facilities based networks operated by the incumbents – but two. Bell and Telus share a wireless network, parts owned by Bell and parts owned by Telus. They, in fact, already act as MVNO's on each other's facilities. Looked at this way, there are not three but two national incumbent facilities based carriers. The curious effect of this anomaly is that the Bell-Telus arrangement speaks to the success of an MVNO based competitive strategy. The only question is why should the Bell-Telus MVNO arrangements be favoured over independently owned MVNO's.
16. MVNOs will tend to offer users lower prices, but there are important and broader benefits that they bring to the telecommunications marketplace
 - a. By offering lower prices, MVNOs bring greater traffic to the carrier networks, increasing the utilisation of infrastructure – which adds to the economic efficiency of the carrier networks.
 - b. To differentiate themselves from carrier services, MVNOs offer different plans and different services from those of the carriers. It is MVNOs who brought BYOD to the American wireless market. MVNOs have led on customer service. They have innovated billing structures, reducing costs to customers by charging only for actual usage as opposed to pre-set minimums that may have little relation to actual customer usage or needs.
 - c. MVNO's are also generators of investment. By increasing demand for telecommunications services, they incent carriers to invest in their infrastructure. By offering cheaper and differentiated services, MVNOs free their customers to use their savings in telecommunications to invest in other aspects of their businesses.
17. The Commission has suggested that it is inclined to mandate MVNOs for a limited time, with a phase out period when it is satisfied that there is sufficient competition to permit market forces to prevail. ISCC strongly disagrees with that proposal for two principal reasons.
 - a. First, if MVNOs are not an assured part of the telecommunications market, then there will be little incentive for people to make the necessary investments to establish their presence in the market or to differentiate their services from others in the market: the Commission should be encouraging all forms of innovation and investment in the telecommunications market, and this can only be done if there is long-term certainty for market participants.
 - b. Second, there is no certainty that the new entrants will ever be able to gain a foothold in the market strong enough to discipline the incumbent carriers, and if so, when that may come to pass. Given that the world's

largest telecommunications market – the United States - is seeing a proposed consolidation from four to three major carriers, there is no great likelihood that the Canadian market will sustain four competitors in the major regional markets in the long term. MVNOs provide at least some measure of check on the market power of incumbent carriers. Mandated access for MVNOs should be a permanent feature of Canadian telecommunications policy in order to strengthen the competitive elements in our telecommunications marketplace.

18. In introducing MVNOs into the Canadian telecommunications market, we must be mindful that MVNOs are primarily a check on the otherwise overwhelming market power of the incumbent carriers. We believe that mandated MVNO wholesale wireless access should be limited to those carriers who exercise market power within their coverage areas. For new entrants, it should be a matter of choice whether they contract with MVNOs as a means of drawing traffic to their networks.
19. A final consideration respecting MVNO is of course how to price wholesale access. ISCC believes that the wholesale prices charged to MVNOs should be compensatory to the carriers, but at a discount from retail prices. The current wholesale roaming rates charged by incumbents to new entrants are so high that they pose a significant barrier to competition. ISCC suggests that the CRTC look to European wholesale rate pricing for effective models to encourage competition by permitting competitors to bundle services and offer differentiated services.

The Future of Mobile Wireless Services

20. We are told that 5G networks are the next big thing. This follows a string of big things – none of which have expanded the competitive landscape in the Canadian wireless market. There is no reason why 5G, with its foretold enormous deployment costs, will prove any friendlier to competition.
21. The future cannot be known, but it seems reasonable to assume that there will be continued efforts by the new entrants to expand their network coverage. However, the cost of 5G investments to new entrants may well constrain their ability to compete with the incumbents in densely populated urban areas, and may well leave them vulnerable to takeover by the incumbents – thus reducing the amount of competition in Canada’s telecommunications markets.
22. 5G deployment poses two major challenges: we understand that it will be very capital intensive and will require massive installation of cells and backhaul in urban areas where there are already many instances of resistance by municipalities, municipal utilities and provincial utilities to approving tower location, the use of utility poles and the sharing of conduits and rights of way.
23. The capital intensity of 5G sends up a warning signal concerning the viability of the new entrants, who still face enormous challenges in building out 4G infrastructure to match the coverage that is enjoyed by the incumbents.

- Obviously, the cost of capital may prove a severe limitation on the ability of the new entrants to expand into 5G networks in lock step with the incumbents. Any lag in their ability to offer 5G services will serve to entrench the market power of the incumbents. 5G may thus prove to be a considerable barrier to effective FBC.
24. The use by carriers of public spaces and infrastructure to deploy 5G networks poses the second major barrier to full and timely deployment. The existing sections 42 to 46 of the *Telecommunications Act* are premised largely on carrier build out. It does not address access to existing municipal or provincial infrastructure (except poles). ISCC believes the CRTC should have the power:
- a. to require the sharing of existing infrastructure;
 - b. to require the deployment of new infrastructure to take into account the future needs of telecommunications carriers;
 - c. to set time limits on the approval of infrastructure build outs and access to existing or planned infrastructure; and
 - d. to be able to determine the terms and conditions – including usage fees – under which carriers may have access to municipal and provincial infrastructure necessary to the carriage of telecommunications traffic.
25. It should be a condition of the use of federal override powers respecting infrastructure that federally regulated carriers (and distribution undertakings) be required to share infrastructure to the greatest extent possible in order to avoid repeated disruption to existing municipal and provincial infrastructure and to minimize the impact of carrier activity on local authority planning and approval processes.
26. The uncertainties raised by the coming introduction of 5G networks reinforce ISCC's view that no sunset provisions should apply to MVNO access. We believe that MVNOs should be a permanent part of the Canadian telecommunications landscape.

Respectfully submitted, 15 May 2019, by the Internet Society Canada Chapter

A handwritten signature in black ink that reads "Timothy Denton".

Timothy M. Denton

Chairman

Appendix

Responses to CRTC Questions

Competition in the retail wireless service market

Q.1 Provide your views on how the Commission should define markets for the purpose of assessing the state of competition in the retail market.

The relevant market is defined by the geographic scope of the networks of the incumbent wireless carriers.

Q.2 Comment on the competitiveness of the mobile wireless service market(s). Are the mobile wireless service needs of Canadians currently being met? How have competitive conditions changed over the past five years? If the Commission's mobile wireless service regulatory framework remains unchanged, what do you expect the level of competition to be in the future?

There has been no significant change in the competitiveness of the mobile wireless market in the past 5 years. The market continues to evidence the exercise of market power by the incumbents and their flanking brands. Evidence respecting market penetration indicates that there are major unfilled needs in the Canadian mobile wireless market. In the absence of significant change to the CRTC's regulatory policies, this situation is unlikely to change, even if the new entrants are able to markedly increase their network coverage.

Q.3 Are there issues that require regulatory measures at the retail level (i.e. beyond current measures such as the Wireless Code and mandatory participation in the Commission for Complaints for Telecom-television Services Inc. [CCTS])? If so, what are the issues and what measures would be required? Explain why these measures are necessary.

The CRTC examination of the retail marketing practices of the existing mobile wireless network operators indicated widespread abuses and deceptive practices. There remains obscurity in billing practices and "surprise" fees. The charging of clients for plan changes discriminates against vulnerable populations who are less likely to be technology friendly, such as the aged, the poor, the disabled. The CRTC could considerably up its consumer protection policies.

Second, the CRTC has failed to act to protect the privacy interests of Canadians. The CRTC should work with the Privacy Commissioner to better protect those interests. From the perspective of the Internet Society Canada Chapter (ISCC) and of the global Internet Society, protecting privacy and personal data is key to the digital economy. While the Wireless Code and the CCTS have been excellent measures at protecting Canadian consumers from a pricing and contracting perspective, they fail to properly address a growing concern surrounding data privacy and data sharing for Canadian consumers.

The three incumbents Bell, Rogers and Telus all gather and sell to third parties information location data to third parties, enabling those third parties to improve marketing and advertising tactics and extend their business opportunities. While the incumbents claim that the data cannot be tracked by to individuals, studies of similar data sets has established that with time and computational power the data can be de-anonymized (Zang, Hui and Bolot, Jean (2001). “Anonymization of Location Data does not Work: A Large-scale Measurement Study”, Proceeding of the Annual International Conference on Mobile Computing and Networking, MOBICOM. 145-156.10.1145/2030613.2030630.).

The incumbents are also able to track the websites and services accessed by their customers. This tracking permits the incumbents to see the websites that their customers visit, which applications a customer may use, how frequently they visit or use them, and how much time customers spend interacting with them. This data can provide a marketing profile of immense value to third parties, who can use them to better target to wireless customers.

It is unrealistic to expect consumers (or businesses) to be familiar with the terms and conditions or privacy settings for all the services they use. Carriers must be required to be clear, simple, and concise in bringing these uses to the attention of consumers.

ISCC recommends that Wireless Code to be updated to require providers to disclose in plain English to consumers how their data and location data is being utilized, which parties it is being shared with, and require that carriers provide explicit rather than opt-out consent for the sharing of this data.

Q.4 Discuss how Canada’s retail mobile wireless service market(s) compare(s) internationally, and provide any studies and reports you have in this regard. Which countries offer the best comparisons with Canada and why? Discuss whether international comparisons are meaningful in the context of mobile wireless service regulation.

Canada has much to emulate in terms of broader telecommunications policy and consumer protection from the EU, UK, New Zealand and Australia, who together provide a range of policy choices that have been untried and largely unexamined by the CRTC. All countries are dealing with the challenges posed by the market

power of incumbents, the need to extend broadband to its citizenry, privacy issues, and infrastructure sharing. Canada and, in particular, the CRTC should study and adapt to the Canadian context appropriate foreign models of regulation. (see <https://internetsociety.ca/broadband-competition-study/>)

Q.5 If the retail market, or a portion of it, is found to be insufficiently competitive to protect the interests of users, what regulatory measures (e.g. the application of additional conditions of service or mandating of the provision of lower-cost data-only plans), if any, ought to be applied to ensure that the policy objectives of the Act, as well as the Policy Direction, are met?

The timidity of Canadian approach to retail regulation is perfectly illustrated by this question. Why not employ structural separation to ensure that network management is not used to unfairly tip the balance in favour of the retail objectives of incumbent carriers? Mandated MVNO wholesale access would abate somewhat the market power exercised by the incumbent carriers.

Wholesale mobile wireless service regulatory framework

Q.6 If the retail market, or a portion of it, is found to be insufficiently competitive to protect the interests of users, what regulatory measures (e.g. the application of additional conditions of service or mandating of the provision of lower-cost data-only plans), if any, ought to be applied to ensure that the policy objectives of the Act, as well as the Policy Direction, are met?

Walk through any shopping mall in Canada and you will see expensive retail boutiques representing the major incumbents, their flanker brands, ostensible independents selling plans and devices for the majors, and perhaps one outlet representing an new entrant. This is not indicative of a healthy retail market, but rather a market in which advertising, complex plans, and heavy selling tactic substitute for price competition. The regulatory framework has nothing to say about any of this profligacy, waste, and deceit.

Q.7 Discuss whether there have been any developments, technological or otherwise, that would require the current wholesale roaming policy to be modified. For any proposals to modify that policy, provide rationale for why the change is necessary and how it would benefit retail competition.

The wholesale roaming policy could, of course, be opened much further to permit MVNO activity. The existing policy fails at the level of implementation. The CRTC's processes for determining costs and wholesale pricing are slow, impeded by the incumbent's production of mountains of dubious cost evidence to justify exorbitant costs, competitors are denied information critical to their ability to challenge the cost information provided by the incumbents, and the CRTC seems unable to respond appropriately to the technological gaming employed by the incumbents that raise competitor costs and deny effective access to incumbent

networks. Wholesale roaming rates remain shockingly high by international standards and are often higher than comparable incumbent retail rates.

Q.8 Comment on whether the Commission's preliminary view that the national wireless carriers should be required to provide wholesale MVNO access on a mandated basis is appropriate. Should this requirement apply to other wireless carriers as well and, if yes, why?

It is appropriate and necessary that the CRTC mandate MVNO access to the networks of the incumbents. As the new entrants lack market power in any market, MVNO access should not be mandated to their networks.

Q.9 Comment on how a wholesale MVNO service should be structured and implemented.

ISCC responds as follows:

- a) There should be no requirement that MVNOs have certain levels of facilities. Reliable estimates are that an investment in facilities of \$1M is required to set up as a full MVNO. There is no need for further regulatory requirements – the market will sort out those who under-invest.
- b) We do not believe any other restrictions or eligibility requirements should apply, nor would they be useful to consumers. They would merely raise the cost of doing business and constrain the availability of capital to would-be MVNO entrants.
- c) Only national mandates imposed on the incumbents can provide any measure of relief for telecommunications users.

Q.10. What terms or conditions should apply to regulated wholesale MVNO access?

ISCC sees no reason why there should be terms and conditions apart from those necessary to ensure that the incumbents provide network access as fully as they do to their new entrant wholesale roaming customers.

Q.11 Discuss whether the Commission should set a wholesale rate for MVNO access.

ISCC responds as follows:

- a) It is vital to establish interim rates as part of these proceedings. Otherwise consumers will be denied the benefits of MVNO competition for a number of years. The market power of the incumbents has existed for years. Delay will only prolong the exercise of that power.
- b) The incumbents have failed to negotiate MVNO access. Relying on market forces where all evidence points to a market failure would be

regulatory folly. Creating arbitrary set asides of capacity for MVNO use would only prolong uncertainty, lead to rent seeking behaviour by early entrant MVNOs, and otherwise distort any potential market. A default rate would merely become the normative rate.

c) Answered above.

Q.12 Discuss what would be an appropriate phase-out process for a mandated wholesale MVNO access service. For example, should the service be phased out on a specific, pre-determined date, be subject to a trigger that initiates a phase-out period, or be subject to another process?

There simply is no appropriate phase out process for MVNO access. The stark reality is that even if the existing new entrants are able to expand their coverage to rival that of the incumbents, and also offer 5G services, there will be no more than three facilities based carriers in any local market (Bell and Telus being MVNOs in each other's territories). The likelihood is that the new entrants will, if sufficiently established, act in oligarchic lock step with the incumbents.

Any phase out would leave stranded investments, foreclose the ability to seek loans and investments, and discourage market entry. To put it bluntly, a business cannot be built on regulatory quicksand.

Future of mobile wireless services

Q.13 Provide your views on the future of retail and wholesale mobile wireless services in Canada. How do you foresee the rollout of small cells and 5G technology taking place? Over what time period do you expect this rollout to occur?

It is unpredictable how the services side will evolve. 5G could, potentially, replace on-premises wifi. If that were to happen, it would essentially displace independent ISPs, and foreclose competitive lower cost alternatives for consumers. These possible trends speak to the permanent need for a healthy MVNO ecosystem.

Q.14 What are the challenges facing carriers as they continue to deploy their networks, particularly with respect to small cells?

Access to public utility infrastructure has been an issue since the introduction of cable networks in the 1960s. It has been compounded with the expanding need for cell towers and for the laying of fibre optic cable. It has been a chronic issue for new entrants in both the wireline and wireless telecommunications markets. The potential deployment of small cells compounds but does not alter the challenge in dealing municipalities and municipal and provincial utilities.

Q.15 Identify any expected changes or new technologies that are likely to be deployed in Canadian wireless networks that will have regulatory implications in the near term.

How can the Commission ensure that its regulatory frameworks account for market and technological changes?

ISCC identifies Next Generation 911 as being a specific area that requires adept regulatory attention to a technological issue. There are many others. ISCC has proposed – and continues to advocate that – the CRTC establish a position of Chief Technology Officer, with appropriate staff, to be able to provide expert in-house advice on the regulatory implications of technological change and the appropriate or alternative regulatory approaches to dealing with them. The regulator cannot be at the mercy of the regulated on issues that are core to its capacity to respond appropriately to new technologies. Nor can the regulator be permitted to adopt policies based on misapprehensions as to the impact of technologies.

Q.16 What are the issues associated with wireless carriers obtaining access to infrastructure, including towers, sites, structures, and fibre transport? Discuss whether the Commission’s existing rules are sufficient to address these issues and what changes, if any, could be made to improve these rules under the Commission’s current statutory framework.

See our response to question 14. Pottering around with rules in the present statutory framework may provide some measure of assistance to those who need access to existing infrastructure, but legislative change is essential to ensure that a national telecommunications policy is not held hostage to the particularist interests of municipalities and municipal and provincial utilities.