

September 8, 2017

Mr. Claude Doucet
Acting Secretary General
Canadian Radio-television and
Telecommunications Commission
Ottawa, Ontario K1A 0N2

Dear Mr. Doucet,

**Re: Telecom Notice of Consultation CRTC 2017-259
Reconsideration of Telecom Decision 2017-56 regarding final terms and conditions for wholesale
mobile wireless roaming and service**

Introduction

1. The Canadian Wireless Telecommunications Association (CWTA) is the recognized authority on wireless issues, developments and trends in Canada. It represents wireless service providers as well as companies that develop and produce products and services for the industry, including handset and equipment manufacturers, content and application creators and business-to-business service providers. The CWTA is filing these comments on behalf of its members.
2. CWTA Members have developed a world-class wireless infrastructure to serve Canadians across the second largest landmass in the world. These mobile wireless networks, developed by both national and regional service providers, are providing the most advanced wireless services, enabling Canadians to be full participants in the digital economy, to access government services at all levels, and to interact socially with their families and friends. These networks have been built, upgraded and maintained through the investment of capital, entrepreneurial energy and risk by companies in all regions of Canada.
3. Advanced Long Term Evolution (LTE) and 4G networks have become a reality in Canada. The coverage, strength of signal and speed of these networks allow Canadians to enjoy the benefits of the most sophisticated mobile handsets available anywhere in the world. Canada's facilities-based wireless service providers' ongoing network infrastructure investment will also enable the deployment of 5G technology and the emerging Internet of Things in the coming years. These investments will help keep Canadians and Canadian businesses in the forefront of global markets and communications. As the CRTC reconsiders Telecom Decision 2017-56, it should keep in mind the amount of financial resources, human capital, risk and time that wireless companies devote to developing world-class digital services for Canadians. To that end, the Commission should maintain its objective of "continued innovation and investment in high-quality telecommunications

facilities”¹ for Canada’s mobile wireless services market. Doing so will position Canada for success in the emerging digital world.

4. CWTA encourages the Commission to continue to strive for investment in telecommunications facilities. It is worth noting that the Commission’s own analysis and determinations in four Decisions has recognized that mandated MVNO access, in any form, would have a detrimental effect on investment in wireless infrastructure. The reasoning can be found in Telecom Regulatory Policy 2015-177; Telecom Decision 2016-60; Telecom Decision 2017-56; and Telecom Decision 2017-57.

Summary

5. The Association opposes reconsideration of the determinations related to mandated resale, in any form, as set out in these Decisions.
6. The Commission has correctly defined an MVNO as “a wireless service provider that does not own spectrum or operate its own Radio Access Network (RAN) [in the area where it offers services]; instead, it relies on the spectrum and RAN of a wireless carrier and, in some cases, other facilities and/or services, to provide mobile wireless services”.²
7. There is nothing unique, innovative or “new” in the so-called “Wi-Fi First” model. In fact, the Commission already considered the potential benefits and likely harm of this model, determining, “even if there is some minimal connection between the end-user and Ice Wireless’s network backbone, the use of public Wi-Fi by a Sugar Mobile end-user outside Ice Wireless’s territory would still be subject to the concerns set out above and would not amount to the use of a home network for the purpose of roaming.”³
8. Mandating, by broadening the definition of “home network” as contemplated in the Order in Council, that MVNO customers be allowed to roam on any wireless network, would undermine efforts to grow Canada’s competitive wireless industry. It would be particularly harmful to facilities-based new entrants. It would discourage innovation and investment by all facilities-based mobile carriers. Stifling investment in network infrastructure would worsen the urban/rural digital divide and jeopardize Canada’s opportunity to be a world leader in the development and deployment of 5G technology and services, and the Internet of Things.
9. CWTA agrees with the Commission’s previous determinations that the provision of MVNO access should be driven mainly by market forces. Mandating MVNO access, in any form, would significantly undermine the investments of wireless carriers; it would be particularly harmful to new entrants; and it would make the economics of investing in rural areas extremely challenging for all facilities-based providers.

¹ Telecom Decision CRTC 2016-60, paragraph 17.

² Telecom Decision CRTC 2017-57, footnote 1.

³ Telecom Decision CRTC 2017-57, paragraph 29

Facilities-based Competition

10. The Canadian Government has a long-standing and sound preference for facilities-based competition in Canada. This is evidenced in numerous CRTC rulemakings and in regulations and policies established by Innovation, Science and Economic Development Canada (ISED). Canadians have benefited greatly from the investments being made in network facilities, not only by the incumbent carriers but also those made by new entrants. These investments have kept Canada at the forefront of wireless innovation and have provided Canadians with the best and newest services. These services continue to be available to the vast majority of Canadians throughout the country, with ongoing network expansions and upgrades underway by all wireless service providers. Investments to date in 4G LTE networks have resulted in Canadians enjoying an average LTE connection speed that is twice as fast as that of the US (Can: 30.58 Mbps vs US: 14.99 Mbps).⁴ Ninety-seven percent of Canadians have access to LTE networks.⁵
11. The Commission's own analysis in Telecom Regulatory Policy CRTC 2015-177 recognized that "Investment in wireless network infrastructure by wireless carriers is important to ensure that Canadians have access to mobile wireless networks and services of **high quality in all regions across Canada**".⁶ [emphasis added] This objective has assumed even greater importance today. The industry worldwide is on the cusp of introducing 5G technologies that will require extensive investments in new technologies, additional spectrum and network densification. This technology will enable the successful development of the Internet of Things and will thereby promote the Federal government's Innovation Agenda.
12. The Commission acknowledged again, in Telecom Decision 2016-60, that one of the objectives it had established for the mobile wireless services market was "continued innovation and investment in high-quality telecommunications facilities".⁷ CWTA submits that this continues to be an important objective for the CRTC to maintain.
13. The potential economic and social benefits to Canadians from 5G were summarized by ISED in its consultation document published in SLPB-001-17:

5G will be the next major advancement in mobile telecommunications standards. Forecasted use cases include enhanced/ultra-fast mobile broadband, massive machine type communications, and ultra-reliable/low latency communications, all of which are predicted to drive increased usage and facilitate deployment of integrated verticals such as healthcare, transportation, and smart cities, while leveraging massive Internet-of-Things (IoT) growth. . . . The technology and applications will be disruptive to the business models of equipment providers, service providers and other industries. Canadian firms have the opportunity to participate in the development and implementation of this new technology. . . .

⁴ Data provided by Open Signal [*The State of LTE* – June 2017].

⁵ CRTC, Communications Monitoring Report, 2016.

⁶ Paragraph 121

⁷ Paragraph 17.

ISED recognizes the importance of innovation in digital technologies and is seeking to maximize the benefits of current and emerging digital technologies by positioning Canada in the forefront of wireless communications. As new technologies, such as 5G, promise to foster innovation among businesses and offer consumers advanced products and applications, Canada will seek to capitalize on these technology advancements to give businesses, research institutions and cities a competitive edge.⁸

14. While its summary of 5G is brief, ISED's description speaks volumes to the level of investment that will be required for Canada to fulfill its 5G vision. To put the required investment into context, the last five years have seen substantial levels of network investment by Canadian facilities-based carriers (averaging \$2.6 billion annually), including in advanced technologies such as Voice over LTE and LTE Advanced. Between 1987 and 2016, firms in the sector have spent roughly \$58 billion; \$44.8 billion in capital expenditures to construct networks and infrastructure to service Canadians, along with a further \$13.99 billion to acquire spectrum at auction (since 2001).⁹ On top of this investment in acquiring spectrum, the industry has paid a cumulative total of \$2.39 billion in annual spectrum license fees to the Federal government since 2001.
15. Industry investments have an impact on employment as well. The wireless industry generated more than 138,000 full-time jobs in 2016,¹⁰ including many highly-skilled positions. Canada's Information and Communications Technology Council predicts that 5G investments by Canadian carriers "will translate to an upsurge in demand for ICT professionals with the specialized technical skills able to install, manage, and scale-up this technology."¹¹

New Entrants

16. Departing from a focus on facilities-based competition by mandating "Wi-Fi First" access to roaming would be harmful to facilities-based providers and in particular to facilities-based new entrants. Newer players like Videotron, Freedom Mobile and Eastlink have invested substantially to grow their networks regionally and across the country. Importantly, there has been significant investment in facilities that have been deployed in rural areas and regions across the country with lower population densities. These players require more time to establish themselves and enhance their range of wireless service options to Canadians. The Commission acknowledged this likely harm, stating, "The new entrants have made and are planning to make significant investments in spectrum and their wireless networks. The Commission considers that mandating wholesale MVNO access at this time would significantly undermine these investments, particularly outside urban core areas."¹²

⁸ SLPB-001-17. Consultation on Releasing Millimetre Wave Spectrum to Support 5G. Paragraphs 8 and 9.

⁹ Figures compiled from internal CWTA sources.

¹⁰ *The Benefits of the Wireless Telecommunications Industry to the Canadian Economy in 2016*, Nordicity, July 27, 2017.

¹¹ *The Next Talent Wave: Navigating the Digital Shift – Outlook 2021*, Information and Communications Technology Council, page 4.

¹² Telecom Regulatory Policy CRTC 2015-177, Paragraph 121

17. Mandating that “Wi-Fi First” customers should be allowed to roam on a wireless provider’s network would mean that the MVNO would have little or no incentive to invest in facilities in order to compete with wireless carriers across the country – including the new entrants. This would also significantly reduce the incentive for existing carriers to deploy more network facilities. Moreover, it would undermine the opportunity for new entrants to add subscribers to their networks, making it more difficult for them to recoup their substantial investments, advance their network technology and expand their networks.

Mandated “Wi-Fi First” roaming is not an innovative business model

18. The “Wi-Fi First” business model being proposed is not innovative. It is merely an attempt to create an unfair and unjust arbitrage opportunity via regulatory decree.
19. Facilities-based wireless carriers have acquired licensed spectrum over several decades so as to build out their networks and provide high quality services to Canadians. Roaming exists to provide one carrier’s end users non-permanent access to the network of another carrier. It is a quid pro quo contractual or regulatory arrangement where a carrier must build offer roaming on its own network before benefiting from roaming on another network.
20. Services like those offered by Sugar Mobile or TNW Wireless rely on software applications installed on devices that leverage free public Wi-Fi, which uses free unlicensed spectrum, to provide connectivity to end users. This proposed MVNO roaming business model is simply an attempt to avoid commercial resale agreements and/or to avoid purchasing spectrum (and making the corresponding investment in networks and equipment).
21. While some might suggest that mandating resale at substantially discounted rates could have a short-term effect on consumer pricing, the chilling effect of such a measure on capital investments would have significant, negative consequences for Canadians in the long run. Respectfully, this is not conducive to encouraging innovation.
22. The Commission correctly concluded, in Telecom Decision 2017-56, that “public Wi-Fi cannot form part of the home network, since there would be no way to distinguish between a company’s home network and every piece of network equipment in use by anyone in Canada”.¹³ CWTA agrees. Moreover, the Commission had already considered the various MVNO models when it decided to not mandate MVNO access, in any form.¹⁴
23. 5G will be the next great era of innovation and disruption for Canada’s wireless industry. Indeed, the era has already begun as recognized by the significant standards development work, network trials and ISED’s own consultations. For Canadians to benefit from this innovation, we need to maintain a regulatory framework that encourages investment in the development of this new technology. Mandating wholesale access for “Wi-Fi First” providers will undermine incentives to invest in 5G technology in Canada.

¹³ Telecom Decision 2017-56, paragraph 29.

¹⁴ Telecom Decision 2016-60, paragraph 37.

Urban/Rural Digital Divide

24. Perhaps most importantly, facilities-based competition is the most efficient way to increase the footprint of Canada's networks and to close the rural/urban divide. Policies that ensure facilities-based carriers receive a fair return on their significant previous and planned investments will encourage these carriers to continue to expand their networks, paving the way for all Canadians to benefit from wireless technologies and from the innovative digital economy they support.
25. As network technologies evolve from one generation to the next, coverage areas, signal quality and strength, and speed of data transmission are expanded. Both fixed and wireless broadband service are gradually being extended from rural township to township in a manner that is consistent with technological, demographic and economic realities. This model of methodical and steady expansion of service area footprints will ensure that as many Canadians as possible ultimately gain access to reliable and high quality wireless networks.
26. Communities leveraging new technologies will gain a competitive advantage. 5G will have a significant effect on how people interact. 5G will also transcend Canada's wireless industry to fundamentally alter how many industries and social institutions operate, boosting innovation and productivity, and benefiting Canadians across the country. Forecasted 5G use cases include enhanced/ultra-fast mobile broadband, massive machine type communications, and ultra-reliable/low latency communications, all of which are predicted to drive increased usage and facilitate deployment of integrated verticals such as healthcare, transportation, agriculture and smart cities, while leveraging massive Internet of Things growth. The impact on integrated verticals like healthcare presents a tremendous opportunity to address the social well-being of Canadians.
27. The Commission has correctly recognized that mandating MVNO access, in any form, would "significantly undermine the investments of other wireless carriers, such as new entrants, particularly in non-urban areas".¹⁵ The Federal Government is supporting remote and rural communities with a five-year program to invest \$500-million in expanded broadband access.¹⁶ The economic challenge of deploying rural networks is widely known (hence the Government's program). Wireless carriers have made their own investments to expand and upgrade their networks in rural areas, despite the economic challenges of rural deployments. It simply would not make sense for the Commission to mandate MVNO access and consequently discourage carrier investment, while the Government is taking its own independent steps to encourage broadband investment.

Network Security and Reliability

28. Network security and reliability have never been more important than today, given Canada's digital economy. Cybersecurity is also a top priority of the industry. Continued investment in facilities is crucial to maintaining network quality and reliability, and the security and safety of Canadians' data. The investments made by facilities-based carriers include equipping their RANs

¹⁵ Telecom Decision CRTC 2016-60, paragraph 19.

¹⁶ Connect to Innovate, https://www.canada.ca/en/innovation-science-economic-development/programs/computer-internet-access/connect-to-innovate.html?_ga=2.33149886.1253022546.1504120078-1624440051.1497535784

with technology that ensures the security of the radio communications function to prevent intruders from eavesdropping on communications or accessing information. MVNOs do not make similar investments.

Conclusion

29. The Order of the Governor in Council (P.C. 2017-0557) takes into consideration three paragraphs of the *Telecommunications Act* (the *Act*) namely paragraphs 7(b), 7(g) and 7(h). CWTA submits that the objectives set out in all three paragraphs of the Act were, and continue to be, correctly and appropriately addressed by the Commission's definition of "home network" in Telecom Decision 2017-56. The CRTC was correct in establishing a definition of "home network" that, by encouraging investment in facilities-based competition, is rendering **reliable wireless services of high quality accessible to Canadians in urban and rural communities; is stimulating research and innovation in the field of telecommunications**, most notably in the area of 5G; and is **responding to the economic and social requirements** of Canadians.

End of submission