



**WE'RE DIFFERENT.
IN A GOOD WAY.**

TekSavvy submission

to

Competition Bureau Market Study: Competition in Broadband Services

Abridged version, published February 25, 2019

On May 10, 2018, the Competition Bureau launched a market study to look into how consumers purchase Internet services in Canada. Their original Market Study Notice is attached in an Appendix to this document.

TekSavvy's original submission to the Competition Bureau on September 4, 2018 included confidential information.

TekSavvy published this abridged version on February 25, 2019. While some specific issues in the market have changed in the intervening six months, we limited our changes in this public version to removing confidential information and correcting minor errors, and did not update the content of our submission.



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A Introduction

1. When they go shopping for Internet service, most Canadians today have the choice of at least several Internet service providers: There is generally an incumbent local telephone company, and an incumbent local cable company, each possibly with their main brand and a flanker brand. There are competitive service providers that don't run their own last mile facilities to connect to premises, but rather buy access to the last mile from both telephone and cable incumbents on a wholesale basis. And, depending on the location, there may be other service providers using other facilities, such as satellite or fixed-wireless providers.
2. However, even with all of that choice and often competitive pricing, as the Competition Bureau noted in its Market Study Notice¹, "87% of retail Internet subscriptions in Canada were purchased from a traditional telephone or cable company", based on the 2017 CRTC Communications Monitoring Report. With that as a backdrop, the Competition Bureau asks in its market study: "Are resellers fulfilling their role in placing increased competitive discipline on traditional telephone and cable companies? Or are these figures a symptom of a marketplace that could function better?"
3. The answer is clear: Wholesale-based service providers use the wholesale market that is available to them to the best of their abilities, but the market is fundamentally designed in a way that allows incumbents to disadvantage competitors to their own benefit.
4. Market power is the ability to increase prices in the market above the competitive level. In the wholesale network access market, incumbent carriers not only have market power, but as providers of the wholesale inputs for competitive service providers, they also have a powerful role as gatekeepers for the competitive market. Incumbents exercise their market power over the wholesale market by raising input prices, maintaining barriers, or cutting off supply to competitors, which impairs competitors' ability to actively compete. The cumulative effect of those barriers and limitations is to reduce competition, reducing choice and increasing prices for consumers. To the extent that competitors can independently introduce efficiencies and innovations to improve our competitive position, carriers can always undermine us with exclusionary anticompetitive practices.
5. In this submission, we describe many barriers to wholesale competition. Many of those issues are, at least to some degree, within the scope of the CRTC. TekSavvy and other wholesale-based providers could raise each of these concerns with the CRTC and attempt to clarify or change rules to reduce those barriers or to limit their impact. Indeed, as resources permit, we do raise concerns with the CRTC and we are actively involved in meetings of the CRTC Interconnection Steering Committee (CISC).
6. However, it must be said that the many barriers we face are fundamentally a result of the structure of the wholesale market. In particular, incumbent carriers both control the inputs for wholesale competition and benefit in the retail market by limiting those inputs. Until incumbents and competitors each use the same wholesale inputs to provide retail

¹ *Market Study Notice: Competition in Broadband Services*, 10 May 2018, at <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04360.html>.

services, carriers will continue to impose barriers on competitors, and Canada will not have an efficient and effective competitive market for broadband wireline services. Structural or functional separation is a sweeping change that could rebalance incentives to provide an equal playing field to all retail players and disincentives to preference one's retail business over wholesale business. If structural or functional separation is not possible, then there must be regulatory changes to address the negative end-user impact, and to reduce the disproportionate power of incumbents to propose and implement arbitrary measures in the wholesale market. There continues to be a negative impact on wholesale-based providers' end-users and real challenges for wholesale-based providers to be vigorous competitors in the broadband Internet market. Without systemic change, the competitive wholesale broadband industry in Canada and its end-users will suffer by a thousand paper cuts.

7. While the Canadian Radio-telecom and Television Commission ("CRTC") regulates the wholesale framework, the regulatory regime as a whole systemically puts competitors at a competitive disadvantage:
 - Incumbents are able to limit and complicate the provision of wholesale services;
 - Incumbents are able to inflate wholesale rates set through the regulatory costing process;
 - The retail offerings of the same incumbent are sold at a lower price than the wholesale rates proposed by the incumbents;
 - Incumbents are able to delay wholesale access to new services, which is where consumer demand is shifting;
 - Wholesale-based providers necessarily have to give their entire customer lists to incumbents;
 - Incumbents created flanker or fighter brands to directly compete with wholesale-based providers with retail prices lower than the tariffed wholesale rates.
8. TekSavvy provides an inside view of how the wholesale wireline broadband industry operates. First, we explore TekSavvy's growth milestones since it began offering competitive telecommunications services. Next, we discuss how incumbents—in their role as providers of wholesale services—introduce and maintain barriers for wholesale-based competitors that disadvantage those competitors, ultimately limiting or excluding the availability of services for consumers. We discuss three general categories of these barriers: Barriers that flow from the regulatory regime, including gaps and regulatory challenges; operational barriers; and technological barriers.
 - A.I Who is TekSavvy?
 9. TekSavvy Solutions Inc. ("TekSavvy") is an independent Internet and voice service provider based in Chatham, Ontario, and Gatineau, Quebec. TekSavvy has been proudly serving consumers with telecommunications services for 20 years, winning numerous awards for the quality of its experience and for its commitment to fighting for and upholding consumers' rights online.
 10. TekSavvy provides Internet and voices services to over 300,000 residential and business customers in every Canadian province.

11. TekSavvy offers Internet over wholesale access network services provided by seven third parties across Canada. Currently, TekSavvy's network utilizes wholesale access via three DSL networks and four cable networks. TekSavvy has recently expanded its network, adding two DSL networks and one cable network, on which TekSavvy intends to offer consumers Internet service soon.
12. TekSavvy also offers its own facilities-based fixed-wireless network access within a growing number of underserved communities in southwestern Ontario.
13. Recently, TekSavvy announced that it would be building a high-speed fibre broadband network in Chatham-Kent to connect more than 38,000 residences and businesses in the region.²

A.II Clarification: TekSavvy is not a “reseller”

14. The Bureau asks whether resellers are fulfilling their role in placing increased competitive discipline on traditional telephone and cable companies. To clarify, TekSavvy is **not** a “reseller” of Internet services. For a reseller relationship, the wholesaler supplies the product, and the reseller markets, sells, and distributes that product to the end-user.
15. High-speed wireline access services are offered on a wholesale basis. The wholesale tariff, proposed by each incumbent network carrier and approved by the CRTC, sets terms for wholesale access and supply, and wholesale rates:
 - a monthly access rate for each subscriber line; and
 - a monthly capacity rate, which is for the size of the point of interconnection with the wholesale carrier, for capacity to access the carrier's network.
16. The tariff also sets out any fees for service installation and end-user hardware requirements.
17. TekSavvy and other independent Internet service providers gain access to carrier networks at the network layer.³ As discussed further below, TekSavvy invests in

² *TekSavvy and Chatham-Kent plan joint effort for high-speed fibre broadband across municipality*, 23 July 2018, <https://teksavvy.com/en/why-teksavvy/in-the-news/press-releases/2018-press-releases/teksavvy-and-chatham-kent-plan-joint-effort-for-high-speed>.

³ See https://en.wikipedia.org/wiki/Network_layer. See also McTaggart, Craig, *Governance of the Internet's Infrastructure: Network Policy for the Global Public Network*, 1999, University of Toronto, LLM dissertation, at footnote 219 <https://tspace.library.utoronto.ca/bitstream/1807/13585/1/MQ46034.pdf> :

“...Layer 4, the transport layer, controls the movement of data between systems, defines protocols for structuring messages, and supervises the validity of transmissions by performing error checking; Layer 3, the network layer, defines protocols for routing data by opening and maintaining a path on the network between systems to ensure that data arrives at the correct destination node; Layer 2, the data-link layer, defines the rules for sending and receiving information from one node to another between systems: Layer 1, the physical layer, governs hardware connections and byte-stream encoding for transmission. It is the only layer that involves a physical transfer of information between network nodes.”

transport facilities as well as networking, routing, and caching equipment at the point of interconnection to manage end-user traffic, and TekSavvy enters into peering and routing arrangements for that traffic. TekSavvy also solely determines how to package and price service offerings to residential and business consumers. TekSavvy provides services directly to end-users and has a direct customer relationship with those end-users; its wholesale access network providers do not have any relationship with TekSavvy's end-users. TekSavvy is not merely a reseller of Internet services, as we do not resell the wholesale services of incumbent carriers or even their Internet services. TekSavvy's end-users' traffic never travels through the incumbent's Internet peering arrangements. Rather, we use their access network as one input for our own broadband services.

18. ISPs like TekSavvy are sometimes referred to as "independent ISP" or "competitive ISP", but these terms do not capture the nature of these entities' relationship with wholesale carriers or the range of non-Internet services that we provide. Australia's wholesale broadband access network, NBN Co, calls retail service providers who offer services to consumers using wholesale access from NBN Co's network "access seekers".⁴ In this submission, we refer to service providers like TekSavvy as wholesale-based service providers.

A.III Study Notice Question 8a: Have resellers been able to deploy competitively effective service offers?

19. TekSavvy has deployed service offers over seven wholesale networks, both DSL and cable technology, serving consumers in all provinces across Canada. As noted above, TekSavvy recently expanded its network to add three wholesale networks, which will be deployed for consumer offerings soon.
20. As detailed below, TekSavvy faces regulatory, operational, and technological barriers imposed and maintained by the underlying incumbent carriers and, as a result, face significant challenges in deploying competitively effective service offers. Overall, TekSavvy continues to be a successful competitor in a challenging market, but that has been despite the many challenges we face, and not because the framework gives rise to an efficient market.
21. Based on our experience serving customers, the value points that matter to TekSavvy's customers are:
 - retail price, especially price transparency so there are no surprise fees or an unreasonable "regular price" following a promotional period;
 - flexibility, *i.e.* not being locked in to long term contracts with cancellation penalties;
 - speeds, especially download speeds; and
 - getting an installation scheduled for the date requested.

⁴ Glossary: "Access Seeker" <https://www.nbnco.com.au/utility/glossary-of-terms.html>.

A.IV Study Notice Question 8b: How have consumers reacted to new competitive alternatives?

22. TekSavvy offers other telecommunications services (telephone – both traditional and Voice over Internet Protocol), but does not offer a tied selling or bundling discount for customers who purchase both Internet and phone services.
23. Based on our residential customer service experiences, customers value the flexibility of month-to-month contracts for telecommunications services, and would prefer to avoid fixed-term contracts. However, customers are willing to enter into fixed-term contracts if they can achieve their desired price point with aggressive bundling discounts offered by incumbent carriers, even if that bundle includes services that they do not want and will not use (e.g. a telephone service).

A.V Context: Disaggregated access and Fibre-to-the-Premises services

24. It must be acknowledged that the wholesale wireline broadband industry in Canada is in the midst of a major structural change from aggregated to disaggregated access, and from legacy and FTTN services to FTTP services.
25. For the past several years, wholesale-based providers have had access to broadband access services, including Fibre-to-the-Node (FTTN) on an aggregated basis, meaning that a competitor can access a large part of an incumbent's serving area—or, in most cases, all of that area—through a single point of interconnection (POI). Under this model, the transport costs to aggregate the network to one POI is factored in to the access and capacity rates. However, under the aggregated framework, wholesale-based providers do not have access to the incumbents' newer Fibre-to-the-Premises (FTTP) facilities.
26. Over the past few years, the CRTC has developed a framework to allow wholesale-based providers to have access to FTTP facilities, but only on a disaggregated basis.⁵ Many elements of that new disaggregated wholesale framework have not been finalized, including service rates. TekSavvy is exploring our options with respect to migrating to the disaggregated framework but, at this time, we are operating exclusively under the aggregated framework. As a result, other than where we specifically address FTTP issues, the concerns raised in this submission arise in the aggregated context, even while the industry prepares to migrate to the disaggregated framework. None of the concerns discussed here will be addressed by the disaggregated framework. The same regulatory gaps will be exploitable by the incumbents; the same operational barriers will be in place; and even the same technical barriers will be present, despite the move to FTTP facilities.
27. In short, these concerns are informed by our experience in the old aggregated wholesale network access framework, but they remain unaddressed in the new disaggregated framework. In fact, we expect that these concerns will be exacerbated in the disaggregated framework as there will be more points for the incumbents to introduce

⁵ *Review of wholesale wireline services and associated policies*, Telecom Regulatory Policy CRTC 2015-326, 22 July 2015, <https://crtc.gc.ca/eng/archive/2015/2015-326.htm> [the “disaggregated fibre decision”].

barriers, including operational delays, informational asymmetries, and technological gamesmanship.

28. At the same time, since access to FTTP is tied to the new disaggregated framework, there is a huge investment and a significant amount of work to be done for a wholesale-based provider to begin to offer FTTP services. Bell has also included significant delays, estimating it will take years to build out the required interconnection facilities. Meanwhile, incumbents are signing customers up for FTTP services on fixed term contracts with promotional prices that are significantly lower than both the proposed wholesale rates and, in some cases, the prices that the current aggregated wholesale rates would allow TekSavvy to offer.⁶ Again, they impose barriers on competitors' ability to move toward the disaggregated framework, and benefit by locking down the retail market.
29. Bell's aggressive retail pricing on FTTP services presents an insurmountable barrier to competitors' ability to even make the investments necessary to enter the market. In order to fully commit to the disaggregated framework, TekSavvy would need to invest capital on the order of tens of millions of dollars for new transport, interconnection, migration of users, and other costs, before even considering monthly rates and capacity. The business case for that investment is not clear when, ultimately, the incumbent's retail price for fibre that is already in the market is lower than the proposed wholesale rate that TekSavvy would pay for those services. With the current proposed wholesale rates and Bell's own prices in the market, we would not be able to offer a competitively priced retail FTTP service.

B Business Trends

B.I TekSavvy Growth Milestones

30. TekSavvy began offering Internet services using wholesale access in 2002. Between 2010 and 2015, TekSavvy saw a large increase in subscribers as it added more wholesale networks, expanding its service offerings to a larger geographic consumer market. Over time, TekSavvy's subscriber growth has seen increased pressure on the retail side from many angles:
- the introduction of flanker brand competition;
 - more aggressive incumbent marketing on higher speeds;
 - introduction of new speeds on a head-start basis, which can cause further delays for TekSavvy to offer the same speeds if new hardware is required⁷; and
 - an exclusive head start on introducing new fibre broadband technology, which TekSavvy still does not have access to.

⁶ For more detail about the proposed FTTP wholesale rates, see section B.III.d.

⁷ For example, Rogers introduced 1 Gbps service in Tariff Notice 43 on December 16, 2015, but required end-users to have a DOCSIS 3.1 modem to access that speed. Since the wholesale market has not yet identified a DOCSIS 3.1 modem that is available in sufficient volume, that service speed remains unavailable in the competitive market.

31. The following events are key regulatory and competitive environmental milestones that set the context for TekSavvy's growth path.
- **2002:** TekSavvy began to offer Internet services over DSL wholesale access in Ontario and Quebec.
 - **2008:** TekSavvy began to offer Internet services over DSL wholesale access in BC and Alberta. TekSavvy also began to offer traditional telephone service, a white-label plain old telephone service (POTS).
 - **2010:** TekSavvy began to offer Internet services over cable networks in Ontario and Quebec.
 - **2011:** TekSavvy began to offer Internet services over DSL wholesale access in the Maritimes, and on cable in BC and Alberta. TekSavvy also began to offer TekTalk, its Voice over Internet Protocol telephone service.
 - **2011-2013:** TekSavvy's fast growth was due to large volume of new orders on a wholesale cable platform in Ontario. That carrier was not able to keep up with TekSavvy's new order demands, especially in 2011 and 2012 when TekSavvy customers experienced lengthy installation delays.⁸
 - **July 2015:** CRTC directed incumbent carriers to begin implementing competitor access to fibre technology on a disaggregated basis.⁹ Over three years later, competitive ISPs still do not have access to incumbents' fibre networks. Meanwhile, incumbent carriers are selling fibre broadband access directly to consumers in major metropolitan areas across Canada, and expanding their fibre networks.
 - **November 2015:** Incumbents expanded their flanker brands' products offerings to include wireline Internet. These flanker brands began to offer wireline Internet services on a discount basis, with aggressive retail pricing that undercuts any reasonable retail pricing given existing wholesale rates. Moreover, flanker brands offer services or features that TekSavvy does not have access to on a wholesale basis, like self-installations, same-day and next-day installations, and fibre technologies. Flanker brands positioned themselves as an alternative to competitive service providers, in some cases drawing a direct comparison to TekSavvy, and offers products that TekSavvy is not able to match. See Consumer Experience Scenario #1 discussing the customer experience with flanker brands and its competitive effects on independent ISPs like TekSavvy.

⁸ The delays experienced by wholesale-based providers for cable services during this period served as the impetus for TekSavvy and CNOC to file the Part 1 Application with the CRTC in September 2013 that led to the "Omnibus" decision, Telecom Decision CRTC 2015-40, 12 February 2015, and the *Review of the competitor quality of service regime*, Telecom Regulatory Policy CRTC 2018-123, 13 April 2018, both of which are now in CISC processes.

⁹ See the disaggregated fibre decision at note 5.

- **October 2016:** CRTC dropped interim aggregated wholesale high speed access rates, stating that the then-current rates were not conducted in accordance with costing principles and that wholesale costs were overstated.¹⁰
- **December 2016:** TekSavvy passed back to consumers savings from the CRTC's reduction of interim wholesale rates. TekSavvy dropped its retail pricing, reducing prices for 98% of TekSavvy's existing customers and offering reduced prices for any new customers. This slowed TekSavvy's churn going into early 2017, but churn picked back up after a couple months.
- **January and February 2018:** Incumbent flanker brands began to aggressively market in Toronto, focusing on low speeds and aggressive retail pricing. Incumbents' main brand marketing focuses on heavy discounting from regular prices on high-speed packages, bundling, and cross-promotion discounts based on a fixed-term contract. See Consumer Experience Scenario #2 discussing the consumer experience with incumbent marketing and its competitive effects on independent providers like TekSavvy.
- **April 2018:** Incumbents more aggressively promote their fibre products, using heavy discounts on regular price tied to fixed-term contracts. Incumbents currently exclusively sell fibre broadband services in the market, despite the CRTC's direction that fibre ought to be offered on a wholesale basis. See Consumer Experience Scenario #3 discussing the customer experience when requesting fibre broadband technology from TekSavvy.
- **May 2018:** TekSavvy introduces the best promotion it has ever had in an attempt to drive sales against increasing pressure of flanker brands. Importantly, pricing of these promotions is only possible because of off-tariff (non-regulated) wholesale agreements with incumbent carriers. For more about off-tariff agreements, see section C.I below.

B.II Costing process delay and TekSavvy Investments

32. Incumbent carriers propose wholesale rates, all of which are currently interim. The wholesale tariff, proposed by each incumbent network carrier and approved by the CRTC, sets terms for wholesale access and supply, and wholesale rates:

- a monthly access rate for each subscriber line; and
- a monthly capacity rate, which is for the size of the point of interconnection with the wholesale carrier, for capacity to access the carrier's network.

B.II.a CRTC's approach to wholesale rate-setting

33. The CRTC's general approach to setting rates for telecommunications services is based on the use of incremental costing, which is then supplemented by a markup to establish

¹⁰ *Tariff notice applications concerning aggregated wholesale high-speed access services – Revised interim rates*, Telecom Order CRTC 2016-396 <https://crtc.gc.ca/eng/archive/2016/2016-396.htm>.

the rate. Company-specific costs are generally used in the calculation of costs, which are incremental, forward-looking and causal to the provision of the service.

34. All incumbent wholesale carriers have to provide a cost study in support of proposed service rates. These cost studies are to use costing principles and concepts approved by the CRTC. The Commission relies on the cost study filed in support of the proposed rate to ensure that the rates approved are: (i) based on the costing principles and concepts approved by the CRTC; and (ii) are just and reasonable.
35. Most company-specific costing information included in the cost studies is filed confidentially, so competitors like TekSavvy and interveners rely on the CRTC to do the necessary due diligence to ensure that the approved rates are just and reasonable.

B.II.b Costing principles

36. The costing principles and concepts approved by the CRTC are documented in Regulatory Economic Studies Manuals of the large incumbent carriers.¹¹ The Manual makes it clear that costing studies are to be developed in accordance with generally accepted economic concepts and methods and are to incorporate incremental costing principles and methodologies approved by the CRTC.
37. Service rates are to be based on Phase II costs plus a specified markup. Phase II costs are generated using a long-run incremental costing methodology which estimates the cost of serving an additional increment of demand for a particular service. Markup is the amount that is added to the CRTC-approved costs to set the cost-based rate for a service. The difference between the rate and the CRTC-approved costs serves as a contribution towards the company's fixed and common costs and a profit margin.

B.II.c Incumbents have previously overstated costs

38. In October 2016, the CRTC reduced interim rates to ensure that the interim rates for wholesale high-speed aggregated services are not based on overstated costs.¹² In its Order, the Commission expressed concern that certain wholesale providers had not conducted their cost studies in accordance with costing principles and deviated from Phase II capacity costing methodology, resulting in an overstatement of costs.

B.II.d Costing process is not accessible or transparent to competitors

39. The costing process is very technical and requires economic expertise and familiarity with costing principles. Moreover, company-specific costing information is filed in confidence with the CRTC, so competitors or public interveners are not able to participate meaningfully.
40. Incumbents are incentivized to propose high wholesale service rates, since they compete directly against competitive ISPs for retail customers. Moreover, costing exercises do not factor in whether an incumbents' network was built efficiently, or how

¹¹ These Regulatory Economic Studies Manuals are available on the CRTC's website here: https://crtc.gc.ca/PartVII/eng/2008/8638/c12_200805906.htm .

¹² *Tariff notice applications concerning aggregated wholesale high-speed access services – Revised interim rates*, Telecom Order CRTC 2016-396, 6 October 2016.

they price the same services for retail sales to consumers. As incumbents have become vertically integrated and consolidated broadcasting, distribution, and other cross-promotional assets, it is not clear whether their costing exercises appropriately isolate and identify the costs for their broadband network, and appropriately pass along any costing efficiencies from vertical integration into broadband wholesale network costing.

B.II.e Costing process is lengthy, and interim rates means delayed uncertainty for competitors

41. The costing process is lengthy and can take years to finalize. In some cases, wholesale rates have been interim since 2014, and currently all wholesale rates that TekSavvy pays are interim. The Commission assesses whether retroactivity will apply when wholesale service rates are set on a final basis.
42. With wholesale access rates and capacity rates being the largest input cost for competitive ISPs like TekSavvy, cost certainty is mission critical. Without cost certainty for wholesale rates, competitive ISPs must conservatively account for the possibility of final rates being set higher than interim rates, and a possible application of retroactivity.
43. Delays in determining final costs impact TekSavvy's ability to make long-term decisions regarding capital investments, which in turn inhibits its ability to innovate in the marketplace.
44. Stable, fact-based costing is needed so that competitive ISPs can effectively monetize earned revenues into capital, allowing them to scale up and grow into more vigorous competitors serving consumers. Costing decisions must be made in an economically timely manner, so that access to capital is not unduly delayed for competitors.

B.III Wholesale rates undercut by incumbents' own retail pricing

B.III.a TekSavvy's margins are as modest as they can be

45. TekSavvy's margins are as modest as they can be. Technical inputs are regulated wholesale access rates, regulated capacity rates, and TekSavvy's networking costs. TekSavvy's operational costs include the costs of running its service, support operations, and marketing.”.
46. TekSavvy has advertised its approach as being “Different. In a good way.” To us, this means treating customers fairly and honestly. TekSavvy's best possible product prices are as advertised on its website, such that TekSavvy's best offer is easily available and transparent to both consumers and the competitive market.
47. Telecommunications consumers have the general perception and expectation that they can negotiate a lower price or price match to other offers by competitive service providers. TekSavvy's pricing is the same for and transparent to all new customers. TekSavvy cannot match lower prices mentioned by customers on a sales call.
48. If a customer asks TekSavvy to match an incumbent competitive offer that is lower than the incumbent's regulated tariffed wholesale rate, TekSavvy is not able to match that offer without incurring a loss.

B.III.b Incumbent primary brand retail offers

49. The incumbents undercut the wholesale rates they propose through the CRTC's costing processes with their own retail pricing. For example, incumbents' main brands often focus on promoting a few higher speed packages with aggressively discounted regular price on a one or two-year contract. Heavily discounted retail packages cannot be matched with available wholesale rates. If wholesale rates were properly costed, incumbents' retail services should not be priced below operational margins for competitive ISPs' services. When incumbents offer retail services at prices lower than wholesale rates, competitive ISPs' margins are squeezed.
50. See Consumer Experience Scenario #2 discussing the customer experience with incumbent marketing and its competitive effects on independent ISPs like TekSavvy.

B.III.c Flanker brand retail offers

51. Incumbents have deployed their discount flanker brands to sell wireline Internet services, creating the illusion of more competitors in the retail broadband market. Flanker or fighter brands are secondary brands designed to combat and eliminate low-price competitors, while protecting a company's premium-price offerings. Incumbents operate these flanker brands outside the regulated wholesale market – flanker brands operate without the wholesale rates and wholesale processes they require TekSavvy and other competitive ISPs to follow.
52. Flanker brands draw direct comparisons to TekSavvy in their websites and in their marketing. They are designed to create a general consumer impression that the flanker brand operates on equal footing to TekSavvy, when it does not. These ads underline that flanker brands are designed to compete directly with TekSavvy and other wholesale-based providers, but does not compete directly against its own incumbent brands.
53. Moreover, consumers do not understand that flanker brands are an extension of incumbents, and are not subject to the same restraints of TekSavvy and other competitive ISPs. Consumers assume that TekSavvy and other competitive ISPs are equally footed to compete with flanker brands, and expect that TekSavvy will be able to deliver the same services or installation features at the same price.
54. When flanker brands offer lower prices on lower speed packages, this creates the appearance of short-term competition for consumers. But the long-term competitive effect of flanker brands' aggressive discount pricing is a weakening of competition by competitive ISPs, as their margins are squeezed and revenues reduced. In the long-term, competitive ISPs will be reduced to ineffective competitors against incumbents and may face tough decisions about elimination from the marketplace. This will dampen the vigour of competition in the long-term.
55. Flanker brands can offer installations on the same schedule as incumbent brands (same-day or next-day), DIY installations that do not involve a technician visit to the customer's home, and GPS tracking for a technician's ETA for appointments where a technician is required for an installation. These features are not made available to competitive ISPs through the wholesale regime. The availability of same-day or next-day install and DIY installation are key features affecting a consumer's service provider

choice, as consumers value getting working Internet service as quickly as possible, with the least interruption to their daily life (e.g. consumers would rather avoid taking time off work to stay home for an install appointment). The disparity between services available to competitive ISPs and flanker brands has the competitive effect of reducing competitive ISPs' revenues and raising rivals' costs.

56. Finally, some flanker brands offer broadband services over fibre technology, which competitors like TekSavvy still do not have meaningful access to under the wholesale regime. Flanker brands' offer for fibre broadband services excludes competitive ISPs from the market.
57. See Consumer Experience Scenario #1, discussing the customer experience with flanker brands and its competitive effects on independent ISPs like TekSavvy.

B.III.d New technologies: retail rates for fibre significantly lower than proposed wholesale rates

58. Incumbents have also begun offering fibre broadband access to consumers, while competitors like TekSavvy do not yet have access to their fibre platform. Offers for fibre broadband services are marketed using heavy discounts on regular price tied to fixed-term contracts.
59. Notably, Bell had recently marketed its 1 Gbps fibre service for \$74.95/month¹³, while the most recent proposed fibre wholesale access rate was \$121.79/month plus an installation fee of \$247.90.¹⁴ The fastest speed that TekSavvy can currently offer to consumers for under \$75/month is its 150 Mbps cable Internet service in Ontario. When incumbents introduce new services at a low price relative to an existing wholesale service, competitor ISPs' margins are squeezed, and competitive ISPs are excluded from the market as they do not have meaningful access to introduce a competitive new service.
60. See Consumer Experience Scenario #3, discussing the customer experience when requesting fibre broadband technology from TekSavvy.

B.III.e Off-tariff agreements

61. As noted above, TekSavvy's most recent promotion, which resulted in the largest growth on that platform in four years, was only made possible with an off-tariff agreement with a wholesale provider. Other wholesale providers also seek to reach off-tariff agreements with TekSavvy. These off-tariff agreements provide TekSavvy with reduced wholesale rates.

¹³ Today, according to their website, Bell is offering 1 Gbps service for \$74.95/month over six months, with a regular price of \$99.95/month, plus a \$59.95 activation fee, including hardware.

¹⁴ Bell's proposed tariff for Disaggregated Broadband Service, CRTC 7516, Item 151.5.a, page 61.16, version 3, issued 19 March 2018. Notably, this access rate does not include capacity or interconnection and transport costs. Capacity for a 1 Gbps service at Bell's proposed rate of \$15.04 per 50 Mbps unit, adds an additional \$300 per month, which in practice would be adjusted downward since capacity is allocated for the network as a whole at levels that take into consideration actual rates of use.

62. The existence and prevalence of off-tariff agreements for competitors like TekSavvy call into question the adequacy of the costing process in the regulatory regime for wholesale services. We discuss off tariff agreements in further detail below.

C Regulatory Gaps

63. Regulation lies at the heart of the competitive market in Canada. Indeed, competition only exists at all in the broadband wireline industry because the CRTC required first ILECs¹⁵, and then dominant cable carriers as well¹⁶, to make their services available on a wholesale basis in order to address their market power. Rates, terms, and processes for wholesale wireline broadband services are established in tariffs; CRTC decisions, policies, and regulations; various process documents established by the CRTC Interconnection Steering Committee (CISC) and its subcommittees. Taken together, these constitute the regulatory framework for wholesale broadband wireline services.
64. Other elements of wholesale broadband wireline services are established outside of regulation, such as in each carrier's own unilaterally imposed service terms¹⁷, off-tariff agreements, and various carrier-specific policies and practices. Still other elements of the wholesale services are not established at all, and are instead either not provided as a wholesale service or are provided on *ad hoc* terms with no commitments by the incumbents.
65. To the extent that regulations allow the wholesale-based industry to operate at all, create obligations on the incumbents, and clarify requirements, they promote competition. However, there are unregulated service elements that are critical for competitive service providers to operate, and which are controlled by incumbents, providing an opportunity for incumbents to limit wholesale inputs and create disparities in the services provided by incumbents and competitors, ultimately reducing the quality of competitive services and limiting choice for rational consumers.
66. There are many areas where unregulated service elements present barriers to wholesale-based providers. For example, as discussed further below, while some elements related to cable modems are regulated, others are not, making it difficult for wholesale-based providers to plan for modem requirements and to efficiently manage change. In this section of our submission, we discuss two areas where incumbents manipulate wholesale inputs that are outside of the regulatory scope. First, we discuss the interim status of regulated wholesale rates, and the incumbents' use of off-tariff agreements to reduce some rates, while simultaneously proposing and defending grossly inflated rates before the Commission. Second, we briefly touch on two services

¹⁵ *Local Competition Decision*, Telecom Decision CRTC 97-8, 1 May 1997.

¹⁶ *Regulation Under The Telecommunications Act of Cable Carriers' Access Services*, Telecom Decision CRTC 99-8, 6 July 1999.

¹⁷ For example, a carrier's terms may include limits on when a ticket can be escalated, or what details are required for a service order, beyond the requirements in the established regulatory vehicles. An incumbent's terms of service essentially constitute an off-tariff agreement and as such, to the extent they offer worse terms for the competitor than those approved by the CRTC, their binding force is dubious at best. Nevertheless, in practice, these terms establish each incumbent's expectations for various details of how the wholesale service is delivered.

that are provided by incumbents to their retail customers, but that are limited for wholesale services because the incumbents do not see them as being within the scope of the regulated wholesale service: line burials, and services at commercial locations.

C.I Interim rates and off-tariff agreements

67. Many service terms for wholesale network access services are established in the carriers' access tariffs, including service rates for different speeds as well as rates for capacity, installations, service repairs, and interconnection to provide wholesale service in new serving areas.¹⁸ These regulated terms and rates establish the lowest level of service that carriers can provide to a wholesale customer, but the CRTC allows carriers to enter into off-tariff negotiated agreements with competitors for some categories of wholesale services, including wholesale network access services.¹⁹
68. Carriers frequently take advantage of that allowance to negotiate off tariff agreements with wholesale-based providers. As a result, in practice, real wholesale costs are often lower—and in some cases significantly lower—than the regulated rates as approved by the Commission.
69. Until 2012, carriers were required to file those off-tariff agreements with the CRTC for the public record in order to protect against undue preference or unjust discrimination. Essentially, the public disclosure of off-tariff agreements would promote a transparent market where competitors would know the real costs and terms of their competitors' inputs. Following an application from Bell Canada, the CRTC determined in Telecom Regulatory Policy CRTC 2012-359, that the availability of agreements on the public record interfered with the normal operation of the market. Instead, the CRTC determined that it was sufficient for competitors to know of the existence of off-tariff agreements without knowing their contents, and it modified the requirement so carriers are now required only to file summaries of off-tariff agreements for the public record.²⁰
70. The information filed by carriers²¹ generally consists of a description of the agreement, the service rates or terms that were changed, and a brief statement couched in corporate jargon of the reasons why the agreement deviates from the tariff. For example, on February 21, 2018, Rogers filed a letter²² stating that they had entered into an off-tariff agreement with "certain wholesale customers" for TPIA services, that the

¹⁸ For example, for wholesale FTTN service from Bell Canada, see Tariff CRTC 6716, Item 5440.4(2) Monthly rates and service charges, Item 5440.4(3) Capacity Charges, and Item 5410.4(e) Dry Loop rates. For TPIA service on Rogers, see Tariff CRTC 51530, Part G, Item 703.1.5.

¹⁹ *Bell Canada et al.'s application to review and vary Telecom Decision 2008-17 with respect to negotiated agreements*, Telecom Regulatory Policy CRTC 2009-19, 19 January 2009.

²⁰ *Bell Aliant Regional Communications, Limited Partnership and Bell Canada – Application for revised filing requirements associated with wholesale negotiated agreements*, Telecom Regulatory Policy CRTC 2012-359, 3 July 2012.

²¹ Filed under *Bell Aliant Regional Communications, Limited Partnership and Bell Canada: 8663-B54-201200501*, at https://crtc.gc.ca/part1/eng/2012/8663/b54_201200501.htm.

²² 2018-02-22 – Rogers Communications Canada, at https://crtc.gc.ca/public/part1/2012/8663/b54_201200501/3073854.doc.

agreement is in effect from March 1 to June 30, 2018, and that “discounts certain wholesale customers’ rates depending on subscriber volumes.” As a reason why this agreement was necessary, Rogers stated, “This negotiated agreement for the service and service elements identified above provides customer retention and growth in light of increasing competitive pressure.” On July 10, 2018, Rogers filed another letter²³ extending that off-tariff agreement to December 31, 2018.

71. Similarly, on January 15, 2018, Bell Canada filed a letter²⁴ stating that they had entered into a negotiated agreement with “wholesale customers” for their wholesale FTTN service that “discounts... service charge rates and/or administrative charges in certain geographic areas by varying amounts depending on subscriber volumes, for existing [residential and business] end-user accesses.” In other words, they reduced access rates on services for existing end-users provided the wholesale customer met certain targets for subscriber volume. The same day, Bell filed another letter²⁵ describing another agreement that discounts residential FTTN access rates “by varying amounts depending on subscriber volumes”, and reduces residential FTTN dry loop rates for “Legacy migrations and all new subscribers”. The rationale provided for the agreements was almost identical to that filed by Rogers: “This negotiated agreement for the service and service elements identified above provides customer retention in light of increasing competitive pressure.”
72. Similar notices were filed in the past year by TELUS, Québecor, and SaskTel. TekSavvy has knowledge of one other company’s off-tariff agreement in 2018 that does not appear in the required filings.
73. In other words, while they propose and argue for certain rates in the CRTC’s ongoing costing proceeding for aggregated wholesale access²⁶, incumbents at the same time reduce rates on a bilaterally negotiated basis. These negotiated agreements serve several purposes.
74. First, they enable carriers to compete with one another: Since there is both a DSL and a cable incumbent in most regions, then to the extent either can encourage wholesale providers to promote and sell their platform, they win that business away from the other platform.
75. Second, depending on how they structure their agreements, they may create pressure on wholesale providers to maintain their subscriber counts. In short, incumbents use

²³ 2018-07-10 – Rogers, at https://crtc.gc.ca/public/part1/2012/8663/b54_201200501/3172084.docx.

²⁴ 2018-01-15 – Bell Canada, at https://crtc.gc.ca/public/part1/2012/8663/b54_201200501/3046959.docx.

²⁵ 2018-01-15 – Bell Canada, at https://crtc.gc.ca/public/part1/2012/8663/b54_201200501/3046956.docx.

²⁶ *Tariff notice applications concerning aggregated wholesale high-speed access services – Revised interim rates*, Telecom Order CRTC 2016-396, 6 October 2016 [the “aggregated costing decision”]. Under the CBB model, wholesale-based providers must buy sufficient capacity from carriers, which they purchase in blocks of 100 Mbps and pay for on a monthly basis. CBB rates are established in each carrier’s access tariff.

their position as providers of wholesale services to manipulate the wholesale market to their own benefit, and to the detriment of consumers.

76. Finally, one would expect that incumbents only offer discounts on a negotiated basis where existing rates are inflated, allowing them to reduce wholesale rates while retaining some profit margins. As such, the existence of off-tariff agreements may indicate that regulated rates are not set appropriately. This is borne out by the record of off-tariff agreements before and after the CRTC significantly reduced rates for Capacity Based Billing (CBB) in October 2016²⁷. For example, when Videotron's CBB rate was \$2031, they had off-tariff agreements with wholesale-based providers that discounted both access rates and CBB rates depending on end-user growth.²⁸ Videotron offered a similar discount as late as October 12, 2016.²⁹ However, once the CRTC reduced Videotron's CBB rate to \$395.36³⁰, those discounts no longer applied in effect, since wholesale-based providers would always just use the lower regulated rates, regardless of what was in the off-tariff agreement. When Videotron next entered into off-tariff agreements, in September 2017 and July 2018, they no longer discounted CBB, instead discounting interconnection rates³¹ and access rates³².
77. Finally, it must be said that the presence of off-tariff agreements still does not necessarily allow wholesale-based providers to effectively compete with the incumbents' own prices in the market. For example, as noted above, Rogers currently has an off-tariff agreement with "certain wholesale customers" that "discounts certain wholesale customers' rates depending on subscriber volumes". TekSavvy has a sale on our cable services in the territory served by Rogers TPIA services, offering a 75 Mbps service for \$50/month for the first 12 months, down from \$59.95/month. At the same time, however, Rogers is offering their Fido brand's 75 Mbps service for \$32.50/month for the first 12 months, down from \$65/month. Without saying whether TekSavvy is one of the wholesale customers with Rogers' off-tariff agreement, it is clear that we are not able to compete with Rogers' own retail pricing.
78. Altogether, it is clear that incumbents inflate their regulated rates and then use off-tariff agreements to manipulate the market in ways that benefit themselves. If there were fair regulated rates, there would be little to no room for off-tariff agreements for lower rates. Instead, parties could compete independently, knowing that their suppliers were not manipulating their input costs for their own benefit.

²⁷ *Ibid.*

²⁸ 2015-10-05 - Québecor Média inc., at https://crtc.gc.ca/public/part1/2012/8663/b54_201200501/2443468.doc.

²⁹ 2016-10-12 - Québecor Média inc., at https://crtc.gc.ca/public/part1/2012/8663/b54_201200501/2718620.docx.

³⁰ See note 10, the aggregated costing decision, at Appendix 1.

³¹ 2017-09-05 - Québecor Media Inc., at https://crtc.gc.ca/public/part1/2012/8663/b54_201200501/2960964.docx.

³² 2018-07-20 - Québecor Média inc., at https://crtc.gc.ca/public/part1/2012/8663/b54_201200501/3177396.docx.

C.II TPIA service limits: burials and commercial locations

79. Beyond regulated rates, there are many specific functions or operations that, while they are associated with Internet services, are not considered to be an element of the wholesale service. There are examples throughout this submission of services that the incumbents treat as being outside the scope of the TPIA service, such as tracking of a technician's arrival time on the day of a dispatch, discussed below. Similarly, as discussed concerning modem approvals below, while the regulations require that testing for a new modem is completed within 28 days, there are no timelines established to add modems to the carrier's operational systems, a process that can take up to six months. Here, we briefly touch on two such issues: Line burials, and TPIA service at commercial locations.

C.II.a Line burials

80. When a cable service is installed, the cable technician runs a line from the street to the house. They generally run that line aboveground from the pole to the house, but customers can request that the line is buried, and incumbents have teams that secure the required permits and bury their customers' lines. On the retail side, this is a service that incumbents provide to their own retail customers. On the wholesale side, some incumbents do provide the service to wholesale end-users, but others do not. There is no mention in CRTC decisions or TPIA tariffs of burials being included or excluded in the TPIA service. As a result, there is no consistency for how burials are done across carriers for wholesale-based providers.

C.II.b TPIA service at commercial locations

81. Originally, the model TPIA tariff included a statement that TPIA service is configured and designed for the residential marketplace. Rogers³³ and Cogeco's³⁴ tariffs still include essentially that statement. Videotron's tariff³⁵ states,

Item 200.3.b) TPIA services are designed to meet the needs of residential End-Users. The ISP may use TPIA services to serve non-residential End-Users, but will not receive TPIA services designed to meet the needs of non-residential End-Users. The ISP shall not use the TPIA services to provide services other than Internet Services or voice over Internet Protocol services.

82. Shaw's TPIA tariff does not appear to include any such restriction.

83. In 2013, the CRTC determined that, for Bell and TELUS, rates for residential and business wholesale services were to be the same provided the services were the same.

³³ Tariff for Third Part Internet Access, CRTC 21530, Part G.

³⁴ Tariff for Third Party Internet Access service, CRTC 26400.

³⁵ Access Service Tariff for Interconnection with Internet Service Providers, CRTC 26950, Part B.

- That is, regardless of whether the end-user is a business or a residential user, the same service should be available at the same price.³⁶
84. In 2015, Eastlink introduced its TPIA service and filed its own TPIA tariff. They included in that tariff the restriction that “TPIA service is configured and designed for the residential marketplace.”³⁷ In a letter from staff, the CRTC highlighted their earlier decision about Bell’s and TELUS’ wholesale services being available for residential and business end-users at the same rates, and asked Eastlink to “Confirm that the TPIA service is available to both residential and business end-users”, and either to provide supporting rationale for retaining that restrictive language in the tariff or to omit that clause from the tariff. In response, Eastlink removed the clause from the tariff.
 85. Taken together, it is clear that the CRTC takes the view that TPIA service is to be available to both residential and business end-users, and that it is to be available to them at the same rates.
 86. However, since the CRTC’s decision concerned Bell’s and TELUS’ wholesale services, and not the cable companies’ TPIA services, it is not clear in regulations that TPIA services are to be available for business end-users. This leads to inconsistencies and conflicts with TPIA service providers when wholesale-based providers order services at commercial locations. For example, one cable-based wholesale provider as a policy does consider commercial locations to be available for TPIA services. Another cable-based wholesale provider does qualify commercial locations for TPIA service, but with restrictions that do not apply for residential locations: They will not split lines at commercial locations³⁸, and they will only put one service on each line³⁹.
 87. To further complicate the matter, wholesale-based providers cannot consistently rely on being able to add a new cable drop at either a residential or commercial location. As with the issues discussed above, while carriers do not consider new cable drops to be within the scope of the TPIA service, they will generally add new drops at residential locations, but not at commercial locations.
 88. As a result, for an address on an Ontario cable-based wholesale provider’s footprint, wholesale-based providers can only order TPIA service at a commercial location where there is already a dedicated drop to that location that is entirely unused. Needless to say, that is not a common occurrence, and we are therefore not able to reliably serve commercial customers despite the CRTC clearly expecting wholesale services to be

³⁶ *Canadian Network Operators Consortium Inc. – Application to review and vary Telecom Regulatory Policies 2011-703 and 2011-704*, Telecom Decision CRTC 2013-73, dated 21 February 2013.

³⁷ Eastlink Tariff Notice 35.

³⁸ In contrast, at residential locations, it is common to use one “cable drop” from the main cable, and split it to deliver services to two houses or two units. This is a “split”.

³⁹ In contrast, at residential locations, it is common to use one cable, even one that is already split, to deliver both Internet and television service. For example, a residential end-user may have the cable provider’s TV service, and still get a wholesale-based Internet service on the same cable.

available for both residential and business end-users, and despite the carrier being willing to provide those services to their retail customers.

C.III Conclusion

89. We have highlighted gaps in the regulatory regime that incumbents use to introduce barrier for wholesale-based services. While TekSavvy or other wholesale-based providers could raise each of these gaps with the CRTC—and, indeed, we do raise such gaps at times—ultimately, no matter how many gaps we can fill in the wholesale network access regime, incumbents have every reason to find or create more, and will continue to do so as long as they are both in a position of control over wholesale services and stand to benefit by restricting those services.
90. That would not be true if the incumbents did not have that level of control over wholesale services. If incumbents' bought wholesale services as inputs on their residential offerings on the same terms that competitors did, then the same problems would not emerge. To the extent that there were gaps in the regulatory regime, or that the underlying provider of wholesale services negotiated off-tariff agreements with retail providers, they would not be exercising their power over the wholesale market while simultaneously benefiting in the retail market. As such, we submit that the changes are needed to reduce incumbents' disproportionate market power and rebalance incumbents' incentives to preference their own retail operations.

D Operational Barriers

91. There are several operational issues that arise in wholesale-based providers' reliance on incumbents. These challenges are competitive barriers to wholesale-based providers as they have a negative impact on wholesale-based providers' end-users' customer experience, for example, by resulting in frustratingly inefficient transactions for signing up a new subscription, uncertainty about whether service is available, delays to install or fix an end-users' service. All of these issues negatively affect TekSavvy's brand, reputation in the competitive market, and potential revenues.
92. Moreover, these operational issues have the cumulative effect of hindering TekSavvy's ability to scale its growth. TekSavvy is forced to build incumbents' carrier group operational inefficiencies into our own operations, which is costly and resource-intensive.

D.I Portals and emails: Systems to exchange order information

93. When a new customer orders services from a competitor like TekSavvy, we need to order the underlying access service from the carrier. In order to do that, we need to communicate that order to the carrier, and then follow the progress of that order as it is booked and confirmed, or possibly delayed or, in some cases, never actioned at all until we request for it to be rebooked. Similarly, when an existing TekSavvy end-user asks for technical support with their connection, after the required troubleshooting, if some action by the carrier is required, we need to open a support ticket with the carrier and then track the progress of that ticket.

94. Carriers have internal operational support systems (OSS) to install and support services. When a carrier's retail customer contacts the carrier with a technical support issue or an order for a new service, the carrier can manage that request directly in their OSS.
95. In the voice services world, it was long ago determined that the difference between the carriers' direct management of operational services and competitors' indirect management of operational services is a critical differentiator between the carrier and the competitor. One way to remove that differentiator is for competitors to have direct access to the carriers' OSS. In 2002, following the experience in the US, the CRTC noted that,

“[T]he Federal Communications Commission (the FCC) considers that non-discriminatory access by CLECs to ILECs' operational support systems (OSS) is a prerequisite to the development of meaningful local competition. The FCC considers that without access to the ILECs' OSS, competitors would not be able to provide their customers with comparable, competitive service and, hence, would operate at a material disadvantage. The FCC has found, for example, that new entrants benefit from accessing the functions performed by the incumbent's OSS in order to formulate and place orders for network elements or resale services, to access loop qualification information, to install service to their customers, to maintain and repair network facilities, and to bill customers.”⁴⁰

96. The CRTC determined that “access by CLECs [Competitive Local Exchange Carriers] to the ILECs' [Incumbent Local Exchange Carriers] OSS functions may be an important factor in achieving its objective to provide CLECs with an equal opportunity to provide local service to customers in a timely manner”, and directed the CRTC Interconnection Steering Committee (CISC) to describe the measures that could be implemented to permit CLECs to access the OSS functions that could be of use to CLECs.⁴¹ Following receipt of the non-consensus report from CISC⁴² and submissions from incumbents and competitors, the CRTC required Bell Canada and TELUS to develop and implement CLEC access to their OSSes, and required the other ILECs to do the same only once a CLEC indicates its intent to access their respective OSS database. In making this requirement, the CRTC found as follows⁴³:

21. The Commission considers that access to timely and accurate information pertaining to customers provides ILECs with the opportunity to provide better quality service than CLECs. The Commission is of the view that without equivalent CLEC access to that information, ILECs provide themselves with an undue preference relative to their competitors and there is unjust discrimination given to retail customers of the ILECs, as compared to the retail customers of the

⁴⁰ *Service intervals for the provision of unbundled loops*, Telecom Decision CRTC 2002-68, 1 November 200, at para 34.

⁴¹ *Ibid* at para 35.

⁴² *CLEC access to ILEC's Operational Support Systems*, CISC report OSRE001a, 1 May 2003.

⁴³ *Competitive local exchange carrier access to incumbent local exchange carrier operational support systems*, Telecom Decision CRTC 2005-14, 16 March 2005, at paras 21,22.

CLECs. The Commission considers that absent access to ILEC OSS, CLECs do not have an equal opportunity to compete with ILECs for local customers.

22. Accordingly, the Commission finds that the development and implementation of CLEC access to ILEC OSS is necessary to eliminate barriers to effective competition in the local market.

97. At the time, the CRTC expected that the availability of the OSS to competitors would result in fewer rejected orders and service requests, or Local Service Requests (LSRs). While direct access to the OSS surely eliminates a key differentiator between carriers and wholesale-based competitors, our understanding is that the OSS solutions that were developed and implemented following this decision did not themselves address competitors' concerns. In the years that followed, rather than reducing incumbents' control over operational inputs and ensuring competitors have the tools required to efficiently place orders and support services, the Commission instead introduced direct costs for failed operations by approving charges for rejected LSRs.⁴⁴
98. In summary, access to the OSS was mandated in order to remove a barrier that was preventing CLECs from competing with ILECs, by eliminating the ILECs' control over a set of operational inputs. Importantly, there is no analogous requirement for access to OSSes for wholesale broadband access services. Instead, each carrier has their own system through which competitors exchange orders and tech support information with the carrier, ranging from simply exchanging emails to sophisticated portals. In all but one case, the wholesale-based provider does not directly access the carrier's systems, but rather submits requests that a carrier agent must themselves action in their internal systems. In simple terms, instead of us booking a dispatch, we send a request to the carrier to book a dispatch, and then we wait for them to do it.
99. For example, one cable-based wholesale provider has two portals for TPIA order and support services. The "old portal" has rudimentary forms that TPIA customers like TekSavvy complete when placing an order or opening a ticket to request technical support for an end-user service. Those forms produce a structured block of text that we copy and paste into an email that we send to the provider, and then further exchanges of information about each order occur through the exchange of emails. Since 2016, the provider has been gradually rolling out their "new portal", which provides more tools and manages the workflow associated with each order.
100. In contrast, another cable-based wholesale provider has no portal for TPIA orders and support services. Instead, they have a set of email templates that TPIA customers complete when placing an order or opening a ticket to request tech support for an end-user service.
101. The practice of each carrier providing their own tools introduces barriers to competition by exerting control on the competitor's ability to have information about its own services, to place orders and repair requests, and generally to support end-users. The ultimate effect of those barriers is that end-users get measurably worse service from competitors

⁴⁴ See for example *Bell Aliant Regional Communications, Limited Partnership and Bell Canada – Introduction of Local Service Request Rejection Charge*, Telecom Decision CRTC 2009-805, 23 December 2009, at paras 12-13.

than from incumbents. This limitation—the unavailability of tools and resultant unequal access to operational information, which is entirely within the control of carriers to provide or withhold—creates several downstream barriers for wholesale-based competitors which, taken together, result in a significant disparity between the services provided by incumbents and competitors, ultimately limiting choice for consumers.

D.I.a Address Validation and Address Qualification

102. Consider the operational function of confirming whether a particular carrier’s service is available at a given address. This seemingly simple request, which occurs hundreds of times each day, requires two main steps: Of course, it requires a search of whether that carrier’s service is available at the given address, known as “Address Qualification”; but first, it requires confirmation that the address as provided by the end-user and as entered into the carrier’s Qualification search tool is structured in a way that actually matches the address as that carrier identifies it in their own qualification database, a process known as “Address Validation”.

Address Validation: A potential customer asks the service provider whether cable Internet service is available at their address, which they provide as “132 McDonald Ave., Apartment 1, Carp, Ontario”. Service is in fact available at that address, but the carrier identifies that premise with its own form of the address: “132 McDonald Ave., Unit 1, Ottawa, Ontario”. The process of recognizing that the customer’s requested address is different in the carrier’s database is Address Validation. This is familiar to many consumers from various online ordering systems: We frequently input our postal code, which automatically identifies the street and city, leaving us only to complete the street number; whether the specific apartment is labeled as “Apt” or “Unit” should hardly matter for address validation. Our understanding is that carriers have internal tools that they use to help their agents validate addresses, but they consider this information to be proprietary and do not generally make it available to wholesale-based providers.

- For example, one cable-based wholesale provider has no tool for address validation or qualification; when a customer in their operating territory requests service, we populate the order with the address as given by the end-user, and hope that the carrier figures out the correct address. Often they do; sometimes they do not, leading to an exchange of emails to each of our ticket queues to figure out the correct format of the address. The provider provided an address validation tool for the wholesale market for a brief time, but has since terminated it. At times, they have told us to use their retail website to validate (and qualify) addresses; at other times have told us not to generate too much traffic on their retail website. Clearly, that set of constraints will not scale in a way that allows wholesale-based provider to provide the same level of service as incumbents, resulting in fewer options for broadband customers.
- In contrast, another cable-based wholesale provider provides an address validation tool for wholesale-based providers. TekSavvy agents type the given address into a field on a secure webpage, which then suggests available addresses that the provider has identified as valid addresses, in the process correcting the given address to the form that they use in their database.

Address Qualification: Now that we have the address as it is identified by the carrier, rather than as it is identified by the resident potential customer, we need to find out if service is available at that address. Again, our understanding is that carriers have internal tools that their agents use to search for whether service is available at an identified address; in fact, some of those tools have a front end on their retail websites where potential customers can search for service availability, so the incumbent can immediately tell the potential customer that service is available at their address. In contrast, they do not consistently provide address qualification tools to their wholesale customers.

- For example, as described in the first example under “Address Validation” above, the wholesale provider has no tools available for their wholesale customers, and all interactions are by email. Even if we have properly identified the address, TekSavvy has to place an order for that address to even find out if service is available. As a result, there is a critical disparity between the service available to a potential customer from the incumbent and from the competitor: The incumbent can confirm an order on the spot and book an install; the competitor can only take an order and, in effect, tell the customer that we will place the order with the carrier and get back to them as soon as possible (see below for more about the resultant time delays) to confirm whether service is even available.
- In contrast, another cable-based wholesale provider’s new portal has address qualification tools available for wholesale-based service providers. If we have properly identified the address, we use the new portal to open an order for service, and we can confirm to the customer whether or not service is available at that address.

D.I.b Systemic delays for services

103. As discussed above, wholesale-based providers generally do not have direct access into carriers’ operational systems. As a result, when we place orders or request repair services, instead of directly creating a new service or booking a dispatch, generally speaking, wholesale-based providers only have the ability to place orders or request services indirectly: We send orders and service requests, which agents in a Carrier Services Group (CSG) receive and act on. For example, the competitor may open an order for a new service and provide all of the information required to provision the service, whether that is performed through a portal or through emails; but that order will not be queued up for service delivery until an agent in the CSG opens that TPIA order and places the order in the carrier’s internal systems, thereby booking the dispatch and initiating the order. The CSG agent then responds to the competitor to confirm the order and provide the install date, or to reject the order if service is not available at the location, for a carrier with no address qualification tools.
104. Since orders from competitors have to wait in a queue for the CSG to action them, there is a systemic delay in processing orders. In fact, the time required by this indirect procedure for ordering services was long ago codified in the guidelines for wholesale-based services in the cable, a document known as “End-user Service Initiation

Process”.⁴⁵ That guideline specifies that, when the wholesale-based provider orders service from the cable carrier, they are to provide “Proposed installation dates which cannot be scheduled less than 5 business days after the date of the installation order”. In other words, under the existing rules, competitors are required to give the cable carriers at least five business days to process, book, and action orders for new end-user services.⁴⁶ In practice, this means that a competitor can only request an install date that is at least five business days in the future, absent an off-tariff agreement with the carrier allowing them to request sooner dates. The carrier has staff in the CSG who monitor queues, receiving and processing wholesale order requests, and following up using the carrier’s internal systems.

105. Already, this systemic delay creates a significant disparity between the services available to customers from incumbents and from competitors: Incumbents advertise and provide next-day installs; they have even been known to provide same-day installs. In contrast, wholesale-based providers can only even request dates starting at least a week in the future—hamstrung immediately as an effect of the rules in place for service initiation, but ultimately as an effect of the lack of direct access to carriers’ systems. Furthermore, of course, having entered their retail order directly into their internal systems, the carrier can give the retail customer a confirmed install date when the order is placed; the competitor, in contrast, can only provide a conditional date, and must wait to hear back from the underlying carrier to either confirm the date or request a new date and start the process again. See Consumer Experience Scenario #5 for more detail.
106. One further reason why competitors cannot confirm install dates is yet another barrier imposed by incumbents: a lack of information about technician availability. Wholesale service installs generally require the incumbent’s technician to visit the premises (see below for more about the requirement for a dispatch on every install), so the date and time of an install depends on technician availability.⁴⁷ Generally, incumbents do not provide any information to wholesale-based providers about technician availability, leaving us to essentially pick a date and hope for the best while, of course, the

⁴⁵ End-user Service Initiation Process, HSRE003, 11 April 2001.

⁴⁶ HSRE003 and other operational guidelines are in the process of being revised by a CISC subcommittee formed following Telecom Decision CRTC 2015-40, 12 February 2015, known as the 1540 Working Group. While some operational improvements may flow from those revised guidelines, this particular delay remains in place since the new guidelines do not change the underlying issue of indirect ordering that creates the need for the carrier to have enough time to process wholesale order requests. Guidelines were approved, with some changes to resolve one nonconsensus item, in Telecom Order CRTC 2018-357, <https://crtc.gc.ca/eng/archive/2018/2018-357.htm>.

⁴⁷ Currently, as far as we know, no carrier allows any competitors to perform the technical work to install new services, including carriers who hire subcontractors to perform installations. In theory, TekSavvy could operate a technical division, or could subcontract the work to an outside provider, and could then do its own installs and repairs. However, that would require the cooperation of the underlying carrier, who would necessarily relinquish some control over their network. In effect, the entire constellation of issues related to technicians would not exist if the technical work were not integrated within the incumbent carrier but, rather, were available to all competitors, including incumbents, on an equal basis. This would effectively reduce the incumbents’ disproportionate power for the scenario of end-user installs and repairs.

incumbent has all of the necessary information to place their retail orders. There are several practical, possible solutions to this problem, including making live calendars available to wholesale-based providers through portals and allowing us to book dispatches directly⁴⁸, or sending snapshots of calendars several times per day so wholesale-based providers at least can pick dates and times that are likely to be available⁴⁹. TekSavvy has asked all carriers to implement live calendars with APIs for system integration; only one wholesale-based provider has so far worked with us to develop this functionality.

107. This systemic delay limits a rational consumer's choices since one provider (the incumbent) can confirm an early date, and the other (the competitor) can only conditionally provide a later date. It also drives up the competitor's costs by creating significant inefficiencies, since every step requires communications, introducing further delays depending on the customer's availability and patience. In fact, this set of interacting inefficiencies and barriers gives rise to one of the most frustrating experiences for the customers of wholesale-based competitors like TekSavvy: The install that was never really booked in the first place.
108. For example: Suppose the consumer wants the services of the competitor enough that they are willing to wait five days for an install.
- On Wednesday, August 1, 2018 they request the earliest possible install date, Thursday, August 9, 2018 (the fifth business day in the future, since August 6 was a civic holiday).
 - TekSavvy would tell that consumer that we had requested that date, and we would confirm the install, conditional on the carrier booking it as requested.
 - However, as often happens, the carrier may not even see that order until four business days later, on August 8, the day before the install.⁵⁰
 - At that point, it may not be possible to book an install on the requested day, which is now the next day, in which case the carrier would respond to TekSavvy, by email or in their portal, that the requested date was not available.
 - Just as the carrier takes time to process requests, TekSavvy also takes time to process requests, and we may not see that response quickly enough on August 8 to contact the end-user to inform them that the install would not go ahead as

⁴⁸ One wholesale provider provides this service for TekSavvy; it has enabled us to book installs with confirmed order dates for customers while greatly reducing the number of touchpoints with both Bell and the customer, thereby increasing efficiencies while improving the customer experience.

⁴⁹ One wholesale provider provides this service for their TPIA customers, and while it is imperfect we have found it be an effective substitute for live calendar access.

⁵⁰ Under HSRE003 and the draft revised service initiation guidelines of the 1540 Working Group, the carrier is required to respond to the order within two business days of the initial order request, but in our experience it is not unusual for them to take much longer than that to respond. While there are avenues to address that noncompliance, including by asking the CRTC to intervene, that is itself inefficient, and without established Quality of Service obligations for broadband services, with associated penalties, there is no consequence for carriers' noncompliance. Regardless, the fact remains that the lack of direct access for wholesale-based providers to carriers' operational systems gives rise to these barriers.

planned, and to request another date, and the end-user may end up waiting at home on August 9 for an install that was never going to happen.

109. Beyond that, there is no obligation in tariffs, guidelines, or CRTC decisions for carriers to initiate services (*i.e.*, to actually complete the install) within any particular period of time. As a result, carriers' CSGs sometimes fall behind in processing wholesale orders, such that they do not even see our orders until more than five business days later, even while their retail operations may continue to place orders on demand, including booking same-day or next-day installs. As of this writing, two cable-based wholesale providers are both processing orders from more than five business days in the past, and have asked us to help reduce their workload by not escalating orders until the orders are older than five business days. As a result, TekSavvy is frequently in a bind that directly affects consumers: If we work within the established rules and place orders for five business days in the future, then we know we are setting up our customers for failure, and on their first interaction with us as they become new TekSavvy customers. On the other hand, if we modify our timelines to build in the carriers' noncompliant additional delays, then we in effect internalize and acquiesce to the limitations imposed on us by the carriers, and expanding what was already a systemic disparity between incumbents and competitors.

D.I.c Integration of Competitors' Systems with Incumbents

110. We have discussed how the lack of direct access to incumbents' operational systems creates barriers for competition, first because of the lack of tools for address validation and qualification, and also because of the systemic and additional delays that result from indirect ordering processes. Each of those problems on its own is a barrier to competition and has an effect on consumer choice, but the barriers they create are magnified when considered across multiple carriers.
111. Consider a wholesale-based provider that only uses services from a single carrier. They would either work within the portal provided by that carrier, or they would develop systems that would interact with that carrier's systems. For example, if a competitor provides only cable services on one carrier's footprint, then they could develop internal systems for billing and customer service, and use that carrier's portal to exchange orders with that carrier. They would work within whatever constraints were imposed by that carrier's systems, and would reflect those constraints to their customers, such as not providing any customer-facing address validation or service qualification tools, and generally not confirming install dates due to the concerns discussed above: Their dependence on the CSG to receive the order request and book the order, and a lack of information about technician availability.
112. As that competitor grows and branches out into wholesale services provided by other incumbents, one might think that they would enjoy economies of scale in the form of a return on their investment in the internal systems they previously developed to work with that one incumbent. That is not the case. Instead, a wholesale-based provider that uses the services of several or many incumbents faces exponentially more barriers. Not only do they face the constraints imposed by each carrier, they also face the challenge of reconciling all of the different systems, requirements, constraints, and limitations into internal systems allow agents to have efficient workflows, and provide customers with consistent and predictable outcomes.

D.II Every wholesale install requires a dispatch

113. Every wholesale install requires a technician to be dispatched to the premise to install service. Note that this requirement is due to guidelines including HSRE003, and is not in fact due to a technical requirement. In fact, some incumbents such as Rogers (with their Fido brand in particular) provide the option for “DIY” installs where there is already a cable line that may not be in use, but they have not made the same option available for wholesale services, instead requiring technician visits on every install.
114. Instead, incumbents could permit wholesale-based providers to provision service without a dispatch, sometimes called a “no truck role” install, or NTR. Under this model, once the end-user confirmed to the competitor that the line was active, which we can determine based on the light pattern on the modem, then we would request that the carrier activate the service remotely, which does not require a dispatch.
115. As with the operational barriers discussed above, the requirement for a technician to be dispatched for every install stems from the incumbents exercising their inherent control over wholesale inputs to put in place barriers that impair the ability of wholesale-based competitors to effectively compete in the market, effectively reducing competition by ensuring that they can provide measurably better services than competitors. Examples of barriers that flow from the requirement for a dispatch are increased delays and tentative orders, increased rates of missed installs, and poaching of customers by technicians.

D.II.a Increased delays and tentative orders

116. As discussed above, since technicians are dispatched by incumbent carriers, and wholesale-based service providers generally do not have direct access to internal systems to book service orders and dispatch times, when we are ordering service we are left to choose a date and time that the end-user requests, within reasonable periods of time that we believe based on past experience may be available, and then we can only hope that the CSG processes the order soon and the requested date is available. If it is not, then after the CSG contacts us and a reasonable period of time before we see that response, we must contact the end-user to request new dates, and we start the whole process again. As a result, customers can only tentatively book installs with wholesale-based providers, while they could instead get a confirmed install date with an incumbent.
117. If incumbents allowed wholesale-based providers to do NTR installs, then not only would we be able to provide the same level of service that incumbents provide, but we would significantly reduce the impact of the related barriers. For example, if we still did not have access to information about technician availability, but we could do NTR installs, then in principle we should still be able to complete NTR installs to the same degree that the incumbents could, and the impact of the issues related to technician availability would be limited to those cases where NTR installs were not possible because lines were not present or active.

D.II.b Elevated rates of missed installs

118. Since a dispatch is required for every install, wholesale-based competitors depend on the technician to attend at the premises while the customer or another authorized adult

is present in order to have the service installed. There is a set of issues associated with coordinating the technician's visit, including that technicians may "feather-knock", or may not attend the premises at all.⁵¹ While these problems may be issues for the incumbent's retail installs as well, they have a disproportionate impact on wholesale customers. See Consumer Experience Scenario #7 for a discussion of how this specifically affects the consumer.

119. First, technicians work primarily for incumbents, and would be expected, to behave in a way that is loyal to their employer as opposed to a competitor. Further barriers for competitors are discussed below that stem from the disparity between on the one hand, the technician's rational and likely sense of loyalty to their employer, and on the other hand their likely sense of competition with a wholesale-based competitor. For these purposes we note that, to the extent that technicians may feather-knock at all, it could be surmised that they would likely do so more for wholesale installs than for retail installs. While they have told us that they have rules in place against technicians feather-knocking, it is widely believed that there are institutional pressures in place that may incentivize technicians to deprioritize wholesale installs, including lower rates of compensation and shorter time allowances for wholesale installs. In fact, we have been told anecdotally that one carrier's technicians get paid less to do wholesale installs, and that at least two carriers' technicians have less time allocated for wholesale installs as compared to retail installs.⁵²
120. Second, incumbents regularly interpret rules and change processes in ways that advantage them, and the requirement for technicians to be dispatched for every wholesale install gives them additional opportunities to create situations where installs fail. For example, both the existing installation process guidelines, HSRE003, and the new draft process guidelines developed by the 1540 Working Group require that the end-user or an authorized adult be at home for the technician to complete the install.⁵³

⁵¹ The CRTC considered "feather-knocking" in Telecom Decision CRTC 2007-126, 7 December 2007, when it revised Quality of Service indicators for voice services provided by ILECs. In that decision, CLECs expressed concern that ILEC technicians would engage in "feather-knocking", which would nominally make the dispatch count as having been "met" so it would not count against the ILEC in measuring their QOS performance. The CRTC in that decision adopted (at para 11) the meaning of the term as defined by FCI Broadband, which had become part of Rogers earlier that year:

"FCI Broadband (now part of RCI) expressed concern related to an issue of 'feather-knocking' which it defined as a situation where the ILEC technician assigned to complete an order or a trouble report fails to knock loud enough or chooses to just drive by without physically knocking at the end-customer's door, despite the end-customer being present."

⁵² It is difficult for TekSavvy to validate these claims, but we hear it frequently from customers.

⁵³ HSRE003 states at para 4, "The CSG will notify the ISP through the business interface system that nobody was home and the order could not be completed." The new draft service initiation process guideline as reported to the Commission by the 1540 Working Group states at sections 3.4.3 and 3.4.4:

"3.4.3 If nobody is at the premise on the installation day and timeslot and the Cable Carrier's installation process does not require inside access to the premise to complete the installation, the Cable Carrier technician may complete the installation.

There is no further interpretation provided for the requirement that a person must be “at the premise” or “at home”, and the general practice has been that for the technician to arrive at the given premise on the scheduled day and during the scheduled installation window and to physically check to see if somebody is present there.

121. For the past couple of years, carriers have added an additional service, where their technicians will phone the end-user in advance to confirm that they are at home. At first, that was considered a helpful service, since it reminds the end-user to expect the technician, gives the end-user a sense of when the technician will arrive, and even gives the end-user the opportunity to tell the technician that they are not available so the technician can more efficiently allocate their time.
122. However, recently, two cable-based wholesale providers each unilaterally changed their technicians’ procedures: Now, if the end-user does not answer the technicians advance call, their technicians will treat that install as if nobody were home without going to the premise at all. Moreover, even if the consumer quickly realizes that they missed the call, they can only contact TekSavvy, who has no ability to reach the technician to confirm that the customer is indeed at home. As a result, these providers have in effect introduced a new obligation for end-users to answer phone calls from technicians in order for service to be installed. As with other unilateral decisions imposed by carriers (see, for example, modem requirements discussed below), it may be that the practice of equating “no answer” with “nobody home” is the general practice for technicians. In other words, it may be that incumbents use this same practice for their retail installs and, since the general obligation is to provide the same services to wholesale customers that they provide to retail customers, the practice is then imposed for both retail and wholesale installs. However, even if that is the case, they have mitigated the impact of this practice for their retail customers: Rogers provides their retail customers with a tool to “track a technician’s ETA” on the day of their install, providing in effect an additional tool for customers to know when the technician will be present, to ensure they are at home when they are present, and to log whether the technician arrived at all.⁵⁴
123. Needless to say, even while incumbents justify limiting wholesale services with the claim that the same practice is imposed on their retail services, they rarely if ever extend innovations that are available on their retail services to their wholesale customers, and Rogers has not made their EnRoute service available to wholesale-based competitors. When we requested the service to be available for wholesale installs, they claimed that it

“3.4.4 If nobody was at the premise on the installation day and timeslot and the Cable Carrier technician does require inside access to the premise to complete the installation, the Cable Carrier will leave a generic door hanger indicating that the installation scheduled for the high-speed service was attempted however nobody was at home if this is the typical practice of the Cable Carrier for its own End-Users.”

⁵⁴ Rogers EnRoute and Fido EnRoute are promoted in a press release as follows:

“No one likes to sit around waiting for their technician to arrive,” said Deepak Khandelwal, Chief Customer Officer, Rogers. “We know our customers are busy and their time is valuable, so now they can track a technician’s ETA right on their phone. It’s just one more way we’re putting people in control to get help how they want.”

uses internal Rogers systems that are not available to the CSG due to the mandatory separation between the CSG and retail operations.

D.II.c Poaching: The incumbent has the opportunity to sell their own service on the wholesale install

124. Another barrier for wholesale services that relates to technicians performing installs is a direct result of the incumbent's technician being present and communicating with the wholesale-based provider's end-user: Simply put, the technician's presence gives the incumbent a touchpoint to mislead and poach the end-user. See Consumer Experience Scenario #6 for discussion of how this affects customers.
125. End-users report to TekSavvy with some regularity that technicians made inaccurate claims about TekSavvy. For example:
- A Rogers technician claimed that Rogers owns TekSavvy.
 - A Rogers technician convinced a TekSavvy end-user that they could only get up to 50 Mbps with TekSavvy but could get faster speeds from Rogers.
 - During an installation for TekSavvy DSL service, a Bell technician examined the ports and told TekSavvy's end-user that the building was "fibre only" and gave the customer a contact number to set up fibre with Bell retail. See discussion below about service rejections at brownfield addresses.
 - During an installation for TekSavvy service, a Shaw technician falsely claimed that TekSavvy's modems were inferior to Shaw's modems and sold their Shaw service to the end-user.
 - Bell sales representative misrepresented the quality of competitors' services to a retail customer: "Specifically, Bell claimed that their competitor TekSavvy's service was unreliable in comparison with their 'dedicated never shared internet line'." Bell also stated to the same customer in an online chat: "TekSavvy [*sic*] uses the Bell line to offer the Internet service. You will not get a reliable service with Tekksawvy [*sic*]."⁵⁵
 - Bell technician told a TekSavvy customer that service is better with Bell.⁵⁶
 - Bell technician told a TekSavvy customer: "You know TekSavvy just uses our lines, right? When there is a repair, we prioritize TekSavvy's clients below everyone."⁵⁷
 - Rogers technician told a TekSavvy customer that he would not get as good service with TekSavvy. There would be longer wait time for service, like "additional weeks."⁵⁸

⁵⁵ Intervention 980 in Telecom and Broadcasting Notice of Consultation CRTC 2018-246, 16 July 2018.

⁵⁶ Intervention 69 in Telecom Notice of Consultation CRTC 2017-49, 21 April 2017.

⁵⁷ Intervention 17 in Telecom Notice of Consultation CRTC 2017-49, 21 April 2017.

⁵⁸ Intervention 21 in Telecom Notice of Consultation CRTC 2017-49, 21 April 2017.

- Bell told a TekSavvy customer that TekSavvy is responsible for some of the copper lines.⁵⁹
126. On a regular basis, we hear about Rogers technicians who, while they are at a TekSavvy end-users' house to install or repair service, make offers to those customers, and we frequently lose customers as a result. Anecdotally, we have been told that Rogers technicians earn a bonus of up to \$75 for converting a TekSavvy customer to Rogers.
127. Note that TekSavvy's concern here is not about healthy competition where competitors may approach consumers to compare their offerings in an effort to win over customers. While TekSavvy never likes to lose a customer to the incumbents, we acknowledge that door to door sales may be a fair and effective form of marketing. Rather, our concern is that when technicians either promote the retail service or criticize the wholesale service while they are on a wholesale dispatch, they are using their position in the market to introduce a barrier for wholesale-based providers, ultimately misleading consumers and limiting consumer choice.
128. It should be totally unacceptable and never tolerated for technicians to promote the incumbent's retail services during a wholesale service call, or for them ever to tell end-users false information about the wholesale-based provider. While carriers claim that they have policies against some of this behaviour, they have not imposed any barriers to technicians selling incumbent services, they may in some cases actually incentivize it, and they openly approve of technicians answering end-user questions about the incumbents' retail services, even when they are on site for a wholesale installation.
129. On its own, each issue discussed above related to technicians installing services, including increased delays and tentative orders, increased rates of missed installs, and poaching of customers by technicians, would constitute a barrier to wholesale competition. However, taken together, they have a disproportionate and unavoidable impact on competitors, ultimately making services measurably worse for the end-users of wholesale-based providers, because technicians are required for every wholesale install, and not for every retail install. As a result, the requirement for technicians to perform every install, together with the complications that follow from technician involvement, create a significant barrier to wholesale competition, and ultimately constitutes one example of how the incumbents exercise their control over wholesale inputs and significantly complicate the process of onboarding a wholesale customer, to the benefit of the incumbent and the detriment of both the competitor and, most importantly, the consumer.

D.III Service rejections at brownfield addresses

130. Address validation and qualification is further complicated by FTTP facilities that are being increasingly deployed by incumbents, specifically at brownfield addresses⁶⁰. As

⁵⁹ TNC CRTC 2017-49, Intervention #411.

⁶⁰ "Brownfield" refers to already constructed or established residential, business, or industrial locations that have existing wireline telecommunications facilities. See *Canadian Network Operators Consortium Inc. – Application for transitional access to incumbent carriers' fibre-to-the-*

discussed above, while a new framework is being developed for access to FTTP facilities on a disaggregated basis,⁶¹ wholesale-based providers do not yet have access to those facilities. In the disaggregated fibre decision, the Commission determined that, “In order to provide competitors sufficient time to invest in, migrate to, or negotiate appropriate alternatives, the Commission considers that a three-year phase-out period, once the disaggregated service is implemented, would be appropriate.”⁶²

131. In creating that three-year transition period which only starts once service is implemented in a particular part of the incumbent’s network, the Commission clearly expected that legacy and FTTN facilities would continue to be available to wholesale competitors for the time being; indeed, incumbents assured the Commission at that time that they would not remove copper and cable facilities, and the Commission has acted to keep wholesale services in place in one case where Rogers removed its cable facilities.
132. In that case, Rogers removed cable facilities in the Bayview Mills Condominium Townhouse in Toronto, Ontario, and the Commission ultimately ordered Rogers to provide competitors with access to aggregated wholesale service over its new FTTP facilities.⁶³ In doing so, the Commission referenced the established transition period and articulated expectation that wholesale-based providers would continue to be able to access existing facilities. Starting at paragraph 32, they wrote [emphasis added]:

32. As discussed above, the wholesale wireline decision [*i.e.* the disaggregated fibre decision] did not specifically address what regulatory obligations, if any, should apply in circumstances where the existing copper or coaxial cable access facilities used by competitors to access end-users are removed.

33. However, in that decision, the Commission determined that, to ensure that wholesale access to the facilities required to provision downstream retail Internet services is always provided for, the removal of the obligation to provide wholesale access to aggregated HSA services and the introduction of an obligation to provide disaggregated wholesale HSA services, including over fibre access facilities, would be subject to a transition plan. The transition plan adopted by the Commission contemplated that the migration from aggregated to disaggregated HSA services would be triggered by competitor demand and that, once triggered, aggregated access would remain in place for a three-year period.

34. In this context, RCCI [Rogers] should continue to provide TekSavvy access to its aggregated wholesale HSA service, which is now provisioned over FTTP access facilities in the Bayview Mills complex. RCCI’s removal of coaxial access facilities in the Bayview Mills complex resulted in the foreclosure of competitor

premises facilities through aggregated wholesale high-speed access services, Telecom Decision, CRTC 2018-44, 2 February 2018 at footnote 10.

⁶¹ See the disaggregated fibre decision, at note 5 above.

⁶² *Ibid* at para 155.

⁶³ *TekSavvy Solutions Inc. – Application regarding transitional access to aggregated wholesale high-speed access service*, Telecom Decision CRTC 2016-446, 9 November 2016.

access to new end-users located in this complex by way of the company's existing aggregated wholesale HSA service.

133. Taken together, those decisions indicate the CRTC's intention that wholesale-based competitors would not be excluded from serving addresses due to the deployment of new FTTP facilities. Nevertheless, one carrier regularly rejects TekSavvy orders for service at brownfield addresses. In their rejections, they state, "Location is fibre-only – cannot provision on fibre". In some cases where a carrier rejects orders in buildings, we may have existing customers in the same building, indicating that copper facilities are in fact present in the building. When we challenge those rejections, the carrier generally reaffirms that only fibre is available. See Consumer Experience Scenario #4 for an example of how this issue affects consumers.
134. It is informative here to look at specific examples in order to understand why they presented barriers for TekSavvy, and ultimately to understand why wholesale-based providers have been unable to resolve the issue with either the incumbents or the regulator. Consider the following real experiences of TekSavvy customers:
- a. **Example 1:** A TekSavvy customer had 15 Mbps DSL provisioned on a carrier's FTTN access network since December, 2014. In November, 2016, they requested an upgrade to 25 Mbps. The carrier rejected that order, saying "Location is fibre-only – cannot provision on fibre". TekSavvy escalated that to the carrier repeatedly, arguing that facilities were obviously available since the customer had existing service. Despite our efforts, in January, 2017, that customer canceled their TekSavvy service altogether in frustration that the speed upgrade could not be completed.
 - b. **Example 2:** In May, 2018, a new customer ordered service in a multi-dwelling unit (MDU). The carrier rejected the order for the same reason, "Location is fibre-only – cannot provision on fibre". We examined our records and found that we already had six customers in that MDU with service on FTTN facilities. We therefore escalated the order to the carrier, arguing that the MDU was obviously served by copper facilities. The carrier sent a technician who examined the jacks in the unit, told the customer that the building is "fibre only", and gave the customer a contact phone number to order the carrier's retail services. TekSavvy complained to the carrier about the technician marketing to our customer during a dispatch⁶⁴ and asked the carrier to book another dispatch. They did, but the second technician also concluded that only fibre was available.
 - c. **Example 3:** An individual had TekSavvy DSL service in place from June, 2015 to January 2018. They ordered new service at the same address in March, 2018, but the carrier rejected the order, stating, "I've checked and the only service at this address is fibre. The address is only fibre."
135. In June, 2018, TekSavvy brought these concerns to the attention of the CRTC through their dispute resolution process, requesting staff-assisted mediation. After examining the

⁶⁴ For more information about the problem of technicians poaching wholesale end-users, see section D.II.c, as well as Consumer Experience Scenario 6.

above examples of this type of rejection, the carrier said these cases fall into two general categories: Those where service is not available on copper, and those where service is available but the address failed to qualify due to an error.

136. To explain Example 2 above, the carrier confirmed that service was not available on copper, and explained that the unavailability of FTTN services may be due the unavailability of other FTTN facilities such as ports, even when a copper loop is present at the address. They wrote,

“There are circumstances where, while copper facilities are still present, broadband service may nevertheless be unavailable for new customers. This may be due to the unavailability of adequate spare copper facilities in a neighbourhood or a lack of free ports in an FTTN node or in the CO equipment. In such cases, neither a wholesale ISP nor a [redacted] retail new end-user customer can be activated in that location on a copper facility... You are correct that copper-based services were, or even still are, provided in the MDUs you identified. However, due to congestion issues, neither new wholesale nor retail end-users could be activated at these locations at the time you placed your orders.”⁶⁵

Note that it is disingenuous for the carrier to say that “neither new wholesale nor retail end-users could be activated at these locations at the time you placed your orders.” In fact, only FTTN services are not available; the carrier would never be affected by that lack of free ports or other limits on FTTN facilities, since they would provision their retail end-users on FTTP facilities. In effect, once the carrier deploys FTTP facilities, they can allow the legacy copper facilities to languish knowing that doing so will only serve to foreclose on competition.

137. In other cases, the carrier said that service was actually available, but it appeared not to be due to failures of their address qualification systems. In Example 1 above, where TekSavvy lost an existing customer due to the carrier’s refusal to upgrade their speed, the carrier explained that “Our qualification tool does show that both FTTP and copper are available. However, our back office representative mistakenly rejected the upgrade request. This was a human error, for which we apologize, but not a systemic issue with our tool or network availability.” Despite the carrier’s protestations to the contrary, since the tool that the carrier makes available to qualify addresses for wholesale-based providers requires a human at the carrier to perform the task, this human error is indistinguishable from a systemic issue with the carrier’s tool.
138. To explain Example 3 above, where a former TekSavvy customer was not able to order TekSavvy service at the same address where they had had TekSavvy service only three months earlier, the carrier again blamed human error, explaining that different names were used for the different technologies on the same street: “[Redacted] Road for copper and [Redacted] Lane for FTTP. When you issued your new activation order, our tool matched the location with [Redacted] Lane, where only FTTP shows as available. We

⁶⁵ Correspondence from the carrier’s counsel, July 27, 2018.

have updated the copper availability data in our tool for [Redacted] Lane and eliminated the old [Redacted] Road entry to avoid further confusion.”

139. Address errors in Bell’s qualification tools have been problem for competitors. In the filings related to the Canadian Network Operators Consortium (CNOc)’s application for transitional aggregated access to FTTP facilities⁶⁶, CNOc noted that errors in Bell’s address qualifications resulted in consumers having less choice of service providers, and asked the Commission to investigate the competitive harms that stem from those errors. The CRTC responded with a request to Bell for further information about the extent of the qualification error problem, and the measures Bell is taking to identify and eliminate those errors.⁶⁷
140. Despite CNOc’s concerns that these address qualification errors are harmful to competition, competitors, and consumers, the CRTC ultimately accepted Bell’s position. In their responses, Bell stated that errors represent a 1% error rate. Regarding mitigation measures, the CRTC wrote,
- Bell added that a qualifying tool error does not necessarily mean that a wholesale customer cannot get service, as qualifying tool rejections can be escalated to the business office for review, and ISPs can nevertheless force an order through, again triggering a further availability review.⁶⁸
141. When the CRTC closed TekSavvy’s June 2018 dispute with a carrier concerning rejections due to fibre, CRTC staff accepted both of that carrier’s responses:
- At addresses where copper facilities are actually not available to competitors, they are also not available to the carrier. CRTC staff ignored that this is tantamount to the removal of copper facilities once the carrier deploys FTTP, and the apparent violation of the Commission’s position in that the “removal of [copper] access facilities ... resulted in the foreclosure of competitor access to new end-users”.
 - At addresses where copper facilities ought to be available but an order is rejected due to an address qualification error, the wholesale-based provider can escalate those rejections to the business office for review, and service providers can force orders through triggering further review. This essentially shifts the cost of the carrier’s errors to competitors and consumers: Since we have no way to know whether a given rejection is due to an error, we must now escalate every rejection to the business office, and then “force” the order through. At TekSavvy’s current volumes, escalating all of those orders would quickly overwhelm our staff with additional process. In our experience, each step in that escalation process can take days, and sometimes weeks, especially if it requires sending a technician to physically look at the availability of resources, keeping new consumers—consumers

⁶⁶ See *CNOc Application for transitional access to incumbent carriers’ fibre-to-the-premises facilities through aggregated wholesale high-speed access services*, at note 60.

⁶⁷ CRTC staff letter to Bell, 5 October 2017, regarding Request for Information regarding incorrect entries in Bell Canada’s qualifying tool.

⁶⁸ CRTC staff letter to CNOc and Bell, 6 March 2018, regarding Request for Information regarding incorrect entries in Bell Canada’s qualifying tool.

who always have the option of ordering service from the incumbent—in a state of limbo while providing no assurances that the carrier ultimately fixes those errors at all.

142. This is a complex problem involving intersecting issues including the lack of access to FTTP facilities, errors in address qualification, and transparency about the availability of facilities. Without any incentive to address it, incumbents will continue to allow their copper facilities to deteriorate, limiting only competitors' access to customers, while externalizing the cost of fixing their own errors in their qualification tools. Even where a rejection is ultimately reversed and service is provisioned, the result is at the very least confusing and inconvenient for customers who should not need to understand why TekSavvy would take days or weeks to even figure out if service is even available.

E Technical Barriers

143. Above, we discussed barriers caused by regulatory gaps, and operational barriers imposed by carriers. In this section of our submission, we discuss barriers that directly limit technical elements of wholesale services. In each case, the carrier uses its position of power as the wholesale service provider to introduce or maintain barriers for wholesale-based providers to the benefit of those carriers' own retail operations and to the detriment of consumers.
144. There are a number of chokepoints where we see incumbents impose barriers for wholesale-based providers by manipulating technical inputs. We will focus on two specific examples of these barriers, each occurring at a different part of the wholesale network access service: Barriers to cable modems and to transport services.

E.I Modems

E.I.a Cable carriers maintain control over testing for every modem

145. To have an Internet service, an end-user must have a modem or gateway device, which connects the network in their home to the ISP's network service. For services on DSL platforms, those modems are fairly standard across the industry. For example, the Commission has determined that "[An] ISP can test a modem itself by connecting it to the Bell companies' network as an end-user would. If the modem performs satisfactorily, it can be used as is. If it does not perform well, the ISP can request a formal eight-week test from the Bell companies."⁶⁹
146. In contrast, while cable modems are also required to meet technical standards, known as DOCSIS, in order to use a modem for any carrier's TPIA service, it must have been tested and approved by that carrier.⁷⁰ Each carrier has its own testing protocol for cable

⁶⁹ *Bell Aliant Regional Communications, Limited Partnership and Bell Canada - Application to review, vary, and stay certain determinations in Telecom Decision 2013-659 related to modem testing requirements and conditions*, Telecom Decision CRTC 2014-463, 8 September 2014, at para 41.

⁷⁰ *Cable modems for third-party Internet access*, Telecom Decision CRTC 2004-37, 4 June 2004 ["2004 modem rules"]; *Third-party Internet access - Cable modem second-level testing*, Telecom Order CRTC 2007-442, 27 November 2007 ["2007 modem rules"].

modems, only part of which is known to the wholesale-based providers. Each carrier maintains a list of modems that they have tested and approved for TPIA use, which they are required to make available to wholesale-based service providers on request. Only modems that have already been tested and certified by the independent cable standards organization CableLabs as meeting the DOCSIS standard can be submitted for carrier testing; as a result, the modem testing that is performed by the carriers is known as “second-level testing”.

147. Under the first iteration of modem testing rules from 2004, the CRTC determined that “no second-level testing is required for a cable modem previously found to be compatible with the cable carrier’s network or that is the same model as that used by the cable carrier for its customers.”⁷¹ One would therefore imagine that a wholesale-based provider would be able to use the same modem hardware for its customers that the carrier used for its own customers.
148. In fact, in the 2007 modem rules, the carriers successfully had the CRTC change the rules to maintain their control over modems used by wholesale-based providers, without limiting their own retail modems. Under the revised rules in 2007, the carriers defined a “modem model” to be a specific combination of hardware, software, and firmware. Any change in firmware would then potentially require new second-level testing since the device would be considered to be a different “modem model”. Carriers generally use custom firmware that includes their brands. Even if wholesale-based providers wanted to use modems with the carrier’s brand on the firmware, we would not in practice be able to get access to modems with their custom firmware. If the 2004 rule was in effect, then we could likely use modems with similar firmware; under the 2007 rule, where a “modem model” is defined to be the particular combination of hardware, software, and firmware, every modem that is available to wholesale-based providers is necessarily a new modem model, and requires its own testing.⁷²
149. In short, instead of relying on independent technical standard (DOCSIS) or lowering the bar for wholesale-based providers and enabling us to use cable carriers’ own modems or some sufficiently similar modem, cable carriers have again used their position as wholesale service providers to act as gatekeepers for what their wholesale customers

⁷¹ See the 2004 modem rules, at para 77.

⁷² The cable carriers defended this approach in their reply comments in Telecom Notice of Consultation 2013-80, the proceeding that led to Telecom Decision 2013-659. In their reply comments dated June 4, 2013, the Cable Carriers wrote (at para 11, emphasis added),

“In paragraphs 26-31 of her May 15, 2013 Comments, Ms. Murphy asks why a Hitron CDE-30364 modem (“Hitron”) previously purchased for Rogers’ retail 150Mbps/10Mbps service cannot be used for TPIA service. The reason is that the firmware loaded into this gateway modem is specifically configured for Rogers’ retail service including an initial Rogers splash page. Ironically, in the past Rogers has received complaints from ISPs who inadvertently deployed modems with Rogers-specific firmware that Rogers was subverting the competitive process by trying to win customers back during the provisioning process. In any event, TPIA ISPs are free to request certification of this device with non-Rogers-specific firmware.”

can do, strengthening their own competitive position for retail services and reducing options for consumers.

E.I.b Cable carriers set arbitrary rules for modem testing

150. As mentioned above, each carrier has its own protocol for second-level testing. The purpose of those protocols is to confirm that the modem is compatible with the carrier's network. In an efficient market where parties could operate independently and without market power, there would be standard rules to objectively and transparently establish the compatibility of a critical technical input such as the cable modem itself.
151. Again, however, that is not the case here. In the 2004 modem rules, the CRTC determined that, in order to be considered to be compatible with the cable carrier's network, a cable modem "should, at a minimum, satisfy the 10 requirements listed by the CCTA in submission HSCO033."⁷³ Not only are those requirements therefore a minimum standard allowing each cable carrier to create their own additional requirements, but those minimum requirements effectively give the cable carrier the discretion to fail any modem.
152. As a consequence, while cable carriers introduce new modems and upgrade firmware versions as needed, wholesale-based providers struggle to identify modems that will be sufficiently available in the market, work with suppliers and manufacturers to satisfy themselves that the modem will satisfy their needs, and then submit it to each of the cable carriers in the hopes that they will pass testing. Typically, a modem model will pass some carriers' testing but not others. In that even, we must either resign ourselves not to use that modem on carriers that failed it, or we must work with the manufacturer to have new firmware produced that will pass those carriers' testing process and then live with the inefficient result that we have to use different firmware for the same modem hardware on different carriers.
153. The consequence of these modem testing rules is to create a significant disparity between modem availability on retail and wholesale platforms. This discrepancy is not required by any technological necessity; rather, it is entirely artificial and only exists because of the different frameworks created by the incumbents for retail and wholesale modems. If the market were efficient, such as if incumbents had less or no power to impose arbitrary requirements on the wholesale market, then the network operator providing wholesale services would establish standards that all competitors would be subject to, and modems would become available more broadly across all competitors, allowing new technology to be available to consumers more quickly and more widely without putting network security or compatibility at risk.

E.I.c Cable carriers take up to six months to make new modems available

154. Even when a wholesale-based provider decides to send a modem to a carrier for second-level testing, they expect the entire process to take at least four months, and sometimes much longer. This makes it very difficult to plan for changing technology and changing requirements (discussed more below). By the time a modem is approved, a

⁷³ See the 2004 modem rules, at para 20, adopting the ten requirements listed in *Cable Modems – Definition of Compatibility*, CISC contribution HSCO033, 23 March 2001.

better modem may be available, or the carrier may change modem requirements for certain service speeds and make that new modem redundant.

155. The CRTC set out the timeline for completion of second-level testing in the 2004 modem rules. While not always well-known to participants in what has, occasionally, proven an obscure process, that timeline was clear, and has not been disturbed:

[T]he Commission is concerned that cable carriers could leverage second-level testing in an anti-competitive manner if test periods were excessively long.

Accordingly, the Commission confirms its preliminary view that second-level testing must be completed within 28 calendar days. The 28-day timeline will begin the date that the cable carrier receives the request for testing.⁷⁴

156. In our recent experience, when we remind them of the mandatory timeline, cable carriers generally do pass or fail modems within that timeline. However, even once a modem passes, in order to use that modem it must be added to a carrier's back end systems. It is not clear to wholesale-based providers what this entails, but there are no established timelines for this process and, in our experience, it can take up to six more months. For example, TekSavvy submitted the DPC3848V to a cable carrier for second-level testing on December 19, 2017. Despite the 28 day mandatory timeline, the cable carrier passed the modem on March 1, 2018, but it was not available for provisioning until June 11, 2018, six months after it was first submitted.
157. In other words, while the CRTC recognized in 2004 that cable carriers could leverage second-level testing in an anti-competitive manner if test periods were excessively long, they left unregulated part of the process that is necessary to make modems available for wholesale use and, indeed, carriers have leveraged that regulatory gap to create an arbitrary delay in the modem approvals process.

E.I.d Cable carriers set arbitrary modem requirements for services

158. Finally, cable carriers may introduce new technologies on their networks and, in doing so, impose new minimum modem requirements for wholesale services. This is done without notice and without consultation with wholesale-based providers, leaving us unable to effectively plan for any new modem to be useful for any period of time.
159. For example,
- The TC4350 is an inexpensive DOCSIS 3.0 modem with 32 downstream channels and 8 upstream channels, capable in theory of speeds over 1 Gbps. TekSavvy identified this modem to be a versatile option that we could seek to get approved across all carriers, and then promote to end-users as a modem that would allow them to upgrade to faster speeds in the future.
 - In July, 2016, TekSavvy submitted the TC4350 to one cable carrier for testing, with firmware version 15.

⁷⁴ See the 2004 modem rules, at paras 88-89.

- The cable carrier passed that modem model and it was available for provisioning quickly, on August 22, 2016.
 - TekSavvy then submitted that modem to the other carriers for testing; it passed on one of the other carriers, but failed on two other carriers in November, 2016.
 - TekSavvy worked with the manufacturer to produce new firmware to address the identified issues and submitted new firmware to carriers in February, 2017 with firmware version 19.
 - The final two carriers passed the TC4350 in March and April, 2017 respectively, and it was available for provisioning on both networks by June, 2017.
 - Therefore, after starting our project in July 2016 to get the TC4350 available on all four carriers, it was finally available with two different firmware versions by June 2017.
 - In September, 2017, one carrier announced that as of January 1, 2018, DOCSIS 3.0 modems would no longer be provisioned for service speeds over 60 Mbps. Instead, those speeds would require a DOCSIS 3.1 modem, one of which the carrier had proactively approved for wholesale use.
 - In other words, after finally completing a one-year project to standardize around a modem that we had identified as future proof, using the best information we had available to us at the time, the carrier changed the rules and made that modem effectively redundant on their network. While the carrier has now delayed the implementation of that change several times, they have maintained that the new requirement will be imposed this year, leaving us still unable to effectively plan our investment in that inventory.
160. In the above example, the carrier introduced the requirement for DOCSIS 3.1 modems to be used for service speeds over 60 Mbps. While it is true that DOCSIS 3.1 modems are technically more efficient and better for the network, especially at higher speeds, the carrier's implementation of this new requirement is still arbitrary and unnecessary. First, 60 Mbps is unreasonably slow to require DOCSIS 3.1 modems. In contrast, other cable carriers all allow certain DOCSIS 3.0 modems, including the TC4350, to be used for service speeds up to and including 250 Mbps.
161. Even more concerning, even for their fastest speeds where they require us to use a DOCSIS 3.1 modem, that carrier is not yet using DOCSIS 3.1 technology on their network. That is, they require the use of a DOCSIS 3.1 modem, but only for network planning purposes, to promote a shift toward overall more efficient facilities; meanwhile, they are using it as a 32x8 DOCSIS 3.0 modem, exactly like the TC4350, even at speeds up to 1 Gbps.
162. That carrier is not alone in having imposed arbitrary modem requirements. Other cable carriers require DOCSIS 3.1 modems for speeds above 250 Mbps, but there are not yet any DOCSIS 3.1 modems available for TPIA use on those networks. As a result, wholesale-based providers cannot yet offer the available service speeds of 500 Mbps or

1 Gbps on one carrier, or 300 Mbps on another carrier. On August 31, a third carrier added 360 Mbps and 1 Gbps services that also require a DOCSIS 3.1 modem.

163. It is understandable that the underlying carrier may have technical requirements that wholesale customers like TekSavvy must comply with, and there will likely always be some degree of coordination across various carriers, as well as some change management as technical requirements evolve. However, under the current system, incumbent carriers can plan out their modem usage and inventories in concert with their network technology upgrades allowing a smooth transition for their retail operations, while imposing requirements on wholesale-based providers with little concern for our planning processes, and only to advance their own goals, with the result that certain services, such as the higher speed services, are only available to end-users through the incumbent carriers.

E.II Transport for backhaul, and Points of Interconnection

164. Another area where carriers impose technical barriers is literally at the interface between the regulated and unregulated elements of a wholesale-based service. In order to understand this limitation, it is necessary first to understand the technological elements concerned, specifically the “transport” and the “Point of Interconnection”.
165. As a wholesale network access based provider, TekSavvy gets last mile access services on lines that connect end-users’ premises to some central aggregation point where the carrier has network routing equipment to serve those premises. This is the regulated wholesale network access service. In the current “aggregated” model, this access service covers very large areas: For Rogers, the aggregated TPIA service includes the connections to every premise on the Rogers footprint, and it brings those connections together at one location, Rogers’ aggregated TPIA point of interconnection (POI) at 855 York Mills Rd. in Toronto. In order to connect our end-users to the Internet, TekSavvy must use other network resources, known as “transport” or “backhaul”, connecting at one end to the TPIA POI, and at the other end to other networks including the Internet, typically at a location known as an Internet Exchange (IX).
166. In the disaggregated model, which is being phased in to provide access to Fibre-to-the-Home facilities, the essential architecture is the same but on a less aggregated scale: instead of aggregating the entire province to one building in Toronto, Rogers will aggregate smaller areas, with around 37 disaggregated TPIA POIs proposed on their network in Ontario. Each wholesale-based provider will then interconnect with the disaggregated TPIA POIs in areas they wish to serve with FTTP, and they will get transport from each POI to the IX.
167. Therefore, in order to transport a certain amount of traffic, measured in Mbps, between the Internet and end-users, TekSavvy must both use a fibre with sufficient capacity, and connect to a port at the TPIA POI with the same capacity. Importantly, the transport component of this network architecture is not regulated, and is generally available on various terms at competitive rates from several providers; in contrast, the interconnection at the TPIA POI is regulated as part of the TPIA service.
168. One cable carrier in Western Canada has never had a fully aggregated network, instead operating one TPIA POI in each of ten areas, including for example, Vancouver Island,

- Vancouver, Kamloops, Calgary, Saskatchewan, and Manitoba. For TekSavvy to serve end-users in Vancouver, we must connect a transport service between the IX located in Vancouver, and the carrier's TPIA POI in another part of Vancouver, where they have aggregated all of the "last mile" access to premises in the Vancouver area.
169. TekSavvy has a large and growing number of customers in Vancouver, who together during peak hours use nearly X Gbps of bandwidth, where X is between 10 and 20 Gbps. In order to carry that traffic between our end-users and the Internet, we must have at least that much capacity at each part of the service: X Gbps of transport services between the IX and the TPIA POI, X Gbps of ports on the TPIA POI, and X Gbps of CBB⁷⁵.
 170. Each transport service costs us separately. Currently, we have X separate services at 1 Gbps, each one transporting traffic between the IX and a single 1 Gbps port on the TPIA POI. As it turns out, it is less expensive and more efficient to manage one 10 Gbps transport service than ten 1 Gbps transport services. Since we have between 10 and 20 Gbps of traffic, it would make sense for us to upgrade in Vancouver to two 10 Gbps transport services, and then adjust the amount of CBB so there is half of X Gbps on each service.
 171. However, that more efficient solution is not possible. The 10 Gbps transport service is available, but at the TPIA POI—the regulated service—that particular carrier only has equipment with 1 Gbps ports. TekSavvy requested that they upgrade their equipment to accommodate 10 Gbps interconnections, but they responded that they would not make the necessary upgrades.
 172. We face the same situation with one of the cable carriers in Ontario, but scaled up by a factor of ten: We currently use 10 Gbps transport and links on the TPIA POI, we have enough traffic that we should upgrade to 100 Gbps transport and links, but that carrier will not upgrade their equipment to provide those larger links. This is a limit that the carrier imposes on wholesale customers without a technical rationale. In fact, we completed an upgrade with a DSL provider in 2016 from 10 Gbps links to 100 Gbps links.
 173. The carriers do not face the same restrictions for their internal operations. Once there is enough traffic that it became more efficient to invest in new equipment and have larger ports, the carrier would surely do so. In an efficient market where incumbents did not have the power or structural incentive to preference its own retail operations, the wholesale network operator would either provide some port capacity for all competitors, whether it was too small or large enough. But the current wholesale model, where the incumbent provides the wholesale services and also competes in the retail market, puts the incumbent in a position of power where it can impose barriers on wholesale-based

⁷⁵ CBB is in effect the amount of traffic the carrier will allow to travel through the TPIA POI's ports. In areas with fewer customers and less traffic, we might have 1 Gbps of transport in a 1 Gbps port on the TPIA POI, but only pay for, say, 800 Mbps of CBB, or throughput on that 1 Gbps port. The rest of the capacity on the port is unused in that situation, until we add more capacity to avoid congestion. Conveniently in that scenario, we can add capacity without adding any physical transport or ports; it is a software change that the carrier makes to allow more traffic through the port.

service providers, in this case increasing costs for consumers and, since it is more difficult to manage capacity needs across many ports, making it more likely that end-users of wholesale-based service providers may encounter more congestion issues than incumbents.

Consumer Experience Scenario #1: Flanker brand offers

A prospective customer contacts TekSavvy asking about residential broadband service in the Greater Toronto Area. The customer mentions that she has recently seen offers, apart from the typical Bell and Rogers advertising, from what appear to be new wireline Internet service providers. FIDO, the customer notes, now offers home Internet with DIY installs, which is great because she is busy and doesn't have time to stay home from work for an appointment. She also noticed that FIDO and Virgin's pricing includes all the fees and modems.

The customer has completed some price comparisons based on TekSavvy and flanker brand websites:

30 Mbps down/5 Mbps up Unlimited Usage	TekSavvy Cable (regular price)	FIDO (regular price)
Monthly Service	\$52.95	\$50
Activation	\$49.95	DIY install included \$49.99 if technician needed
Modem (includes WiFi)	\$179.95	Rental included
Shipping	\$10	Included
Recurring monthly	\$52.95	\$50
Up-front fees	\$239.90	\$0 to \$49.95

75 Mbps down/10 Mbps up Unlimited Usage	TekSavvy Cable (promo price)	FIDO (promo price)
Monthly Service	\$50 (12 months) \$59.95 (regular)	\$32.50 (12 months) \$65 (regular)
Activation	\$24.95 (discount)	DIY install included \$49.99 if technician needed
Modem (includes WiFi)	\$159.95 (discount)	Rental included
Shipping	\$10	Included
Recurring monthly	\$50 (12 months) \$59.95 (regular)	\$32.50 (12 months) \$65 (regular)
Up-front fees	\$194.90	\$0 to \$49.95

50 Mbps down/10 Mbps up Unlimited Usage	TekSavvy DSL (promo price)	Virgin Mobile (promo price)
Monthly Service	\$30 (12 months) \$57 (regular)	\$30 (12 months) \$60 (regular)
Activation	Included (promotion)	DIY install included \$49.99 if technician needed
Modem (includes WiFi)	Included (promotion)	rental included
Shipping	Included (promotion)	Included
Recurring monthly	\$30 (12 months) \$59.95 (regular)	\$30 (12 months) \$60 (regular)
Up-front fees	\$0	\$0 to \$49.95

TekSavvy's promotion reduces monthly prices for a period and includes all up-front fees that are typically charged. While TekSavvy's offer appears to be competitively priced with Virgin Mobile's offer, TekSavvy's promotional monthly prices cannot beat FIDO's. TekSavvy explains that it offers the best available current pricing (fully transparent to all consumers and to the market on its website), which is based on the wholesale rates it pays to incumbents, which is set by the CRTC. TekSavvy cannot lower its offer any further to match FIDO's pricing because FIDO's pricing is much lower than the wholesale rate that TekSavvy pays to the incumbent.

The customer also wants to get online as soon as possible and ideally without taking time off work. FIDO is able to offer DIY install and has told the customer that TekSavvy requires a technician for installations. If FIDO requires a technician, it offers GPS tracking capabilities for the technician on the installation date. TekSavvy can, at best, schedule an install for five days after the order. The customer questions why TekSavvy does not offer a similarly responsive service installation experience as these other smaller, "independent" providers. The customer is unaware that FIDO and Virgin Mobile are, in fact, flanker brands owned by incumbent carriers, and they do not operate using the same wholesale rates or processes required by incumbents.

The customer chooses one of the flanker brands because she can schedule a technician dispatch herself online to take place the next day and watch for the technician's arrival on a GPS map on the day of her install.

Consumer Experience Scenario #2: Incumbent offers

A prospective customer contacts TekSavvy wanting to learn about what broadband services TekSavvy can offer at her service address, and how these compare to incumbent services.

The customer is interested in whether TekSavvy can bundle Internet service along with mobile and TV in a package deal. After explaining to the customer that TekSavvy does not currently offer bundled services with mobile or TV, the customer asks whether TekSavvy can at least match or beat incumbent pricing or speeds for home Internet service, citing promotion deals offered by various incumbent carriers (*see images below*).

The image contains three screenshots of incumbent broadband service offers:

- Top Left:** Rogers website showing three plans:
 - Rogers Ignite™ Gigabit:** Unlimited usage, speeds up to 1 Gbps download and 30 Mbps upload, great for 4+ people, includes modem rental, \$152.99/mo.
 - Rogers Ignite™ 500u:** Unlimited usage, speeds up to 500 Mbps download and 20 Mbps upload, great for 3 people, includes modem rental, \$127.99/mo.
 - Rogers Ignite™ 150u:** Unlimited usage, speeds up to 150 Mbps download and 15 Mbps upload, great for 2 people, includes modem rental, \$74.99/mo.
- Top Right:** Cogeco website showing three fibre plans:
 - Fibe 50:** Guaranteed savings of \$20/mo off regular price, right now pay only \$64.95/mo.
 - Gigabit Fibe:** Guaranteed savings of \$20/mo off regular price, right now pay only \$74.95/mo.
 - Gigabit Fibe 1.5:** Guaranteed savings of \$20/mo off regular price, right now pay only \$84.95/mo.
- Bottom Left:** Rogers website showing an Internet 300 plan:
 - Up to 300Mbps download speed, up to 20Mbps upload speed, unlimited data transfer.
 - Price: \$55/mo* (promo for 6 months), regular price \$120/mo.
 - Includes: Advanced WiFi Modem rental, Access to Shaw Go WiFi, and an additional \$100 credit for online orders.
- Bottom Right:** Cogeco website showing an UltraFibre 1Gig Unlimited plan:
 - Download and stream movies at lightning-fast speeds, perfect for competitive online video gaming, ideal for families using multiple devices at once.
 - Download speed up to 1 Gbps, monthly usage: unlimited.
 - Price: \$119.00/mo (12 months promo), regular price \$149.00/mo.

TekSavvy provides information about its fastest possible speed packages – these are services over its cable platform. The customer might ask about whether TekSavvy can offer fibre broadband, since she has heard that fibre provides the fastest speeds. TekSavvy would explain that it does not currently have wholesale access to incumbent’s fibre-to-the-premises (FTTP) speeds (see Consumer Experience Scenario #3).

When discussing cost, TekSavvy would explain its best available current pricing (fully transparent to all consumers and to the market on its website), which is based on the wholesale rates it pays to incumbents, set by the CRTC. The customer asks TekSavvy to match or beat the incumbent’s promotional pricing or an offer the customer was able to negotiate over the phone with an incumbent sales representative. However, TekSavvy cannot match incumbent pricing if it is lower than the wholesale rate that it pays to the incumbent.

The customer explains that while she would rather not subscribe to “one of the big guys”, and that she is reluctant to commit to a fixed-term contract, the price advertised by an incumbent is too good to pass up, compared to TekSavvy’s offer.

Ultimately, the customer chooses not to subscribe to a TekSavvy product, instead opting for a bundle of the incumbent's services. The customer must commit to a two-year subscription to get the bundle discount. Her bundle includes products beyond what she actually needs, because the lowest price is only achievable if she buys more products in a bundle. The incumbent might also offer a non-communications service such as home alarm monitoring with an additional tied fixed-term discount to apply to the customer's Internet service.

Consumer Experience Scenario #3: No access to fibre technology

A potential or existing customer contacts TekSavvy asking if fibre broadband service (meaning, fibre-to-the-premises or FTTP) is available for their home or business. TekSavvy explains that it does not yet have wholesale access to incumbents' fibre networks, so it is not able to sell fibre broadband services to the customer.

The customer is confused, since they thought competitors like TekSavvy could sell any service Bell and Rogers sell. He has seen Bell and Rogers' marketing for fibre broadband service and great price promotions for fibre. Even Virgin Mobile, a service provider that looks like a small competitor like TekSavvy, can offer 100 Mbps over fibre – and at a price that doesn't cost much more than TekSavvy's fastest DSL or cable package.

Since the customer really wants the fastest broadband on the newest fibre technology, the customer can't choose TekSavvy as his service provider, since TekSavvy does not yet offer any fibre Internet services. The customer's only choice in the current market is an incumbent service provider, and the customer commits to a fixed two-year contract to get the best price on his new fibre service.

Consumer Experience Scenario #4: DSL service rejected because of “brownfield” fibre

A prospective customer contacts TekSavvy asking for DSL Internet service at his home address in Ontario or Quebec. When TekSavvy uses the tools provided by the incumbent wholesale provider to check if service is available at the customer’s address, it appears as though service is available. But after TekSavvy submits an order to its underlying service provider, the order is rejected. TekSavvy is told that the address is “fibre only” or that the address “does not qualify for service”.

This doesn’t make sense to TekSavvy because it has other customers on DSL services in the immediate vicinity of the customer’s address. This means that the address is not likely a **“greenfield fibre-to-the-premises (FTTP)”** location – an address where there has never been legacy DSL, FTTN, or coaxial cable – which is often the case for new homes or buildings in newly developed areas. TekSavvy escalates the rejection, explaining to Bell that we currently have an active customer on copper at the address, and to please proceed with the activation, or asking Bell to clarify if there is or ever was copper facilities at the address.

After working through Bell’s escalation process, it becomes clear that Bell has upgraded its underlying legacy copper infrastructure to fibre (FTTP) infrastructure. Therefore, this was a **“brownfield FTTP”** location, where DSL was previously available to the address. Bell has rejected TekSavvy’s order for DSL services either because:

- (1) Bell mistook the address to be a greenfield fibre (FTTP) location and erroneously rejected the order; or
- (2) a Bell technician was dispatched to install the service but discovered that there were no legacy ports available at the Bell Central Office (CO). Ports may be unavailable if Bell does not maintain legacy infrastructure.

TekSavvy can continue to escalate rejections for “brownfield FTTP”. Pursuing these types of rejections is time-consuming and resource-intensive for TekSavvy, as each escalation must be manually processed and followed up.

Meanwhile, many days or weeks have elapsed while TekSavvy tries to sort out the order rejection reason and clarify whether DSL service is available at the address. Bell has standard timelines for responding to TekSavvy escalations, which can take a few days for each response. If multiple escalations are needed to seek clarity, it can take a week or more to arrive at a satisfactory outcome.

The customer may have chosen the incumbent service provider while waiting for TekSavvy to clarify whether it can provide DSL Internet service to his address. If Bell stands by its rejection reason and TekSavvy must advise the customer that it cannot provide DSL Internet service to that address. TekSavvy might be able to offer Internet over its cable network, but it cannot meet the customer’s demand for DSL service and the customer is frustrated for having to wait so long to determine if service is even available to their address.

Consumer Experience Scenario #5: Installation timelines

A prospective customer contacts TekSavvy to request Internet service. The customer wants Internet service to be installed as soon as possible – ideally today or tomorrow.

TekSavvy explains to the customer that the earliest possible date for an installation is five business days from today, the order date. It relies on its wholesale carriers to process the order and complete the installation, and the earliest available window is five days out. Meanwhile, the customer might contact the incumbent's retail sales call centre or chat and learn that the incumbent can install its own retail service as early as today or tomorrow. Incumbents prioritize the installations of their own retail customers and flanker brand customers over installations for TekSavvy or other wholesale-based providers.

TekSavvy is required to give their underlying carriers five business days to process, book, and action orders for new end-user services. Typically, TekSavvy takes the customer's three preferred install dates and windows to request with the carrier, and provides the customer with a conditional install date and time window. Requested dates and times are not guaranteed.

TekSavvy then submits the order with preferred installation windows to the carrier. TekSavvy does not have tools that give it visibility into the incumbent's available technician windows. The incumbent can reject the order if the proposed installation dates are not available, or set an install date and time that may not be one of the customer's three preferred windows. The incumbent is required to confirm or reject the installation appointment within two days of receiving the order, but our experience is that they take longer to respond. If the carrier confirms an install window that is different than the conditional window TekSavvy and the customer agreed on, TekSavvy communicates the confirmed appointment with the customer.

If the scheduled install window does not work for the customer (typically because the incumbent has scheduled a window that is different than the customer's three preferred dates), or if the incumbent does not respond to confirm an appointment before the requested appointment date, then TekSavvy must place another order to schedule an appointment window. The re-proposed window must be another five business dates from the date of the order. The customer is frustrated by the scheduling issues, any time they have taken off work for the conditional appointment, and by the further delay of at least five business days to schedule an install.

Customers who value a speedy installation may choose an incumbent service provider, as they will be able to meet the customer's need to get online as soon as possible. Customers are frustrated by TekSavvy's inability to immediately confirm a guaranteed install window upon placing an order for Internet services, and any further delay only compounds their frustration with TekSavvy as their service provider.

Consumer Experience Scenario #6: Misleading or aggressive sales practices by a technician during an appointment

A prospective customer contacts TekSavvy asking to activate Internet service. TekSavvy then coordinates an install appointment with the underlying incumbent carrier. The regulatory framework requires every wholesale install to dispatch an incumbent technician to the customer's premises to install service.

Or, an existing customer contacts TekSavvy about a service-related issue. TekSavvy troubleshoots the issue with available tools. After eliminating possible issues with the customer's equipment or home network, TekSavvy submits a repair ticket to the underlying incumbent carrier, as a technician appointment is required to examine the issue at the customer's home.

During the install or repair appointment at the customer's home, the incumbent technician does one or a combination of the following:

- offers to sell incumbent services to the customer and install the service today;
- offers to match TekSavvy's price;
- offers a faster speed service than the customer ordered with TekSavvy;
- criticizes TekSavvy's quality of service, network reliability, or hardware;
- draws a direct comparison suggesting that TekSavvy is an inferior option to the incumbent;
- makes a misleading or false statement about TekSavvy's network, services, or hardware; and/or
- falsely states that TekSavvy is owned by the incumbent.

A customer may be persuaded by the technician's sales offer or misleading statements and choose to switch to the incumbent for Internet service. If the customer is new to TekSavvy and previously unfamiliar with TekSavvy's services, the incumbent technician's behaviours may place doubt in the customer's mind about TekSavvy's services to effectively undermine the credibility and trust built between TekSavvy and their customer.

If TekSavvy learns about the technician's behaviour from the customer, TekSavvy escalates the issue to the incumbent's wholesale Carrier Services Group. They typically reply that they will investigate and take "appropriate action", which usually means coaching the technician. While carriers claim that they have policies against this behaviour, they do not appear to have imposed any controls against technicians making disparaging statements about competitors' services, and they openly approve of technicians answering end-user questions about the incumbents' retail services, even when they are on-site for a wholesale installation.

Consumer Experience Scenario #7: Technician no-shows and rescheduling

A prospective customer has scheduled and confirmed an installation appointment for their TekSavvy service. Or, an existing customer has scheduled and confirmed a repair appointment for a service issue on their TekSavvy service. Installation or repair appointment windows are usually four hours long, and the technician can present themselves anytime within that timeframe.

Agreements between underlying incumbent carriers and wholesale-based providers like TekSavvy require that the customer or a delegated person over the age of 18 be present for an install or repair to be completed.

During the service window, technicians may call the customer. If the customer misses the technician's phone call, the technician marks the appointment as "nobody home" and does not attend the premises. If the customer misses the call, there is no way for TekSavvy or the customer to reach out to the technician to advise that they are home.

Sometimes, customers report that they are home during the entire service window but the technician does not show up. However, a technician may note "nobody home" in the reasons why the appointment was not met. These could be incidents of "feather knocking", where a technician stops by the customer's premises but does not knock loud enough for the door to be answered, or incidents where the technician does not attend the premises at all. On some occasions, the technician arrives earlier than the scheduled window, but if the customer is not yet home, the technician mark the order as "nobody home" and leaves.

These "nobody home" appointment issues could be resolved with simple technological tools that some incumbents already have. Some incumbents and their flanker brands make GPS tracking software available to their own retail customers, which allows the customer to track where the technician is on the way to their home.

TekSavvy customers who do not get service installed because the technician was a no-show or they missed technician's phone call are very upset when they contact TekSavvy. They are frustrated because they have taken time off work, want to be online as soon as possible, and do not want to take more time off work to stay home for an install. Adding to the customer's frustration, when TekSavvy reschedules a missed installation appointment even if it is the technician's fault for not showing up, it cannot request the next available appointment. TekSavvy must explain to the customer that the earliest possible date for a rescheduled appointment is at least two business days from today (assuming that there are no order processing or other delays on the incumbents' end).

If the customer contacts the incumbent's retail sales call centre or chat, it might learn that the incumbent could install service as early as today or tomorrow. Incumbents prioritize the installations of their own retail customers and flanker brand customers over installations for TekSavvy or other wholesale-based providers.

If the customer is very frustrated by their experience and wants to get online right away, the customer might choose to go with the incumbent for fastest installation.



Market Study Notice: Competition in Broadband Services

i Some of the content in this notice has been updated. See the [Broadband Market Study Update](#) for additional detail regarding the timing and scope of the Study.

Notice of study

1. The Competition Bureau (Bureau) is commencing a market study to better understand the competitive dynamics of Canada's broadband internet services industry (Study). ¹, ²
2. Broadband is the high speed, high capacity internet access that fuels the digital economy. Canadians use broadband services to find and share information, purchase products and services, and increase their productivity at work. Accordingly, high prices in the broadband sector can have negative spill-over effects into a wide range of economic activity.
3. Promoting healthy competition can help to ensure that all Canadians prosper in a competitive and innovative marketplace.

Purpose of the study

4. Most Canadian homes are served by two networks capable of providing broadband internet services: one owned by the local telephone company, and the other owned by the local cable company. This limited choice leads to obvious questions about competition; when consumers have only two options, can we be sure that market forces will deliver the low prices and high levels of innovation that are characteristic of competitive markets?
5. The Canadian Radio-television and Telecommunications Commission (CRTC) has historically taken action to increase the level of competition in Canadian broadband markets by allowing independent resellers to use existing telephone and cable networks to provide internet services to Canadians. ³ Presently, more than 550 companies have been established to act as a competitive alternative to traditional telephone and cable companies. ⁴
6. Yet, questions arise as to the impacts that these independent service providers, or "resellers", have had on competition. The latest CRTC Communications Monitoring Report notes that, as of 2016, 87% of retail internet subscriptions in Canada were purchased from a traditional telephone or cable company. ⁵ This comes against the backdrop of resellers offering

seemingly comparable services at prices that can be as much as 30% lower than those advertised by telephone and cable companies, as measured in a 2015 report by Wall Communications. ⁶

7. The purpose of this Study is to better understand these market outcomes and the competitive dynamics of Canadian broadband markets more generally. Are resellers fulfilling their role in placing increased competitive discipline on traditional telephone and cable companies? Or are these figures a symptom of a marketplace that could function better?

Scope of the study

8. The Bureau plans to examine four broad questions, each of which contains a number of specific issues:

- a. **Have resellers been able to deploy competitively effective service offers?**

- i. What competitive influence have resellers had, to date, on traditional phone and cable network owners? How could this competitive influence change in the future?
- ii. Are there differences between the services offered by traditional phone and cable network owners and those provided by resellers that could explain the observed consumption patterns? What are the value points that matter the most to consumers?

- b. **How have consumers reacted to new competitive alternatives?**

- i. How aware are Canadian consumers of their options for broadband services? Are there factors that may drive consumer inertia in this industry and, if so, are there ways to overcome these factors?
- ii. How does the fact that resellers do not typically provide other telecommunications services (e.g., television or phone service) affect the competitive attractiveness of resellers?
- iii. How do industry contractual practices affect consumer behaviour? How are contract lengths and bundling discounts structured? How aware are consumers of their contractual obligations and rights?

- c. **How does regulation in this industry affect the economic behaviour of broadband suppliers?**

- i. How does the Canadian reseller regime affect the incentives that network owners have to expand or upgrade their networks? Have network investment levels changed following the establishment of resellers?
- ii. What investments must resellers make in order to provide services to consumers? Are there features of the marketplace that impede the expansion of resellers?

iii. Have network owners used the reseller regime to expand their reach outside of their incumbency area? Why or why not?

d. **How do other countries manage and regulate broadband competition?**

i. Do Canadian regulations diverge in any meaningful way from those employed by other countries? Are there significant differences between Canada and other jurisdictions that explain any divergence?

ii. Are there lessons to be learned from how other jurisdictions regulate broadband?

9. In conducting the Study, the Bureau does not intend to evaluate:

a. The billing, sales, or customer service practices of broadband providers, other than those that may inhibit consumer switching; or

b. Allegations of unfair or coordinated conduct among broadband providers. ⁷

10. As the Study progresses, the topics within the scope of the Study may change (including adding, substituting, or removing topics). In the event that the scope is changed materially, the Bureau will update this notice and advise stakeholders of the changes.

Outcomes of the study

11. The Bureau expects to publish the results of the Study in a public report, which may include recommendations to relevant government authorities, as appropriate.

12. The Study will enable the Bureau to, among other things:

a. Make informed regulatory interventions regarding steps that regulators or policymakers could take to further support competition in the broadband industry; and

b. Increase its knowledge and understanding of the competitive dynamics of the broadband industry, and telecommunications industry more generally, to inform the Bureau's future work.

Timeline

13. The Bureau intends to conduct the Study according to the following timeline:

a. **May 2018:** Study commencement

b. **August 31, 2018:** Deadline for initial submissions and/or requests for interviews

c. **Summer and Fall 2018:** Stakeholder engagement and research

d. **Winter 2018-2019:** Information analysis and continued stakeholder engagement

e. **Spring 2019:** Publish draft report; hold public consultation; and publish final report

14. The Bureau will modify this schedule at its discretion if necessary. Should there be any material change to this schedule, the Bureau will update this notice and advise stakeholders of the changes.

Getting involved

15. Those with an interest in the Canadian broadband industry are invited to provide written or oral submissions on specific issues relevant to the Study. Please provide written submissions by mail, fax, or email to the officer identified below. If you would prefer that the Bureau contact you for an oral interview, please provide your contact information. The Bureau would appreciate receiving submissions and/or indications of willingness to participate in an oral interview before August 31, 2018, in order to provide adequate time to review and conduct follow-up interviews as necessary.
16. The main contact for the Study is:

Greg Lang
Major Case Director and Strategic Policy Advisor
Competition Promotion Branch

Email: ic.cbmarketstudies-etudesdemarchebsc.ic@canada.ca

Fax: (819) 953-6400

Competition Bureau
Place du Portage Phase I
50 rue Victoria Gatineau, QC
K1A 0C9

Role of the Competition Bureau

17. The Bureau enforces and administers the Competition Act (Act). As part of its mandate, the Bureau participates in a range of activities to promote and advocate for the benefits of a competitive marketplace. More competition can lead to lower prices for consumers, as well as increased choice and innovation.
18. Among the tools the Bureau uses to advocate for competition are market studies. Market studies allow the Bureau to study an industry in depth and understand the competitive dynamics in that industry. Market studies can be effective tools to help regulators and policymakers understand the competitive dynamics of an industry and the potential impacts that regulation can have on competition.
19. Through market studies, the Bureau can identify competition issues and suggest potential solutions. Alternatively, market studies can confirm that competition in the marketplace is functioning effectively.

Premise of the study

20. The Bureau operates on the assumption that competition is good for both businesses and consumers. Competitive markets deliver significant benefits to the economy. Competition makes the economy more efficient; gives small and medium businesses an equitable chance to participate in the economy; provides consumers with competitive prices, product choice and the information needed to take decisions; and drives innovation.
21. While regulation can be necessary to ensure that legitimate policy objectives are met, the Bureau's perspective is that such regulation should be undertaken in a manner that allows competitive forces to dictate marketplace outcomes to the maximum extent possible.

Information gathering

22. Over the course of the Study, the Bureau will gather and analyze information from various sources. The Bureau will consult experts, market participants, and other stakeholders, and will review academic literature and the experience of other jurisdictions.
23. The Bureau may also, as appropriate, examine information collected in respect of its past advocacy or enforcement files, in order to inform its views during the Study.

Confidentiality

24. The Bureau conducts its advocacy and enforcement activities under the authority of the Act. Section 29 of the Act protects information obtained by or provided to the Bureau, including the identities of the persons who provided the information, and any information that could reveal their identities. However, when information has been made public or where persons providing information authorize its communication to other parties, subsection 29(2) permits the disclosure of such information. Additionally, subsection 29(1) provides exceptions for the communication of information to a Canadian law enforcement agency or for the purposes of the administration or enforcement of the Act. The Bureau's Information Bulletin on the Communication of Confidential Information under the Competition Act ⁸ is available on its website, and stakeholders are encouraged to consult that Information Bulletin, or direct specific questions to the officer identified above.
25. Should the Bureau publish a report in relation to the Study, the analysis therein may be based on confidential or commercially sensitive information. We encourage stakeholders to identify any confidential or commercially sensitive information in their submissions. The Bureau will anonymize the information to the best of its ability.
26. The Bureau will conduct its analysis in confidence. To help ensure that no confidential or commercially sensitive information is publically disclosed, the Bureau will provide affected stakeholders, as appropriate, with an advance copy of any report forty-eight (48) hours prior to

its intended publication for the sole purpose of allowing them to identify whether any confidential or commercially sensitive information has been included.

Footnotes

- 1 In the context of this Notice, broadband internet services are high-speed internet access services typically provided to Canadian consumers through wireline networks.
 - 2 Nothing in this Notice predetermines the Commissioner's position in any current or future investigation pursuant to the Competition Act.
 - 3 See, for example,
 - [Telecom Decision CRTC 97-8](#);
 - [Telecom Decision CRTC 99-11](#);
 - [Telecom Decision CRTC 2008-17](#); and
 - [Telecom Regulatory Policy CRTC 2015-326](#).
 - 4 [List of Registered Telecommunications Providers on the CRTC's Website](#).
 - 5 [CRTC Communications Monitoring Report 2017](#), Section 5.3: Retail Internet sector and broadband availability, Sub-section ii: Subscriber data.
 - 6 [Price Comparisons of Wireline, Wireless and Internet Services in Canada and with Foreign Jurisdictions: 2015 Edition](#)" Wall Communications, 2015, Section 5.2: Canadian Broadband Service Prices, Table 10.
 - 7 Such conduct could contravene one or more provisions of the Competition Act. Should any person have information regarding anti-competitive activities that have occurred or are occurring, this information should be provided to the Bureau through the Bureau's [Information Centre](#). The Bureau will not hesitate to take the appropriate action if it becomes aware of anti-competitive conduct that contravenes the Competition Act.
 - 8 [Information Bulletin on the Communication of Confidential Information under the Competition Act](#), Competition Bureau, 2013.
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