

In the matter of  
Telecom Notice of Consultation CRTC 2017-259,  
*Call for comments – Reconsideration of Telecom  
Decision 2017-56 regarding final terms and conditions  
for wholesale mobile roaming service*

Final Submission of  
Canadian Wireless Telecommunications Association

1 December 2017

## Summary

1. The Canadian Wireless Telecommunications Association (CWTA) submits that, based on the record of this proceeding:
  - a. Broadening the definition of “home network” to consider other forms of connectivity, such as Wi-Fi, will not have a positive impact on the affordability of retail mobile wireless services to consumers in Canada;
  - b. There is sufficiently clear evidence demonstrating that including Wi-Fi, or any other form of, connectivity in the definition of “home network” will have a significant negative impact on investment in wireless infrastructure, which impact outweighs any theoretically positive effect on the affordability of retail mobile wireless services to consumers; and
  - c. If such an inclusion were made, mitigation of the negative impact on investment through the imposition of conditions would, if even possible, be difficult, and one or more separate proceedings would be required to determine the appropriate mitigation terms and conditions.
2. The Commission should reaffirm its decision in Telecom Decision 2017-56, and in particular, should not broaden the definition of “home network” to include other forms of connectivity, such as Wi-Fi. The Commission’s own analysis in Telecom Regulatory Policy 2015-177, Telecom Decision 2016-60, and Telecom Decision 2017-56 concluded that MNVO models<sup>1</sup>, of which so-called “Wi-Fi First” is one, that are based on mandated access to the national carriers’ networks would be too harmful to new entrant investments and would not be in the public interest. CWTA submits that the Commission was correct in such a determination and that nothing has changed since those findings.
3. In addition, the evidence in this proceeding shows that mandating Wi-Fi First wholesale roaming would not fulfill the objectives of Section 7 of the *Telecommunications Act* (the “Act”), whether in relation to quality, affordability, or the provision of services to rural Canadians.
4. CWTA’s submission is based on the following, all of which is supported in the record of this proceeding:
  - The only matters under consideration in this proceeding are: (i) whether broadening the definition of “home network” to include Wi-Fi, or other forms of connectivity,<sup>2</sup> for

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<sup>1</sup> The Commission has defined mobile virtual network operators (MNVOs), which include Wi-Fi First service providers, 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”.

<sup>2</sup> This submission uses the terms “Wi-Fi First” providers and “alternative wireless service providers” or “AWSPs”, with the first being an example of the latter. The Commission has defined AWSPs as to “include, for example, service providers that use Wi-Fi connectivity as the basis for their home networks (Wi-Fi First providers), and may also include service providers that rely on other forms of connectivity as the basis for their home networks”. We use both terms in this submission, depending on the context.

the purposes of expanding who is an eligible “wholesale roaming customer” would offer Canadian consumers greater affordability of retail mobile wireless services; (ii) whether the negative impact on network investment resulting from such a change will outweigh any theoretically positive impact; and (iii) whether the negative impact on investment could be mitigated by placing conditions on mandated wholesale roaming services.<sup>3</sup>

- There is no credible evidence that including Wi-Fi, or other forms of connectivity, in the definition of “home network”, and thus making the applicable AWSPs an eligible wholesale roaming customer, will have a positive impact on the affordability of retail mobile wireless services.
- Multiple facilities-based carriers have competing plans in market today at price points equivalent to those proposed by Wi-Fi First providers; and these plans are superior to those proposed by Wi-Fi First providers in that they are true mobile offerings (i.e. offer access to voice network for voice calls and texting, unlimited data usage over carrier and free public wi-fi, and, at the customers option, access to cellular data networks).
- When comparing their pricing to those offered by facilities-based carriers, Wi-Fi First proponents have understated the cost of using Wi-Fi First services by omitting the costs of handsets and subscriptions to home broadband Internet access.
- Closely tied to affordability is the safety & security of the proposed Wi-Fi First offering. The public interest would not be served by encouraging Canadians to rely on services that primarily depend on using less secure non-carrier public Wi-Fi networks for all manner of communications and Internet use.
- There is nothing innovative in the Wi-Fi First technology or business model. Customers of facilities-based mobile operators can already access free public Wi-Fi from their smartphones at no additional cost.
- The Canadian government’s long-standing policy of encouraging facilities-based competition is working. Investments of facilities-based carriers have and will continue to drive wireless innovation and competition in Canada.
- Mandating that Wi-Fi First customers be allowed to roam on the networks of facilities-based mobile wireless carriers will cause direct harm to network investment. It would discourage innovation and investment by all facilities-based mobile carriers, and would be especially harmful to new entrants. Stifling investment in network infrastructure would worsen the urban/rural digital divide, hinder the ability of operators to expand and upgrade networks in rural areas 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.

5. If, despite the submissions of CWTA and other parties to the contrary, the Commission decides to broaden the definition of “home network” to include Wi-Fi (and/or other forms of connectivity) and thus mandate wholesale Wi-Fi roaming, it must establish terms and conditions that will maintain the nature of roaming, such as incidental access, and mitigate the negative impact on investment in wireless investment. Creating such a regime will be, if possible, difficult. CWTA is of the view that secondary proceedings will be required to

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<sup>3</sup> Order of the Governor in Council, P.C. 2017-0557, 1 June 2017

determine such terms and conditions, including clearly defining what entities are eligible for such wholesale roaming.

## **Introduction**

6. 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.

7. CWTA appreciates the opportunity to provide its final submission in response to Telecom Notice of Consultation CRTC 2017-259.

8. According to the Commission's 2017 Communications Monitoring Report, in 2016, Canada's wireless networks served over 30.7 million Canadian wireless subscribers, an increase of 3.3%, or just over 1 million subscribers, from 2015. Mobile device penetration, and the resulting demand for wireless network capacity, also continues to increase, with the percentage of adults who own cellphones, smartphones and tablets increasing to 87% (1% increase), 77% (4% increase) and 54% (2% increase), respectively.

9. Not only were more Canadians using wireless networks, they were also consuming more data, with the average data usage per subscriber increasing by an impressive 24.9% from 2015 to 2016 (981MB to 1,225MB, respectively).

10. The increasing use and adoption of wireless communications and Internet use by Canadians show that the Canadian government's long-standing policy of encouraging facilities-based competition is working. Only through significant investment by both incumbent network operators and new entrants have Canadians been able to enjoy some of the world's best wireless networks, and only through continued investment will Canadians' increasing demands for wireless communications and Internet use be met.

11. As explained below, CWTA opposes reconsideration of the determinations related to mandated MNVO wholesale access, in any form, as set out in Telecom Regulatory Policy 2015-177; Telecom Decision 2016-60; Telecom Decision 2017-56; and Telecom Decision 2017-57. The evidence does not support overturning the Commission's past decisions on this important issue, nor is there any evidence to support a finding that the proposed Wi-Fi First, or other AWSP, services would offer any services at a high quality or reasonable price that fulfills the objectives of Section 7 of the Act, whether in relation to quality, affordability, or the provision of services to rural Canadians.

## **Scope of Proceeding**

12. The Order of the Governor in Council<sup>4</sup> (Order-in-Council) narrowly asks the Commission to reconsider the definition of a “home network” for the purposes of mandated wholesale roaming on the networks of national wireless incumbents, as determined in Telecom Decision CRTC 2017-56. Thus, the only matters the Commission was asked to consider in this proceeding are: (i) whether broadening the definition of “home network” to include Wi-Fi, or other forms of connectivity, (for the purposes of expanding who is an eligible “wholesale roaming customer”) would offer Canadian consumers greater affordability of retail mobile wireless services; (ii) whether the negative impact on network investment resulting from such a change will outweigh any theoretically positive impact; and (iii) whether the negative impact on investment could be mitigated by placing conditions on mandated wholesale roaming services. Whereas some parties to this proceeding have attempted to expand its scope, the Commission is required to focus on the narrow matters under consideration in the Order-in-Council.

13. In this regard we note that the Order-in-Council does not ask the Commission to review MVNO access. Mandated MVNO access is a topic that is clearly outside the scope of both the Order-in-Council and TNC 2017-259. Similarly, the Order-in-Council does not ask the Commission to revisit the overarching principle that mandated wholesale roaming must remain incidental. The Order-in-Council does not ask the Commission to revisit its refusal in TRP 2015-177 and Decision 2016-60 to order mandated permanent access to the RANs of facilities-based wireless carriers. The Order-in-Council did not ask the Commission to investigate whether retail regulation was required to enable AWSP entry into the wireless market or to address the affordability of wireless service offerings.

14. The CRTC’s Request for Information, question number three<sup>5</sup>, asked parties about the potential introduction of a data-only retail mobile wireless service plan. The issue of mandated retail plans is also outside the scope of the Order-in-Council.

15. CWTA submits the Commission should dismiss all arguments in favour of mandated MVNO access, or models that resemble MVNO access, as being outside the scope of this proceeding.

## **Low-cost Service Plans**

16. The Order-in-Council suggests that Canadian consumers, especially those with low incomes, who are seeking low-cost mobile wireless service options are not well-served by

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<sup>4</sup> Order of the Governor in Council, P.C. 2017-0557, 1 June 2017

<sup>5</sup> CRTC Procedural Letter, October 16, 2017, Attachment, Request for Information #3.

facilities-based operators. It also suggests that other forms of service providers, such as Wi-Fi First service providers, may provide more affordable options. However, neither of these assumptions is correct. The evidence in this proceeding demonstrates that facilities-based carriers offer a variety of low-cost plans that are comparable in price to those offered by Wi-Fi First providers. In addition, these plans include additional services not available from Wi-Fi First providers, such as access to cellular voice services, and in some cases \$0 handsets and/or some level of cellular data service.

17. The proponents of expanding the definition of “home network” to include Wi-Fi have put forth pricing that omits the extra cost that consumers must incur to purchase handsets, obtain broadband Internet access to their homes, and/or pay for access to Wi-Fi. They also fail to recognize that the principal feature of their service offering, namely using public Wi-Fi to communicate and access the Internet, is something that users of any facilities-based operator offering can already do, in addition to voice calls and text messaging on carrier voice networks and accessing the Internet using carrier data networks.

18. For example, in its initial Intervention, Bell Mobility points to the prices offered by Republic Wireless, a U.S. Wi-Fi First service provider that some have put forth as an example of the lower prices that can be offered by Wi-Fi First service providers. After calculating the additional costs that a customer of Republic Wireless would have to incur to obtain a handset and any data it may want to supplement its Wi-Fi use, it is clear that Republic Wireless’ offering is not more affordable than low price offerings available from Canadian carriers.<sup>6</sup> Similarly, the other facilities-based operators who have intervened in this proceeding have submitted clear and sufficient evidence to show that Canadian facilities-based carriers offer service plans that are similar or superior to those made available by Wi-Fi First service providers.<sup>7</sup>

19. The plans made available by companies such as Republic Wireless provide no basis on which to conclude that mandated access for Wi-Fi-first MVNOs would address any perceived affordability problem in Canada's wireless market. Canadians with low incomes would be better served by an affordable talk and text plan from one of the national or regional facilities-based carriers, which would allow them unlimited use of free public Wi-Fi, but also give them the ability to make voice calls and send text messages when they do not have Wi-Fi access.

20. While the evidence shows that that the prices for Wi-Fi First service offerings and those of facilities-based carriers are similar, it is important to note that the services offered are not alike in kind or quality. As pointed out by TELUS<sup>8</sup>, Wi-Fi connectivity is not ubiquitous, and it requires the customer to purchase a separate private broadband connection if the customer wants Wi-Fi connectivity at home. Secondly, the Wi-Fi networks on which a Wi-Fi

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<sup>6</sup> Bell Mobility Intervention paragraph 99.

<sup>7</sup> E.g. see Rogers Intervention paragraphs 15-20; Eastlink Intervention paragraphs 40-44.

<sup>8</sup> TELUS Intervention paragraphs 90-91.

First service relies are not controlled by the Wi-Fi First service provider, and as such the underlying Wi-Fi services have no common standard for quality or security. This exposes Wi-Fi First service customers to substandard quality of connection as well as to increased security threats.

21. Non-carrier public Wi-Fi connections are less secure than the mobile wireless networks operated by facilities-based operators. Conventional expert cyber-security advice is to refrain from engaging in sensitive transactions while connected to non-carrier public Wi-Fi. In this regard, we note the advice to Canadians from the Canadian Bankers Association: “Be cautious when using free public WiFi to conduct financial transactions. Criminals may be able to access your information”.<sup>9</sup>

22. As TELUS accurately points out, comparing Wi-Fi First services against facilities-based carrier services on price alone does not give a complete view on affordability<sup>10</sup>. Even if Wi-Fi First services were less expensive, which for the reasons above we submit they are not, such minimal difference in cost “could be a reflection of the inferior nature of the service compared to the services provided by the WSP”.<sup>11</sup>

## **Investment**

### *Facilities-based Carrier Investment*

23. Despite the country’s large land mass, Canada’s wireless network operators have built one of the best wireless infrastructures in the world. Our wireless networks reach 99% of Canadians<sup>12</sup>, with the higher speeds of advanced wireless networks such as long-term evolution (LTE) and LTE-advanced (LTE-A) available to approximately 98.5% and 83% of Canadians<sup>13</sup>, respectively. The number of publicly available Wi-Fi hotspot locations (free and for-pay) provided by wireless service providers also increased from 14,000 in 2014 to 27,900 in 2016<sup>14</sup>. That is nearly six times the number of Tim Hortons locations in Canada, and does not include Wi-Fi hotspots made available by private businesses, such as shops and restaurants.

24. To meet the needs of Canadians’ increasing demand for wireless services, Canada’s facilities-based wireless operators – the national and regional service providers that pay for, build, upgrade and maintain the wireless networks — have continued to invest in expanding and improving their network infrastructure. Not counting the costs of acquiring

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<sup>9</sup> <https://www.cba.ca/how-to-bank-safely-online>

<sup>10</sup> TELUS Intervention paragraphs 90-91.

<sup>11</sup> *Ibid.* paragraph 91.

<sup>12</sup> CRTC, Communications Monitoring Report 2017, p.294

<sup>13</sup> *Ibid.*, p.294

<sup>14</sup> *Ibid.*, p.294

access to wireless spectrum, investments increased from \$2.1 billion to \$2.3 billion, an increase of 8.7%, from 2015 to 2016<sup>15</sup>.

25. Investment is not restricted to the national mobile wireless operators. Regional providers are also making significant investments in their wireless networks in order to improve quality and coverage, even with network sharing arrangements in place. For example:

- As of the spring of 2014, it was estimated that new facilities-based wireless carriers had invested over \$3 billion since the 2008 AWS auction in mobile wireless assets.<sup>16</sup>
- Eastlink operates in primarily smaller communities and rural areas, offering access to its LTE network throughout rural Nova Scotia and PEI and it continues to build in Newfoundland, New Brunswick, and northern Ontario.<sup>17</sup>
- Shaw has spent well over \$2 billion to acquire Freedom Mobile and upgrade its network.<sup>18</sup>
- Videotron's LTE network reaches more than 90% of the population of the Province of Québec and the Greater Ottawa Area.<sup>19</sup>

26. The above-referenced investments are part of the close to \$45 billion invested by wireless networks operators over the years to build Canada's wireless infrastructure. And even with 99% of Canadians having access to wireless services, there is continuing demand for further significant investment. This investment is required to deliver wireless services to the remaining 1% of Canadians, to update networks to the most current and fastest technologies, and to introduce the next-generation of networks.

#### *Need for Continuing Investment*

27. Shockingly, certain parties have submitted that since most Canadians already have access to mobile wireless services, nearly all current and future mobile wireless needs have been met<sup>20</sup>. This "stuck in the present" view ignores what is widely recognized as the need for significant investments to prepare Canada for the revolutionary impact of the next generation of wireless networks, including 5G.

28. Innovation, Science and Economic Development Canada ('ISED') and its counterparts in most other countries have stressed the importance of private-sector investment to enable the development and deployment of 5G. It is understood that 5G will not only be innovative and transformational, it will be disruptive. It will change the manner in which all

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<sup>15</sup> *Ibid*, p.219

<sup>16</sup> Shaw Intervention, paragraph 34.

<sup>17</sup> Eastlink Intervention, paragraph 18.

<sup>18</sup> Shaw Intervention, paragraph 34.

<sup>19</sup> Quebecor Media Inc., Annual Report 2016, page 34.

[http://www.quebecor.com/sites/default/files/20F\\_2016\\_Final.PDF](http://www.quebecor.com/sites/default/files/20F_2016_Final.PDF)

<sup>20</sup> See e.g., Ice Wireless Intervention at paragraphs 68 to 71 and PIAC intervention at paragraph 80.



other industries operate, delivering untold benefits to consumers and businesses. 5G will be the underlying infrastructure for the Internet-of-Things (IoT) ecosystem, an ecosystem of connected sensors and processors that will in turn aggregate the computational ability of many devices and connect computational power with massive amounts of data flowing from sensors. 5G is not just innovative in and of itself, it will accelerate innovation and productivity in other industries and important sectors of the economy, such as advanced manufacturing, healthcare, agriculture and transportation.

29. In its Second Intervention, Bell Mobility provided convincing evidence of the benefits and cost of 5G investment.<sup>21</sup> While there is not a consensus on the exact cost of investment required, most experts agree that 5G will require significant resources, with some estimating that required investment may be at “levels that we have never seen before”.<sup>22</sup>

#### *Negative Impact on Investment*

30. Facilities-based carriers have provided clear evidence in this proceeding that expanding the definition of “home network” will have significant negative impact on investment in wireless infrastructure which outweighs any theoretically positive impact on affordability.

31. Bell Mobility’s expert evidence includes a review of international studies that show that mandating MNVO access is associated with a 17% to 33% reduction in investment intensity.<sup>23</sup> Shaw has provided evidence that illustrates mandating roaming access for non-facilities based carriers will negatively impact the “ability and incentive of mobile wireless carriers to invest in wireless facilities while increasing the cost and risk associated with those investments.”<sup>24</sup> Rogers has shown how the European Union (EU) experienced drops in investment when it mandated access to broadband networks and how that experience has led the EU to realize that if big private-sector investments are to occur, for example in the future 5G wireless networks, it cannot repeat the same mistakes.<sup>25</sup>

32. While expanding the definition of “home network” will negatively impact investment by all facilities-based carriers, investment by new entrants will be particularly impacted. As stated in the Sanderson Report:

Regional carriers will have less incentive to invest in their existing wireless networks since MNVOs may gain subscribers at the regional carrier’s expense without the MNVO undertaking comparable investments to provide wireless services. Regional carriers

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<sup>21</sup> See Section 1.1 of Bell Mobility Second Intervention.

<sup>22</sup> *Ibid.* p6, quoting FCC Commissioner Michael O’Reilly.

<sup>23</sup> Bell Mobility Intervention, paragraph E30, referencing the report by Margaret Sanderson (Sanderson Report).

<sup>24</sup> Shaw Intervention, paragraph 54, referencing Emch White Paper.

<sup>25</sup> See Rogers Intervention, Appendix 2, Report provided by Monti Stampa Furrer & Partners (Furrer Report). The European experience is also referenced in Shaw Intervention paragraphs 58-59.

may also opt out to make greater use of public Wi-Fi networks rather than building out their own networks into smaller centres.<sup>26</sup>

33. Concerns over the consequences of mandating Wi-Fi First, or other AWSP, access to roaming is perhaps best summed up by one of Canada's newest entrants, Xplornet:

It is quite possible that this type of sea-change in the wireless market would drive new entrants out of business, thereby defeating ISED's original policy of encouraging facilities-based competition in the marketplace. As a facilities-based carrier about to enter the marketplace, Xplornet is extremely concerned about this possibility.<sup>27</sup>

34. The negative impact on investment would be particularly felt by Canadians in rural areas where the economics of network deployment are already quite challenging. As Eastlink stated in its Intervention, expanding the definition of "home network" "would slow or stop investment in mobile wireless infrastructure in many rural areas".<sup>28</sup>

35. Even the expert evidence provided Ice Wireless supports the proposition that investment by regional carriers will be harmed by regulatory support for resale models.<sup>29</sup>

36. But one does not have to rely solely on the evidence put forward by the facilities-based operators in this proceeding. The Commission's own analysis in Telecom Regulatory Policy 2015-177, Telecom Decision 2016-60, and Telecom Decision 2017-56 concluded that mandated MVNO access to the national carriers' networks would be too harmful to new entrant investments and would not be in the public interest. CWTA submits that the Commission was correct in such a determination and that nothing has changed since those findings.

37. There is also no credible evidence in this proceeding that the reduced investment by facilities-based carriers as a result of broadening the definition of "home network" would be taken up by any other party. While suggesting that Wi-Fi First service providers might invest some of their increased revenues in network infrastructure, Ice Wireless admits that "many Wi-Fi First service providers will never invest in traditional mobile wireless network infrastructure, such as towers, backhaul and spectrum...".<sup>30</sup>

38. Instead, most Wi-Fi First service providers will simply "piggy-back" on the networks built by facilities-based carriers. They will not assume any of the risk for network investment. Continued network investment will rely on the private capital expenditures of Canada's

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<sup>26</sup> Sanderson Report, page 7.

<sup>27</sup> Xplornet Intervention, paragraph 18.

<sup>28</sup> Eastlink Intervention, paragraph 45.

<sup>29</sup> Shaw, Response to Parties' Second Phase Interventions, paragraph 47.

<sup>30</sup> Ice Wireless Second Intervention, paragraph 83.

facilities-based wireless carriers, who under policies of forbearance and facilities-based competition have a history of keeping Canada at the forefront of the global wireless industry with the best wireless networks.

### **Innovation**

39. In the preamble to the Order in Council, the Governor in Council states its belief that “innovative business models and technical solutions can result in more meaningful choices for Canadian consumers, especially those with low incomes who are not well serviced by current market offerings”. With the inclusion of this statement, one must conclude that the Government is of the view that AWSPs, such as Wi-Fi First service providers, may offer such innovative technical solutions and/or business models. Nothing could be further from the truth.

40. As is clearly illustrated in Eastlink’s response to supplement interventions of the other parties<sup>31</sup>, there are two Wi-Fi First service technologies referenced in this proceeding, with one being equivalent to Voice over Wi-Fi and the other to calling/texting via a smartphone app (similar to WhatsApp and Skype). Neither of these technologies are innovative as they simply offer services that already exist and are currently available to customers of facilities-based mobile wireless operators.

41. For example, over-the-top applications like WhatsApp, Skype, and Facebook allow customers to place calls and send messages entirely via Wi-Fi, typically at no additional cost. Ice Wireless claims to offer a similar functionality through its own smartphone application, but instead charges a fee for what consumers can otherwise do for free. Similarly, Voice over Wi-Fi is a feature enabled on newer smartphones that allow Canadian consumers to place calls and send/receive text messages over Wi-Fi, just as Canadians have been using Wi-Fi to send emails and stream data over Wi-Fi for years.

42. In struggling to identify what is innovative about its business model, Ice Wireless states that its business model is targeted to those who use Wi-Fi predominately more than cellular networks, and would only rely on cellular networks “as a fallback when Wi-Fi connectivity is unavailable”.<sup>32</sup> There is nothing innovative about such a service offering. As noted above, the facilities-based carriers all offer low-cost plans that provide unlimited public Wi-Fi access , in addition to voice network access for better quality and more secure calling and texting communications and/or for when Wi-Fi is not available; plus the certainty of high-quality Enhanced-911 service. Some of these plans also include a small amount of data network access for circumstances where no Wi-Fi connectivity is available as well as \$0 handsets.

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<sup>31</sup> Eastlink response to supplemental interventions, November 3, 2017, paragraphs 8-10.

<sup>32</sup> Ice Wireless Second Intervention, paragraph 88.

43. As Eastlink astutely points out, even the so-called innovative feature of Ice Wireless' business model is suspect as, despite its claims that access to the cellular networks of the national carriers is not a significant portion of its service offering, and just a "fallback", it opposes any data caps on its users' access.<sup>33</sup> What it is seeking is akin to mandated resale of the national wireless operators' networks, something that is clearly outside the scope of this proceeding. As such, the proponents of AWSP services are simply attempting to avoid commercial resale agreements and/or avoid purchasing spectrum (and making the corresponding investment in networks and equipment).

44. As noted above, and as the record of this proceeding clearly shows, the Wi-Fi First model will not offer anything "innovative," nor will it offer a service that uniquely provides Canadians with a lower-cost alternative than they have in-market today.

45. True innovation in the Canadian wireless market has, and will continue to, come from facilities-based carriers. Gone are the days of analogue cellular networks. Through investment and innovation by facilities-based carriers, Advanced Long-Term Evolution (LTE) and 4G networks have become a reality in Canada, and only through investment by facilities-based carriers will Canada be able to keep pace with development of the next-generation of networks, including 5G.

46. AWSPs, including Wi-Fi First service providers, will never build networks in the areas they plan to serve as AWSPs as they do not have spectrum in those areas. Wi-Fi First service providers will never launch new or innovative technologies as they do not control either the over-the-top Wi-Fi networks their customers "primarily" rely on or the mobile networks their customers use "incidentally." There is no innovation in relying on Wi-Fi for some traffic offload, whether voice, SMS or data traffic, as such offloading services are already available from all – or almost all – facilities-based wireless service providers.

47. The Commission should not take the assumption in the Order-in-Council – that AWSPs provide innovation – as a given, and should instead see this proposal as what it is, mandatory resale disguised in the rhetoric of innovation. This change in public policy is unnecessary and will undermine the growth of sustainable competition that will rise from the policy of promoting facilities-based carriers.

### **Urban/Rural Divide**

48. Canada's mobile wireless carriers continue to expand their broadband networks to rural and remote areas of Canada which supports the objectives of ISED's *Connect to Innovate* program. The fragile economics of serving these communities will be weakened by a new wholesale wireless framework that will allow service providers to avoid their own investments by exploiting the investments of their competitors. Expansion to these rural

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<sup>33</sup> Eastlink response to supplemental interventions, November 3, 2017, paragraphs 11-13.

and remote communities will be the first to be curtailed since the carriers will have less cash flow and it is hard for facilities-based carriers to earn a return on these investments.

49. Since the plans proposed by the Wi-Fi First providers will not address the needs of low-income Canadians, and mandated Wi-Fi First wholesale roaming will hurt investment (especially in rural areas), the impact would be particularly harmful for low-income Canadians living in rural areas. The reduction in rural network investment would also mean that they would not have the option of obtaining access to the most advanced broadband and wireless networks, and would be precluded from participating fully in the digital economy. It is notable that without robust quality broadband and wireless networks in rural areas, the Wi-Fi First model would likely only be targeting the urban centres.

### **Cyber Security and Network Reliability**

50. As explained in CWTA's first Intervention, given Canada's digital economy, network security and reliability have never been more important than today. Continued investment in facilities is therefore 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 with technology that ensures the security of the radio communications function to prevent intruders from eavesdropping on communications or accessing information. AWSPs do not make similar investments.

51. Additionally, cybersecurity is a top priority of policy makers and the industry. As mentioned above, the Wi-Fi First model raises concerns about cybersecurity. Wi-Fi First services require that the majority of calls, messages, and data use will occur over public Wi-Fi connections, including non-carrier Wi-Fi which is less secure from cybercrimes than mobile wireless networks. The public interest would not be served by encouraging Canadians to utilize risky Wi-Fi First services.

### **Conditions of Entry**

52. As noted above, the evidence of this proceeding shows that expanding the definition of "home network" to create a new mandated wholesale roaming, such as Wi-Fi First roaming, will not have a positive impact on the affordability of retail mobile wireless services to consumers in Canada. Additionally, the record of this proceedings clearly establishes that any such expansion of the definition of "home network" will have a significant negative impact on investment in wireless infrastructure that outweighs any theoretically positive impact on affordability (of which we submit there is none).

53. As there is no demonstrable benefit to consumers by mandating AWSP roaming, it is not necessary for the Commission to consider whether the negative impact on investment could be mitigated by imposing conditions on such mandated roaming.

54. If, notwithstanding this evidence, the Commission decides to expand the definition of “home network” to include Wi-Fi, or any other form of connectivity, then conditions on such access must be carefully crafted and scrupulously implemented.

55. As noted above, the scope of this proceeding is limited to considering whether to include Wi-Fi or other forms of connectivity in the definition of “home network” **for the purposes of the mandated wholesale roaming regime**. As such, conditions such as usage caps, roaming rates and other conditions that are contemplated by the Order in Council must be carefully crafted to ensure that any access granted to the facilities-based wireless networks maintains the principle that such access is incidental only.

56. In addition, the terms and conditions placed on any new mandated wholesale roaming must be focused on achieving the objectives of the Order-in-Council; namely to mitigate the negative impact on investment in wireless infrastructure.

57. CWTA agrees with several other parties to this proceeding who submit that designing a roaming regime that would adequately mitigate the negative impact on investment would be extremely difficult, if at all possible. While suggestions for certain terms and conditions have been proposed in this proceeding, it is clear that there remain many unanswered questions.

58. Several parties have suggested that one or more additional secondary proceedings would be required to establish the conditions for mandated Wi-Fi First roaming. CWTA agrees.

59. CWTA notes that most parties in this proceeding agree there is no reason that any wireless service provider – regardless of model – should be exempted from the Enhanced 9-1-1 rules for wireless service providers. Nevertheless, E9-1-1 conditions should be explored further in a secondary proceeding.

### **Conclusion**

60. The Order-in-Council takes into consideration three paragraphs of 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 and secure 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.

61. AWSPs, including Wi-Fi First service providers, will not be an effective means of addressing any perceived affordability issues in the retail wireless market. Any theoretical benefits they may have will not outweigh the harm to network investment.

62. The Commission should maintain its previous decisions and maintain its policy of encouraging facilities-based competition, which has resulted in the fastest, most extensive 4G wireless networks being deployed throughout the country and increasing competition. In this way, all Canadians, including low-income Canadians and those in rural areas, will continue to be able to access Canada's world class services from the reliable service provider of their choice at affordable prices.

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