

# **Coalition of Internet Service Providers and Xittel**

## **Final Argument**

**Telecom Public Notice CRTC 2006-14 and following**

***Review of regulatory framework for wholesale services and the  
definition of essential service***

**November 23, 2007**

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## Executive Summary

1. The Internet as we know it today enables innovation to arise from anywhere in the world and reach any Canadian connected to the Internet at broadband speeds. The Internet Service Providers<sup>1</sup> behind the Coalition of Internet Service Providers inc. (CISP), have united their voices in this proceeding in order to ensure that the many hundreds of thousands of Canadians who have elected an independent ISP as their purveyor of open Internet connectivity will be able to continue to do so.

2. The Coalition considers that what is at risk in this proceeding is the basic business model of the Internet, which offers an open platform for innovation and access to the near-infinity of applications and websites for a monthly fee. The larger carriers are aiming for a more controlled environment of duopoly in order to retard the tsunami of change emanating from the Internet. Make no mistake about this: the future may be friendly but not to carriers which seek to control how much access people will have to the Internet by discriminating among access suppliers, or by offering tiered access to the Internet at various price levels on the cable television model. If the large carriers can get the CRTC to suppress leased-facilities competition they will have much greater opportunity to save their business models and impose tiered access to the Internet on consumers. That they can get the Bureau of Competition Policy to agree to this lessening of competition in the name of “essential facilities” doctrine is an astonishing example of wrong-headed and ideological policy making. The Coalition urges the Commission not to join the Bureau of Competition Policy in this huge mistake. The Internet was created by engineers, but its benefits may well be restricted or destroyed by a combination of lawyers and economists. The relationship of maintaining several suppliers of access to the Internet (which is competition) to maintaining Canadians’ current model of access is, we think, obvious, but the basic goal of the carriers and the Bureau has been to obscure this relationship. Do not, we ask you, be deluded into this colossal mistake.

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<sup>1</sup> AEI, B2B2C, Colba, The Internet Centre, Megaquebec, OCIS, Oricom, Rocler, hof tUniserve, Vif & Xittel

3. True competition from Internet Service Providers at broadband speeds has been stalled by the ILECs with cleverly designed wholesale products which did not reward, let alone allow, ISPs to partially supply any facilities.
4. The policy directive as issued does not constrain the Commission to review and vary Order 99-592 which forbears Retail Internet Services on the condition that DSL wholesale and TPIA remain available at tariffed rates.
5. The stated purpose of the present proceeding is to perform a comprehensive review of the regulatory framework for wholesale services for the first time. As part of this process, the Commission identified its desire properly to re-define the pricing principles and criteria to support findings of essentiality.
6. The Coalition submits that a comprehensive review of the regulatory framework for wholesale services must also necessarily include the establishment of pricing principles for competitor services in the presence of competition between incumbent telephone and cable carriers.
7. Much effort has been made in this proceeding to re-state all parties' hypotheses around the revised categories proposed by the Commission on October 3<sup>rd</sup> 2007. Little has been done to establish the pricing principles that should apply to wholesale services that would fall outside of categories 1 and 2 in the Commissions "baskets" of October 4<sup>th</sup>.
8. The Coalition firmly believes that existing wholesale services must continue to benefit from regulatory protection against discrimination by carriers among or against ISPs. These services are fully compensatory and have been willingly offered by the larger carriers. They should not be assigned to category 3, which would have the effect of forcing annual price increases and a mandatory phase out of these services without them ever being repriced and made free from margin squeeze. The Coalition has proposed that these services be assigned to category 4 in their current form, the mandated non-essential category. Without further regulatory action, services assigned to this category would remain subject the margin squeeze problem that accompanies the use of these services.
9. The Coalition firmly, in the pursuit of a transition to self-supplied facilities, supports the introduction of DSL wholesale into Category 3, but only if they are re-priced free from margin squeeze after a re-statement of the Phase II cost and a constraint is applied

on the mark-up. For the duration of a transition period, aggregated wholesale DSL services would be offered to ISPs at rates substantially less than those commercially negotiated, while these rates would continue to remain comfortably above Phase II costs + 25%.

8. Increased margins would remain available during a transition period sufficiently long to support the construction of wireless facilities which would become possible following the availability of the spectrum that would be freed by September 2011.

9. The Commission will be able to implement such a regulatory framework expeditiously, without disruption, or any immediate requirement to determine whether Bell Canada GT5400 and/or TELUS TN226 are essential services, as common sense commends.

# 1. Organization of Final Argument

1. The argument is organized into the following sections:

1. The real issue
2. The situation of independent ISPs
3. Legal and policy considerations for the Commission
4. Comments on the Osborne Report
5. The Commission's Questions and the Coalition's Answers
6. CISP's proposals to deal with margin squeeze
7. CISP's proposals to invest in facilities

We also include an Appendix A that sets forth out proposals made previously on November 9, 2007 in relation to CRTC Exhibit 4, the Classification of Wholesale Services into the six baskets, with transition periods.

## 2. The Real Issue

2. This hearing is really about the terms on which Canadians will have access to the Internet: the prices, the choice of service providers through whom they will get it, and most importantly, the terms on which they will get access to the innumerable websites, features and applications to be found there.
3. The hearing purports to be about wholesale services and essential facilities. The overt question which was the subject of the proceeding was how much power should the owner of facilities have to determine with whom to do business and on what terms? "Essential facilities" is a doctrine derived from competition law and said to be a series of exceptions to the notion that the owner of facilities should be

able to determine on what terms he may connect with anyone and on what terms content is to be transported across his facilities. The power over one's facilities was assumed to include the power to determine what content was transmitted. It was a hidden assumption, and never explicitly argued. Nor could it have been, in the Coalition's submission, without exposing the direct assault on doctrines of common carriage, of non-discrimination amongst signals, which lies at the core of the *Telecommunications Act*.<sup>2</sup>

4. By contrast, the Coalition has made sensible proposals for the carriers to extract the profits they need to give them incentives to invest in new facilities, which have the effect of allowing temporary monopolies in certain cases. Nevertheless, it must dispute the boundaries of the discussion that the large carriers and the Bureau of Competition Policy would seek to impose on this proceeding. Discussion of the regulatory framework for wholesale services is considerably larger and, in the Coalition's view, more important, than the discussion of essential facilities.
5. As Professor Glen Robinson states in his excellent review of the subject for Telus:

“the essential facilities doctrine is an unusual exception to the general principle that firms do not have a duty to deal with other firms, and particularly not with their competitors.”<sup>3</sup>

Later on he adds:

“Because of the magnitude of investment and the degree of technological change telecommunication service providers face unusual market risks. Those natural market risks must not be magnified by regulatory policies that diminish the opportunity to maximize return on investments as a consequence of being required to share their investment gains with rivals seeking to reap what they did not sow.”

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<sup>2</sup> *Telecommunications Act* ( 1993, c. 38 ) at <http://laws.justice.gc.ca/en/T-3.4/?noCookie>

<sup>3</sup> Glen O. Robinson, “The Role of Essential Facilities Doctrine in Competition and Regulatory Policy”, March 15, 2007. Appendix A of Telus' evidence, at p. 2

6. Though it is never explicitly argued by the carriers seeking limitations to the scope of mandated sharing, it is apparent that “maximization of return on investment” necessarily comports the right to extract all that one can from the passage of traffic through bottleneck facilities, the non-duplicable facilities spoken of in this proceeding. The only limitation to this power would be a) the competitive market and b) regulation. In Canada’s case, the nature of regulation is embodied by the *Telecommunications Act*, in which non-discriminatory treatment of signals passing through a carrier forms a fundamental principle.
7. The Coalition argues that the power to do business with whom one wants amounts, in situations where the facilities to reach customers cannot be duplicated economically, to a situation that the *Telecommunications Act* was designed to correct.
8. The exceptions to the general power of the facilities owner to control both with whom he does business and what traffic crosses his network are said to be confined to those limited cases where the owner of the facilities can use his power over a facility either to *lessen* competition in a downstream market, or to *prevent* it entirely. This was ambit of debate between the Bureau of Competition and Telus. It was a debate in which were hidden a vast set of assumptions about the future of communications.
9. The Coalition disputes the assumption that the owner of facilities in situation where he exerts market power may engage in discriminations over the content of messages going through his facilities. By this logic, the notion of common carriage disappears. The carrier may pick and choose among his potential competitors so as to allow access to some and not others. He may block them all. He may extract revenues from some traffic originators for the benefit of other traffic originators. Or he may extract revenue from commercial transactions which are communicated across his facilities.
10. The Commission appears to have taken a more pragmatic and results-oriented approach to the issues under discussion than what has been argued by the Bureau

of Competition Policy and the larger carriers. Nevertheless, it has been forcefully told in oral argument by Bell Canada that its decision-making powers are restricted to adopting results that would be acceptable to competition policy experts, and pretty much, them alone. Much will turn on the Commission's interpretation of how broadly it may consider the issues, and how it interprets the government's Policy Directive<sup>4</sup> which initiated this proceeding.

11. The Internet Service Providers in this Coalition disagree fundamentally with the approach implied in the carriers' testimonies, and dispute the narrative offered by the large carriers on this and other points. We explain why in the argument that follows.
12. For those who are more inclined to go directly to our conclusions as to which services should be in which baskets, and to leave aside these more general considerations, they are invited to go to section \_\_\_\_\_ of this Final Argument. It will be seen that the Coalition has taken the Commission's problems to heart and has responded with a considered, feasible approach that assumes the Commission feels compelled to reduce the range of facilities that must be leased from carriers.

### **3. The relationship of this Proceeding to Access to the Internet**

11. The reason the Coalition delves into these broader matters is that we think the future of how the Internet will work in Canada is deeply implicated in the future of facilities-based competition, and whether essential facilities (and facilities in the other baskets proposed by the Commission) will continue to be available, and on what terms. If the hearing only concerned the market shares of the various players in the proceeding, it would be of intense concern to the parties, though not to the general public, but as it deals, by necessary implication, with how people will gain access to the Internet, a broader perspective is required to understand what is at stake. Hence, although parts of our final argument are quite specifically

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<sup>4</sup> SOR/2006-355, found at <http://canadagazette.gc.ca/partII/2006/20061227/html/sor355-e.html>

focused on answering the Commission's questions, and responding to its need to transit away from the current state of affairs, this introduction sets out a picture why we believe that the embedded assumptions of some of the carriers need to be brought to light and questioned.

### **The explosion of the Internet**

12. The Coalition considers the issue to be broadband access to the Internet, and not telephony. What in Mr. Osborne's report was considered a possibility<sup>5</sup> is in fact happening now, in a twenty-five year process. The replacement of the circuit-switched PSTN by the cheaper and more flexible Internet is the ineluctable result of the technological and economic characteristics of the Internet. Though the PSTN will take more time to expire than some net-heads might have expected, the telcos are transiting to a new communications platform, while trying as much as possible to retain the revenue stream from the PSTN even as it erodes.
  
13. It is important to understand that, in the fifteen years since the introduction of long-distance competition, and during the subsequent train of decisions about access to underlying facilities of carriers, the technological revolution represented by the Internet has changed what access is for, and what access means. When the Commission began its review of the essential facilities question in Telecom Public Notice 2006-14<sup>6</sup>, of 9 November 2006, it started at the long distance competition proceeding in 1992<sup>7</sup>. Public Notice 2006-14 reviews the decisions which have led to the current set of services being leased out to competitors over the period of fifteen years since that time.

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<sup>5</sup> See paragraph 413 of the Osborne report, for instance.

<sup>6</sup> <http://www.crtc.gc.ca/archive/ENG/Notices/2006/pt2006-14.htm>

<sup>7</sup> Prior to long-distance competition being permissible, dial-up calls to ISPs were considered as a scandalous mean of bypassing paying toll charges to get information electronically that threatened the cost foundation of the PSTN. Prior to the Internet, on bulletin board systems (BBSes), files were fetched and email was transferred across the PSTN during the night when long-distance was cheap to then make the same files and email available for download during the day as a local call.

14. The protocols that are the foundation of the Internet date from earlier, in 1973<sup>8</sup>, but the application that made the Internet take off into a mass-market item was the distribution of the World Wide Web software, devised by Tim Berners-Lee<sup>9</sup>, beginning about 1990<sup>10</sup> and becoming strongly popular about 1994. Computers have become networked devices.
15. If the public switched telephone system (the PSTN) was the prevailing technology of signal distribution in the 20<sup>th</sup> century, the explosion of the Internet after 1994 means that it will be the predominant technology for the first several decades of the 21<sup>st</sup> century. The Internet is also undermining the basic assumptions of the television world, with its “channels”, “programs” and its origins in over-the-air broadcasting, which relied on supposedly ‘scarce’ radio spectrum.
16. The law by which we regulate access to the Internet is the *Telecommunications Act*<sup>11</sup>, whose premises concern controls on the exercise of monopoly power and whose provisions allow for some measure of control over self-preference and discrimination against others in the carriage of signals. By contrast, the premise of the *Broadcasting Act*<sup>12</sup>, with its large range of public policy objectives, is to limit access to foreign programming in the name of Canadian culture, and establish a controlled signal transmission regime for this purpose. It would be difficult to imagine a legal regime whose premises of national control were more alien to the universal library of knowledge represented by the World Wide Web, or the universal addressing system that is used to find resources on the Internet, the Domain Name System<sup>13</sup>.

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<sup>8</sup> See the Internet Society’s webpage and in particular “A Brief History of the Internet” at <http://www.isoc.org/internet/history/brief.shtml> It is written by the founders of the Internet, who are [Barry M. Leiner](#), [Vinton G. Cerf](#), [David D. Clark](#), [Robert E. Kahn](#), [Leonard Kleinrock](#), [Daniel C. Lynch](#), [Jon Postel](#), [Larry G. Roberts](#), [Stephen Wolff](#)

<sup>9</sup> <http://www.w3.org/People/Berners-Lee/>

<sup>10</sup> The World Wide Web software became available in 1990, see <http://www.zakon.org/robert/internet/timeline/>

<sup>11</sup> *Telecommunications Act* ( 1993, c. 38 ) at <http://laws.justice.gc.ca/en/T-3.4/?noCookie>

<sup>12</sup> *Broadcasting Act*, (1991, c. 11) at <http://laws.justice.gc.ca/en/B-9.01/?noCookie>

<sup>13</sup> See <http://www.dns.net/dnsrd/> for more information.

17. To ensure we are talking about a known thing, here is the definition of the Internet devised by the US Federal networking Council and adopted by the founders of the Internet:

*RESOLUTION: The Federal Networking Council (FNC) agrees that the following language reflects our definition of the term "Internet". "Internet" refers to the global information system that -- (i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons; (ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons, and/or other IP-compatible protocols; and (iii) provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein.*

18. The Internet is evolving, but one thing remains constant in its design criteria: *layering*. What layers refer to is the dissociation of the applications from the transport. By applications we mean the World Wide Web, music downloads, YouTube, Facebook, email, voice telephony, television programs, writing and spreadsheet programs, and so forth. Anything in which you can take an interest is likely to be an *application*.

19. By *transport* we refer to all the means of getting a signal from one place to another, via an addressing system and a set of physical facilities.

20. The innovation that has flowed from the Internet is no accident: it proceeds from two basic features discussed below.

## **Dissociating the costs of transport infrastructure from the costs of applications**

21. The genius of the Internet was to dissociate the costs of software (thousands and millions of dollars) from the costs of transport (billions of dollars). This was achieved by the “protocol stack”, where the basic protocols of the Internet, TCP/IP, notionally sit above the layers of protocol and machinery that transport

signals, and below the applications. The cost of replicating transport facilities was and remains the basic concern of every participant in this hearing who did not own a hundred years' worth of investment in physical facilities.

## **Facilitating innovation without permission**

22. The second fundamental feature of the Internet is that it is an open system which permits innovations to be launched across it. If you have a new idea, it can be launched from a website, and software may be downloaded from it, all without seeking permission of the carriers whose several networks lie below the TCP/IP layer.
23. The openness of the Internet to innovation lies in the lack of central control over its constituent parts. No one had to ask permission to launch the World Wide Web, or Facebook. Its addressing system, the domain name system, has a measure of central control in ICANN<sup>14</sup> and national domain name registries (such as .ca), but none of these agencies has the least control of who will do what with Internet. Thus new applications can grow from nothing to 30% of Internet traffic in the space of 18 months, such as occurred with Bittorrent, a file transfer system, and disappear in the same space of time.

## **Applications rather than services**

24. The dissociation of innovation from ownership of the transport facilities has been remarked upon but its importance needs to be emphasized. Innovation in infrastructure is vastly expensive, and few players are large enough to engage in it. This was the constant theme of this hearing. The pace of change in infrastructure can be measured by digitization, the development of cellular

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<sup>14</sup> The Internet Corporation for Assigned Names and Numbers, at [www.icann.org](http://www.icann.org). The Canadian Internet Registration Authority (CIRA) is the registry and policy maker for the national country code, dot ca. [www.cira.ca](http://www.cira.ca)

telephony, and the placement of optical fiber, perhaps. By contrast, innovation is much more rapid in *applications* because the capital costs are relatively lower.

25. By contrast, the genius of the PSTN is that the service (voice telephony) is integrated with, and not dissociated from, the transport. Telephony is a pre-Internet idea, dating from the 1880's. Its fundamental technical characteristics require a highly-centrally controlled network, based on divisions of time<sup>15</sup>, run on central clocks, with highly secure endpoints not open to innovation from outside the standard-setting world of telephony. Voice telephony is a service you get from the PSTN, which is essentially a highly specified output of a perfected and rigid system.
  
26. The lack of flexibility inherent in this system would never have come to our attention unless and until the much less specified technical system known as the Internet had come into being<sup>16</sup>. Innovation is much slower on the PSTN because the system is much more rigidly specified, and change has to be negotiated through the standards section of the ITU. The closed end-points of the PSTN mean that there is no equivalent of spam reaching your telephone. On the other hand, it took the technical revolution of the TCP/IP protocols to enable innovation to reach us from any quarter of the globe. For instance, Skype, the VoIP program, is the product of Estonian software designers and Swedish investors.
  
27. It is for this reason that we mentioned in oral final argument that, on the Internet, no one needs a provider from which to obtain services, but rather only one guaranteeing to provide an unfettered onramp to the real Internet. The only thing one ultimately needs is access to the Internet (connectivity), and a computer. The *applications* available from the Internet are not, strictly speaking, services. The

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<sup>15</sup> Hence time division multiplexing, or TDM

<sup>16</sup> For the thinking behind the lack of specification of results the Internet, see "End-to-end Arguments in System Design" by J.H. Saltzer, D.P.Reed and D.D.Clark, MIT Computer Laboratories, at <http://web.mit.edu/Saltzer/www/publications/endoend/endoend.pdf>

basic paradigm of the PSTN, where the telephony is the service and the service provider ensures the system works, is broken by the TSP?IP protocol. Carriers quite naturally reject a future and a business model in which they are not essential.

28. Acting as bit-pipes does not appear to interest them. One of the ways to forestall this future is to limit competition from those offering a pure Internet model of connectivity, such as the independent ISPs. If access to the Internet can be reduced to a duopoly of cable and telephone companies, the possibilities for a managed future are much greater. If most of the broadband capacity they intend to install can be governed by no one but themselves, so much the better. If the *Broadcasting Act* acts as the regulatory framework for most of one's broadband traffic, then one is made safer from the business model represented by the Internet, because in that instance one is still providing a service. However, either course gets the major carriers away from the responsibilities of common carriage. If there are no other facilities-based end-to-end competitors around, as seems likely, and no leased-based competition from independent ISPs able to offer the near-infinite set of websites and applications of the Internet, then the world is made safer for their business models. The fact that this outcome could all be justified under competition policy doctrines of essential facilities is just icing on the cake. The Coalition considers this is in fact what is going on, but we doubt the Commission has bought into the larger carriers' plans. At least, we hope not.

## **Implications for the Commission**

29. Two major observations can be made about the changes we have gone through in telecommunications since the Internet exploded into popular consciousness. First, the Commission's own statistics show that Internet access has become a highly important indicator of connectivity, gradually supplanting the concept of "universal service", that is, affordable access to the PSTN. Accordingly, as the PSTN declines in relative importance over time, interconnection with it for the purpose of providing voice telephony will decline. Obtaining access to the

Internet, *through* the PSTN, the DSL infrastructure of the ILECs, the DOCSIS infrastructure of the cable industry, or the wireless infrastructure of some independent ISPs, will grow in relative importance. The issue lying behind the essential facilities proceeding is whether there will be sufficient competition in facilities to allow Canadians access to the Internet on the terms on which they have had it so far, which is access to all of it for a monthly fixed fee. We shall explore the alternatives to this business model momentarily.

30. Second, the cable and telephone companies are moving to invest in broadband connections to the home and to businesses as fast as they can afford to, so that they can offer “triple play”: voice, high-definition video, and Internet. While all these services will likely all make use of TCP/IP or their successor protocols, because of the simplicity, cheapness, and flexibility designed into the Internet system, their investments are not made to improve Internet access. Cable and telephone companies would stand to lose the ability to maximize revenues if their facilities made it possible for other service providers across the Internet to gain access to the quality of service (QoS) functionalities essential for for telephony and the speeds needed for HDTV streaming.
31. Whereas independent ISPs see triple play being provided in full accordance with copyright laws from all the sites on the Internet, the proposal of the telcos and cablecos is to provide services across three distinct TCP/IP connections on the same pipe to the home, of which only one will be connected to the Internet.<sup>17</sup>
32. Accordingly, interconnection and access are coming to mean access to the full range of the Internet, and interconnection through the Internet, as time goes on. Getting access to the PSTN is of declining importance, as the Commission’s Monitoring reports show, and the Osborne Report suggests.

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<sup>17</sup> A connection over the TCP/IP protocol suite does not need to go the public Internet.

33. The engineers who designed the Internet wrote this about the future<sup>18</sup>:

One should not conclude that the Internet has now finished changing. The Internet, although a network in name and geography, is a creature of the computer, not the traditional network of the telephone or television industry. It will, indeed it must, continue to change and evolve at the speed of the computer industry if it is to remain relevant. It is now changing to provide such new services as real time transport, in order to support, for example, audio and video streams. The availability of pervasive networking (i.e., the Internet) along with powerful affordable computing and communications in portable form (i.e., laptop computers, two-way pagers, PDAs, cellular phones), is making possible a new paradigm of nomadic computing and communications.

This evolution will bring us new applications - Internet telephone and, slightly further out, Internet television. It is evolving to permit more sophisticated forms of pricing and cost recovery, a perhaps painful requirement in this commercial world. It is changing to accommodate yet another generation of underlying network technologies with different characteristics and requirements, from broadband residential access to satellites. New modes of access and new forms of service will spawn new applications, which in turn will drive further evolution of the net itself.

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<sup>18</sup> “A Brief History of the Internet” at <http://www.isoc.org/internet/history/brief.shtml>

## 4. The situation of independent ISPs

### Incumbents going after their ISP Customers' Customers

34. The Internet Service Provider (ISP) industry was born when there began to be significant desire for people to have access to the Internet. At its inception, in the early to mid-1990s, the only means available to customers lay through the telephone wire. ISPs began by leasing telephone lines of the telcos, and to this day, for most purposes and locales, the leasable facilities of cable companies remain inadequate to the task of allowing third-party access.

35. Access to “non-essential” services for third parties is increasingly the basis of the independent Internet Service Provider (ISP) industry, defined as those who offer Internet access through the facilities of incumbent telephone and cable companies.

36. The rights to get access to incumbent facilities can be illustrated by a simple table.

**Table 1: Essential and non essential services**

	Telephone company	Cable company	Price mark-up
“essential” facilities	Local loops, subloops & co-cation in central offices, unaggregated DSL access as proxy to subloops unavailability	HFC loops & co-location in head-ends.	Phase II Costs plus 15%
“non-essential” facilities	Aggregated DSL (digital subscriber line)	Third-party Internet Access (TPIA)	Anything they want to charge, typically 60-70%

37. The concern of independent ISPs is that a) access by ISPs to customers through the cable system has been until recently almost wholly unavailable, and remains inadequate, and b) access through the facilities of the telephone companies is becoming increasingly subject to a price squeeze, the effect of which has been to lead to a long-term decline in the position of independent ISPs, which is recorded in the Commission's *Telecommunications Monitoring Reports*.<sup>19</sup>

38. The following table is from the 2006 *Telecommunications Monitoring Report*. ISPs belonging to the Coalition are categorized in the "other" category.

**Table 4.4.3**  
**Internet access service revenues by type of provider**  
**(\$ millions)**

	2003		2004		2005	Growth 2004-2005	CAGR 2003-2005
Incumbents	1,219.0		1,432.4		1,554.0	8.5%	12.9%
<i>Market share</i>	40.1%		42.9%		42.6%		
Competitors							
Cable BDUs	1,108.2		1,284.6		1,520.1	18.3%	17.1%
<i>Market share</i>	36.5%		38.5%		41.6%		
ILECs out-of-territory	35.1		114.5 #		134.9	17.8%	96.1%
<i>Market share</i>	1.2%		3.4%		3.7%		
Other	675.2	#	508.3 #		443.1	-12.8%	-19.0%
<i>Market share</i>	22.2%		15.2%		12.1%		
Competitors Total	1,818.5	#	1,907.4 #		2,098.1	10.0%	7.4%
<i>Market share</i>	59.9%		57.1%		57.4%		
Total	3,037.4	#	3,339.8 #		3,652.1	9.4%	9.7%

Source: CRTC data collection

<sup>19</sup> <http://www.crtc.gc.ca/eng/publications/reports/PolicyMonitoring/2006/tmr2006.htm>

“As shown in Table 4.4.4, the four largest Internet access service providers<sup>72</sup> and their affiliates continue to, not only dominate the market but steadily increase their market share of the retail Internet access market, growing from 44% in 2001 to 63% in 2005.”

39. The independent ISPs face severe hurdles. First, the business is migrating to higher speeds but ISPs have no rights to those facilities offering higher speeds. The range of essential facilities remains tied to local voice competition. Second, the cable industry cleverly delayed the implementation of TPIA for over five years, so that access to their infrastructure, while available in principle since at least 2000, was non-existent until 2004<sup>20</sup>. The CRTC found that DSL, the higher speed offering of the telcos, was not supplied by a monopoly because third party access to cable was theoretically available. So DSL was not an “essential” facility.

40. The net outcome of various policy decisions regarding access to high speed facilities by independent ISPs has been graphically illustrated by the Commission, and its conclusions speak for themselves.

Source: 2006 Monitoring Report

**Table 4.4.5**  
**Residential Internet access revenues by type of provider**  
**(\$ millions)**

	2001	2002	2003	2004	2005	Growth 2004- 2005	CAGR 2001- 2005
Incumbents	551.5	780.0	892.0	1,041.8	1,158.4	11.2%	20.4%
<i>Market share</i>	37.7%	40.1%	39.1%	41.3%	41.5%		
Competitors							
Cable BDUs	570.8	846.2	1,049.3	1,218.5	1,392.7	14.3%	25.0%
<i>Market share</i>	39.0%	43.6%	46.0%	48.3%	49.9%		
ILECs out-of-territory	-	-	-	9.0	10.1	12.7%	
<i>Market share</i>				0.4%	0.4%		

<sup>20</sup> <http://www.crtc.gc.ca/archive/ENG/decisions/2004/dt2004-69.htm>

Other	339.6	316.9	338.2	254.3	229.2	-9.9%	-9.4%
<i>Market share</i>	23.2%	16.3%	14.8%	10.1%	8.2%		
Competitors Total	910.4	1,163.0	1,387.5	1,481.8	1,632.1	10.1%	15.7%
<i>Market share</i>	62.3%	59.9%	60.9%	58.7%	58.5%		
Total	1,461.9	1,943.0	2,279.5	2,523.6	2,790.5	10.6%	17.5%

Source: CRTC data collection

“The decline in the competitors' (other) residential market share is largely explained by the fact that these competitors have a very small share of the growing residential high-speed access market as shown in Table 4.4.9. Table 4.4.9 indicates that over the 2001 to 2005 period, the competitors (other) had between 1.2% and 4.4% of the high-speed Internet subscribers. When compared to their dial-up subscriptions, the competitors (other) had 2.5 times as many dial-up subscribers as high-speed subscribers.<sup>21</sup>

41. Possibly because the Commission was alarmed at the decline of the independent ISP sector, it made certain decisions in 2005 regarding access to high-speed services. In its own words:

“To foster competition in the retail Internet access services market, in 2005, the Commission mandated the creation of certain tariff wholesale services (also referred to as Competitor Services) that are required by ISPs to provide high-speed Internet access. These include wholesale services provided by Bell Canada,<sup>61</sup> Cablevision du Nord de Québec inc.,<sup>62</sup> Télébec,<sup>63</sup> TCC,<sup>64</sup> MTS Allstream,<sup>65</sup> Shaw Cablesystems Ltd.,<sup>66</sup> and SaskTel.<sup>67</sup>

“In Order 2005-144,<sup>68</sup> the Commission granted interim approval to Bell Canada's application to remove from its General Tariff on Gateway Access Service (GAS) and High-Speed Access (HSA), the requirement that an end-customer must subscribe to a primary exchange service (PES). This configuration, often termed "naked DSL", permits an ISP to provide high-speed Internet service utilising DSL facilities without the need for the end-user to subscribe to local telephone service over the same access line. In Order 2005-415,<sup>69</sup> the Commission ordered Bell Canada to reduce the unbundled loop rate by 50% for lines to be used in conjunction with wholesale DSL service in this configuration, thereby reducing costs to ISPs.”<sup>22</sup>

<sup>21</sup> CRTC Telecommunications Monitoring Report, 2006, at p.57 print version

<sup>22</sup> CRTC Telecommunications Monitoring Report, 2006 at <http://www.crtc.gc.ca/eng/publications/reports/PolicyMonitoring/2006/tmr2006.htm#n61b>

42. The same trends continued, as recorded in the 2007 Monitoring Report. The decline of the independent ISP market share continued.

Source: 2007 CRTC Telecommunications Monitoring Report

**Table 4.4.7**  
**Residential Internet subscribers by type of TSP**

	2002		2003		2004		2005		2006		Growth 2005- 2006	CAGR 2003- 2006
	Subscribers /1000	Share *										
<b>Incumbent TSPs (excluding out-of-territory)</b>												
Dial-up	1,392	46.1%	1,123	44.9%	1,010	49.8%	765	48.8%	642	51.8%	16.1%	-17.6%
High-speed	1,400	39.7%	1,859	41.2%	2,268	41.9%	2,676	41.6%	3,095	41.5%	15.6%	21.9%
Subtotal	2,792	42.7%	2,982	42.5%	3,277	44.0%	3,441	43.0%	3,736	42.9%	8.6%	7.6%
<b>Cable BDUs</b>												
Dial-up	70	2.3%	44	1.8%	38	1.9%	53	3.4%	38	3.1%	28.3%	-14.0%
High-speed	2,055	58.3%	2,532	56.1%	2,933	54.1%	3,467	53.9%	4,041	54.2%	16.6%	18.4%
Subtotal	2,125	32.5%	2,576	36.7%	2,971	39.9%	3,520	44.0%	4,079	46.9%	15.9%	17.7%
<b>Incumbent TSPs (excluding out-of-territory) and cable BDUs subtotal</b>												
Dial-up	1,462	48.4%	1,167	46.7%	1,048	51.8%	818	52.2%	680	54.8%	16.9%	-17.4%
High-speed	3,456	98.0%	4,391	97.3%	5,201	96.0%	6,143	95.6%	7,136	95.6%	16.2%	19.9%
Subtotal	4,917	75.1%	5,558	79.3%	6,249	84.0%	6,961	87.0%	7,815	89.8%	12.3%	12.3%
<b>Other TSPs</b>												
Dial-up	1,55	51.6	1,33	53.3	977	48.2	750	47.8	560	45.2	-	-

	8	%	3	%		%		%		%	25.4%	22.6%
High-speed	71	2.0%	122	2.7%	216	4.0%	286	4.4%	327	4.4%	14.2%	46.5%
Subtotal	1,629	24.9%	1,455	20.7%	1,193	16.0%	1,036	13.0%	886	10.2%	14.5%	14.1%
Total												
Dial-up	3,020	46.1%	2,500	35.6%	2,025	27.2%	1,568	19.6%	1,239	14.2%	-	20.0%
High-speed	3,527	53.9%	4,513	64.4%	5,416	72.8%	6,429	80.4%	7,461	85.8%	16.1%	20.6%
Grand total	6,547		7,013		7,442		7,997		8,700		8.8%	7.4%

Note: Percentages refer to access mode's proportion of all residential Internet subscriptions of its type, except for the total rows, where they are a proportion of total industry residential subscriptions.

Source: CRTC data collection

43. The Commission's 2007 Monitoring Report commented on Table 4.4.7 as follows

"As previously noted, there has been a shift in residential Internet access subscriptions from dial-up to high-speed Internet access from 2002 to 2006. As displayed in Figure 4.4.2, in 2002, high-speed access comprised 54% of all Internet connections. High-speed access is now the dominant means of accessing the Internet, comprising 86% of all residential Internet subscriptions.

As further indicated in Table 4.4.7, during the period 2002 to 2006, the number of dial-up subscriptions declined from 3.0 million subscriptions to 1.2 million, an average annual decline of 20%. A contributing factor to the decline in dial-up subscriptions is the introduction of a "high-speed Lite" service in 2002 by DSL and cable Internet access service providers. High-speed Lite service provides always-on connections to the Internet at slower transmission speeds for prices similar to many dial-up plans. In Table 4.4.7, this service is included in the high-speed category. However, 128 kbps Lite service has been declining, as the industry moves to higher speed basic access tiers."<sup>23</sup>

44. The Coalition observes that the incumbent major carriers are both backbone and access suppliers and commercial rivals to the independent ISPs, and that they have a strong interest in subjecting this class of customer to conditions which

<sup>23</sup> CRTC Telecommunications Monitoring Report, 2007 at page 71, found at <http://www.crtc.gc.ca/eng/publications/reports/PolicyMonitoring/2007/tmr2007.htm>

retard their growth or shrink their market share. In sections following we shall discuss the ways in which this has occurred.

## **Telecommunications Policies that Favoured the Growth of the Internet**

45. The issue of carriers competing with their customers is a recurrent theme of telecommunications policy. The Computer Inquiries of the 1970's dealt with this problem by establishing rules that separated the nascent computer services industry from the telecommunications industry, and keeping telephone companies out of computer services<sup>24</sup>. These led to the distinction between “basic” and “enhanced” services in US federal regulation. Much the same result – separating computer operations from telecommunications – was achieved in Canada's Telecommunications Act<sup>25</sup> by excepting all “exempt transmission apparatus” from the definition of “transmission facility”. Canada had previously established similar separations between regulated basic services and less regulated enhanced services.

46. The success of the Internet was predicated on several telecommunications policies:

- Flat-rate local calling, which made access to the Internet insensitive to time;
- The deregulation of customer premises equipment, which made modems cheap and available;
- The separate treatment of basic and enhanced services.

47. Speaking of these developments, Robert Cannon of the US Federal Communications Commission said:

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<sup>24</sup> <http://www.cybertelecom.org/ci/index.htm>

<sup>25</sup> *Telecommunications Act* ( 1993, c. 38 ) at section 2, found at <http://laws.justice.gc.ca/en/T-3.4/?noCookie>

“(The Computer Inquiries) followed a layered model of regulation and sought to constrain anticompetitive behavior where it occurred. The potential bottleneck in the physical network layer was identified; the competitive market and potential for growth and innovation for enhanced services was identified. A policy was created which promoted economic and technological expansion. In so doing, the Commission avoided imposing legacy common carrier regulation on new services. It created open communications platforms where innovation could occur, independent of dominant communications players.”<sup>26</sup>

48. “The potential bottleneck in the physical network layer” is the central concern of this proceeding. So far it has been dealt with by policies that have allowed ISPs to lease facilities. It is apparent to ISPs, at least, that in the grand schemes of the carriers, the goal is to close off the “bottleneck in the physical network layer”, the opening in which has been created by previous Commission policies and rulings. The continuation of this opening in the bottleneck is therefore a central concern of not just for participants, but for the users of the Internet in Canada.

## **5. Legal and Policy Considerations for the Commission**

### **Power to impose business models?**

49. At the beginning of our Final Argument, we mentioned that the basic assumption of the carriers seems to have been that the facilities-owner had complete authority over what might be transmitted across his facilities. All incumbent telcos and

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<sup>26</sup> Robert Cannon, “The Legacy of the Federal Communication Commission's Computer Inquiries”, *Federal Communications Law Journal* 4/17/03, found at <http://law.indiana.edu/fclj/pubs/v55/no2/cannon.pdf>

- cable carriers supported a relatively short transition period with a hard-stop after which they would get to choose who would be allowed to resell their facilities and at what conditions, ultimately placing in their hands the decision as to which independent ISP would have the privilege of surviving at the expense of the other ones, who would be forced to cease to operating. Given their incentives the incumbents will eventually no longer want to sell wholesale access services to those ISPs who also want to develop their own facilities.
50. The exceptions to the owner's complete authority were to be tightly drawn, and confined to essential facilities, as defined by various interpretations of the true meaning of competition law. The discussion focused on the physical parts of the networks which ought or ought not to be leased out, and not on the business models that would govern the use of the networks. Yet it is a prime consideration which business models will be adopted in changed circumstances of reduced access to carrier facilities.
51. We have two models in Canada regarding the power of facilities owners to control content, the *Telecommunications Act* and the *Broadcasting Act*.
52. Section 36 of the Telecommunications Act states:  
Except where the Commission approves otherwise, a Canadian carrier shall not control the content or influence the meaning or purpose of telecommunications carried by it for the public.
53. The non-interference in signals transiting through the system is a fundamental feature of common carriage. Clearly there would be concerns if a carrier privileged one customer or set of customers over another. The essence of the *Telecommunications Act* is to control such instances of privilege, including self-privilege.

54. The business model of some of the carriers at the hearing is to a large extent determined for them by the *Broadcasting Act*<sup>27</sup>, which requires that they carry programming in bundles and in priorities determined by the Commission for the purposes of fulfilling the broadcasting policy for Canada, enunciated in section 3 of that Act. In fact, the ability of telephone companies to compete with cable companies may depend in part on their being able to supply television programming through phone lines. Witnesses for Bell and Telus made clear that their companies were moving optical fiber closer to the customer in order to be able to supply more broadband. If they are also going to supply “television” as it is understood, by becoming broadcasting distribution undertakings, they too would subject themselves to the business model of the *Broadcasting Act*, which would see all that new bandwidth surrendered to broadcasting policy objectives and priorities. Putting it indelicately, the fixed menus of the broadcasting regime are antithetical to the un-scheduled free choice of the Internet as between video, music, written word, or whatever else is available.

55. The question naturally arises: if the carriers need to make massive new investments, must it be bought at the expense of the average Canadian’s ability to have access to the entire range of Internet sites for a fixed monthly or annual fee? Or is this part of a carrier plan towards a tiered Internet access model?

56. The issue would not arise as long as there is sufficient service competition from ISPs, whose business model is and remains pure Internet access. But at this stage, though we have seen interesting signs to the contrary from the Commission, it is quite possible that it would feel obliged to heed the stern lectures of the carriers on competition law and lose sight of why we have regulation of access bottlenecks in the first place.

57. Based on the Coalition’s attention to the testimony of officers of the carrier companies and their hired experts, the embedded assumption of the carriers was

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<sup>27</sup> *Broadcasting Act*, (1991, c. 11) at <http://laws.justice.gc.ca/en/B-9.01/?noCookie>

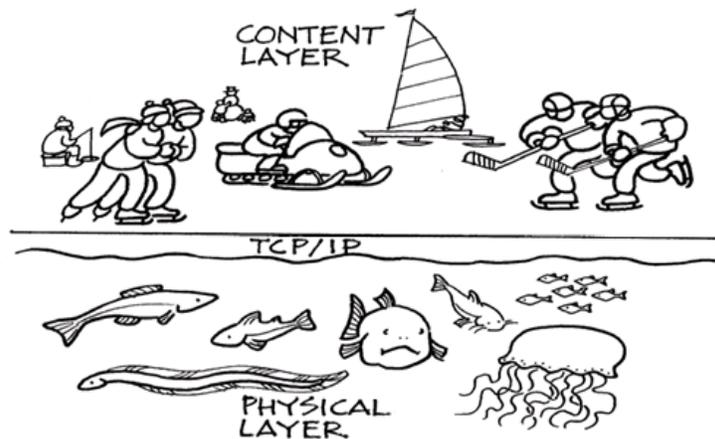
that facilities-owners are to have complete authority, within very limited exceptions, as to who or what may connect with their networks. It was also clear that, as will be discussed more fully in this argument, they sought to lessen the ability of competitors to draw upon network elements, at regulated prices and conditions, for the purpose of establishing rival paths to the Internet. Since the business model of independent ISPs is to grant the subscriber full access to all points that may be reached through the Internet, the future of that wide type of access may be at risk.

58. Why so? It depends on the choice of business model adopted by the carriers for access to the Internet, and whether there will be alternative sources of Internet access if access through leased facilities is foreclosed by changes in policy. If access to the Internet is to be obtained only through the cable or the telephone company, then it is possible Canadians will see access to the Internet gradually become “tiered” or packaged so that various price levels determine what one gets. After all, this is already the business model of one of the major suppliers of Internet access in their broadcasting distribution functions. There are readily foreseeable conditions under which such a business model might be adopted more generally. Rather than bargain for more money from industry giants like Google, or eBay, the carriers could adopt the business model such that access to the full range of Internet sites would be available only at premium prices, for instance. In the absence of an independent ISP with an incentive to compete with the larger carriers would make such a scenario quite feasible.
59. Accordingly, while one focus of the discussion can and should be “essential facilities” and another baskets of services proposed by the Commission, one should not lose sight of the larger game. In the Coalition’s view, the larger game is not just to be able to offer “triple play” – telephony, television and Internet access – vital as that is. The goal may well be to be able to extract money from transactions flowing over the Internet. Thus the carriers may want to obtain some of the consumer surplus which the Internet has made possible, by making

agreements with on-line retailers so that, for instance, some of the savings of buying books or music across the Internet would flow to carriers. Why not? The head of AT&T, Ed Whitacre, announced this to be his goal in 2006<sup>28</sup>. Though he subsequently backtracked, claiming that any company that blocked access to the Internet would get in trouble with consumers<sup>29</sup>, if a duopoly is in place in Canada, and independent ISPs have been driven out of business through changes in policy and regulation, the possibilities of implementing a tiered access to the Internet, or of extracting money from subscribers from Internet purchases in other ways, are significant<sup>30</sup>. That is why the outcome of this proceeding is not just about essential facilities, but the amount of competition there will be in access to the Internet.

60. The differences in business models between the unlimited Internet access, and the carriers' idea of a more profitable Internet, are illustrated below.

**Figure 1: The Internet Model**



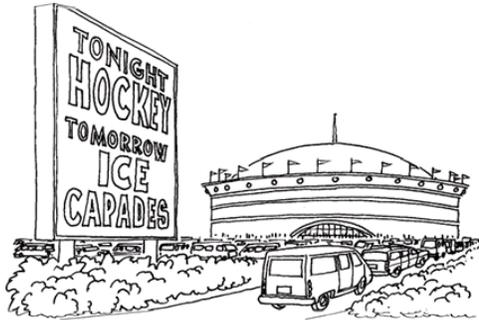
<sup>28</sup> <http://www.washingtonpost.com/wp-dyn/content/article/2006/01/21/AR2006012100094.html>

<sup>29</sup> [http://www.news.com/AT38T-chief.-FCC-chair-clarify-on-Net-neutrality/2100-1034\\_3-6052239.html?tag=html.alert](http://www.news.com/AT38T-chief.-FCC-chair-clarify-on-Net-neutrality/2100-1034_3-6052239.html?tag=html.alert)

<sup>30</sup> As to the technical capacities of modern computer systems to allow for the identification of interests and the extraction of revenues, see Jon M. Peha, of Carnegie Mellon University, and his presentation to the Telecommunications Policy Research Conference, "The Benefits and Risks of Mandating Network Neutrality, and the Quest for a Balanced Policy" at [http://www.ece.cmu.edu/~peha/balanced\\_net\\_neutrality\\_policy.pdf](http://www.ece.cmu.edu/~peha/balanced_net_neutrality_policy.pdf)

61. In this illustration, the TCP/IP “ice” separates the content layer from the physical layer. The content layer is permissive. Anyone may get on the ice, within general social or legal rules.

**Figure 2: The Carrier Model**



62. In the carrier model, “services” are offered in a closed system, the facilities over which the carrier has control. The carriers allow shows (“services”) are allowed by private negotiation with third party providers. While the carrier has an incentive to fill seats, it also has an incentive to make more revenue out of the activities it permits, the metaphorical equivalent of beer and hot dogs at the game. Innovation happens with the permission of the carrier.

63. It is for this reason – the range of possible outcomes for Internet access - that the Coalition kept attacking the central story of the carriers, that they need greater incentives to invest, which could only be provided if they had more profit opportunities, which could only occur if they had less competition from operators of leased facilities. Our attack was not on their right to reap what they had sown, but to limit the duration of their monopolies over newly installed facilities in some reasonable way, which was the subject of Mr. Barnes’ evidence for the Coalition.

64. The Coalition considers that the implicit question in this hearing is whether the government will turn its back on a long tradition of guarding against carriers competing with customers, by lessening the defences against self-preference by

carriers. The ISP industry is concerned that governments are engaging, consciously or not, in a reversal of over 100 years of policy, whereby telecommunications carriers – which includes cable operators when they act in that capacity - have been deemed “common carriers”. As such they have not been allowed to unduly discriminate against any customers, including rivals using their facilities.

65. For this reason the government placed into its policy directive of December 14, 2006 (Order Issuing a Directive to the CRTC on Implementing the Canadian Telecommunications Policy Objectives<sup>31</sup>) the admonition that its review take into account:

“the potential for incumbents to exercise market power in the wholesale and retail markets for the service in the absence of mandated access to wholesale services”;

66. The Coalition has been at pains to make clear that the exercise of market power in these circumstances may have a deep impact on the use by Canadians of the Internet, and wants the Commission not to make rulings that, however unintentionally, allow this to take place.

### **How Much Discretion does the Commission have in this matter since the Policy Directive?**

67. The Order in Council<sup>32</sup> which embodies the Policy Directive that started this proceeding was carefully re-drafted following a flurry of comments from the carrier industry and in its final form, now provides a balanced approach to regulation, contemplating economic and non-economic objectives beyond pure competition law.

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<sup>31</sup> SOR/2006-355, found at <http://canadagazette.gc.ca/partII/2006/20061227/html/sor355-e.html>

<sup>32</sup> <http://canadagazette.gc.ca/partI/2006/20060617/html/regle5-e.html>

- a. The Order contemplates that *both* interconnection arrangements and access regimes should be competitively and technological neutral.
- b. The Commission was told it had to review the amount and nature of mandated access to services for third parties with a view to provide “increased incentives for innovation, investment in and construction of competing telecommunications network facilities”.
- c. When Minister Bernier was asked to defend the policy directive before the Industry Science and Technology Parliamentary Committee, it said that the policy was re-written so as not to cut-off access to any wholesale services. This is what he said:
  - i. “Following 60 days of consultation and the tabling before Parliament, for a period of 40 days, of the policy direction we issued, and which has been in effect since December, we were able to make certain changes to the CRTC policy direction in order to ensure that suppliers of broadband access are still able to access the networks of former monopoly undertakings. ”

“Following consultations, the policy direction issued to the CRTC was amended somewhat. I will read you part of what we amended in order to ensure that suppliers of wholesale broadband access will always have access to former monopolies' core networks. We amended the policy as follows...”
  - ii. **“The extent to which access to wholesale services that are not essential should be phased out – We have asked the CRTC to look at this in their usual, very conscientious and professional way”.**<sup>33</sup>

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<sup>33</sup> <http://cmte.parl.gc.ca/Content/HOC/committee/391/indu/evidence/ev2715537/induev45-e.htm#Int-1913754>

- d. Clearly the Minister indicated that he did not believe that all services deemed non-essential should be phased out. Rather he left the Commission with discretion in this matter. What the Minister has left open to the Commission to decide, the Bureau of Competition Policy cannot take away.

68. It is an opportune moment to point out that the full range of objectives of the Telecommunications Act remains in effect, and that the policy objective enunciated in section 7 of the Act remains in force, including the requirement:

- h) to respond to the economic and social requirements of users of telecommunications services.<sup>34</sup>

## 6. Comments on the Osborne report

69. Mr. Osborne provides a useful summary of Canada's competition law as it applies to "essential facilities" and of the series of decisions of the CRTC that have brought us to the present. His conclusion in relation to CRTC rulings indicates why the government directed the Commission to hold the essential services proceeding.

"268. Taken as a whole, the CRTC's decisions after the *Local Competition* decision show an increasing departure from the principled approach articulated in that decision toward what comes close to a presumption in favour of wholesale access. The CRTC went from the view that "ILECs should generally not be required to make available facilities for which there are alternative sources of supply or which CLECs can reasonably supply on their own" to doing exactly that."

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<sup>34</sup> *Telecommunications Act* ( 1993, c. 38 ) at <http://laws.justice.gc.ca/en/T-3.4/?noCookie>

70. Basing himself on the doctrines of competition law, which is intended to protect competition, not competitors, he favours adoption of the competition law concepts applicable to section 79 of the *Competition Act*. He then remarks, wisely:

“365. That being said, the CRTC is not applying section 79 and is not bound to apply any particularities of its structure or judicial interpretation that cause difficulty in the regulatory context.”

71. The Coalition will not comment further in this section on the legal aspects of Mr. Osborne’ Report. It has answered the questions posed by the Commission in section 7 below, and these constitute our responses to Mr. Osborne’s propositions regarding essential services.

72. As regards his general observations, we note with pleasure that he has cited Mr. Hatfield’s description of the Internet which, in the Coalition’s opinion, is standard among scholars of the subject<sup>35</sup>, namely, that a layered architecture has a series of beneficial effects which have been more fully described in this Argument. He observes that:

“413. The trends identified by the TPR Report and Mr. Hatfield suggest that in the not too distant future, households will connect to the communications network through broadband internet, whether hosted on a coaxial cable, telephone wire, fibre, or perhaps wireless. Applications such as telephony will be delivered over that connection. In that case, what’s happening in the market for broadband internet may, in the long run, be more important than what’s happening in the market for local residential lines.”

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<sup>35</sup> Professor Yochai Benkler has been a primary academic exponent of the layered model of the Internet. See [www.benkler.org](http://www.benkler.org) The same is taken up in TMDenton, *The Internet Illustrated* at [http://www.tmdenton.com/pub/internet\\_illustrated.pdf](http://www.tmdenton.com/pub/internet_illustrated.pdf). Other sources of information on this concept include [http://en.wikipedia.org/wiki/Internet\\_protocol\\_suite](http://en.wikipedia.org/wiki/Internet_protocol_suite) or [http://en.wikipedia.org/wiki/TCP/IP\\_model](http://en.wikipedia.org/wiki/TCP/IP_model) or “Network layers: The OSI and Internet Model” at [http://projects.ischool.washington.edu/mcdonald/courses/imt546\\_au04/pres-12.04/Unit%204%20Network%20Layers\(final\).ppt](http://projects.ischool.washington.edu/mcdonald/courses/imt546_au04/pres-12.04/Unit%204%20Network%20Layers(final).ppt)

73. The Coalition is encouraged by these remarks, but considers them excessively cautious. Broadband internet will, and not may, be more important than access to the PSTN. The PSTN is going to be progressively shut down and replaced with IP telephony. Most major telcos in the developed world have stopped buying circuit-switching equipment some time ago, and have been putting IP-based routers at the core of their networks. In addition, telephony is not an “application” in the traditional PSTN, but a service. It becomes an application when it is delivered to the customer over the Internet in the same way as a downloadable program, with entirely different cost characteristics to the consumer, in which case the fundamental “service” and business model of the telcos will be progressively eviscerated. Mr. Osborne is right when he says that “Network connection through the Internet will become the basic product through which households connect to communications products (applications) and receive content.” (at paragraph 419). Though the death of the PSTN is yet a long way off, its days are visibly numbered.

## 7. The Commission's Questions and the Coalition's Answers

74. This purpose of this section is to set out the questions that the Coalition<sup>36</sup> considers should be answered in our Final Argument and to answer them. It is evident to us that the questions have changed in the course of the proceeding as the Commission's thinking has evolved. Accordingly, the Coalition thinks it should answer the Commissions as they came to be, in the Commission's collective mind, rather than the ones it first asked.
75. This proceeding was established by Telecom Public Notice 2006-14<sup>37</sup>. In that Notice, the Commission reviewed its decisions since the introduction of long distance voice competition in Telecom Decision 92-12. It noted how its current regime for the lease of wholesale facilities evolved incrementally in the fifteen years since.
76. It and subsequent notices in the same stream showed how the Commission's rulings evolved to allow the development of essential and "near essential" services, the creation of Type 1 (essential, near-essential, interconnection and ancillary services) and Type 2 services, and the regulatory treatment of both types.
77. The Commission asked these questions in Telecom Public Notice 2006-14 of 9 November 2006 and reiterated them in Telecom Public Notice 2006-14-3<sup>38</sup>, issued on 26 March 2007.

"The Commission invites comments, including supporting rationale, on the following:

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<sup>36</sup> The Coalition refers to the combined opinion of CISP and Xittel, unless the two parties specifically indicate a difference of approach.

<sup>37</sup> <http://www.crtc.gc.ca/archive/ENG/Notices/2006/pt2006-14.htm>

<sup>38</sup> <http://www.crtc.gc.ca/archive/ENG/Notices/2006/pt2006-14-3.htm>

- (a) Should the Commission adopt the definition of essential facility proposed in the Competition Bureau's September Draft Bulletin as the definition of essential service to be used by the Commission for the purposes of the Act, including the achievement of the telecommunications policy objectives of the Act? If not, what definition of essential service would be appropriate and contribute best to the achievement of those policy objectives? How should any new definition of essential service be applied? For example, what specific criteria, if any, should be used to apply any new definition of essential service?
- (b) Based on the definition proposed by a party in response to (a), which specific facilities, functions and services currently provided by the major ILECs, Société en commandite Télébec (Télébec), the cable carriers and CLECs would fall within the definition of essential service? Include comments on the Commission's preliminary view that interconnection services offered by LECs required to permit the interchange of traffic with PSTN customers would fall within any revised definition of essential service.
- (c) What pricing principles should apply to essential services? To the extent that any such proposed principles differ from the mandatory pricing that now applies to Category I competitor services, is there a need for a transition period, and what should be the scope and duration of any such transition period?<sup>2</sup>
- (d) When should future reviews of the assignment of essential services be conducted (e.g., on a regular basis, on the basis of applications, etc.)?
- (e) What regulatory regime, including pricing principles, should apply to wholesale services not included within any new definition of essential service? Is there a need for a transition period with respect to any new regulatory regime for non-essential wholesale services, and what should be the scope and duration of any such transition period?

78. The Commission subsequently issued questions to parties in the course of the recent proceeding, which the Coalition has answered. In part our purpose of reciting these questions is to examine how answering the same questions given the evolved direction of the Commission in the proceeding inclusive of its October 3<sup>rd</sup> revised proposal.

79. By letter to the parties of October 3, 2007, the Commission said:

“Parties to the upcoming public hearing commencing on 9 October 2007 are advised that the Panel intends to focus on the approach and structure set out in the attachment. The attachment reorganizes the possible regulatory framework for wholesale services put forward in the Commission's interrogatory \_\_\_\_\_(CRTC)19July07-1005 that was addressed to parties 19 July 2007.”

1. **Essential:**

Would include functionalities that meet the criteria of the Commission's definition of essential facility and would continue to be made available to competitors via mandatory unbundling and mandated pricing (such as basic subscriber listing information).

2. **Conditional Essential:**

Would include functionalities that would meet the criteria of the Commission's definition of essential facility, conditional on specific circumstances (such as unbundled local loops in exchanges where wire-line competitors are not yet present). These functionalities would be made available to competitors via mandatory unbundling and mandated pricing until the specific circumstances were no longer in effect.

3. **Non-Essential services subject to phase out:**

Would include functionalities that would not meet the criteria of the Commission's definition of essential facility, and mandatory unbundling would be phased out over a specified transition period. Provisions would be made to enable annual price increases during the transition period in order to provide incentives for investment in, and construction of, competing telecommunications network facilities. Provisions would also be made for a carrier, at the end of the transition period and at its discretion, to: i) continue to offer the service pursuant to a tariff; ii) file an application for forbearance; or iii) file an application to withdraw the service.

4. **Conditional Mandated Non-Essential :**

Would include functionalities that would not meet the criteria of the Commission's definition of essential facility, but would continue to be made available to competitors via mandatory unbundling and mandated pricing, conditional on specific circumstances (such as unbundled local loops in exchanges where local forbearance has been approved on the basis of mandated access to such loops). Mandatory unbundling and mandated pricing would continue until the specific circumstances were no longer in effect.

5. **Public Good:**

Would include functionalities that would not meet the criteria of the Commission's definition of essential facility, but there would be general agreement that the functionalities should continue to be made available to competitors via mandatory unbundling for reasons of public benefit (such as access to 9-1-1 call routing services).

6. **Interconnection:**

Would include interconnection and certain services ancillary to interconnection that would continue to be made available via mandatory unbundling and mandated pricing on the same basis as essential facilities (such as direct connection).

80. The Coalition considers that the addition of the categories (baskets) in the Commission's letter of October 3<sup>rd</sup> has substantially changed the Commission's tentative position in the essential services proceeding, and for the better. Accordingly the addition of these new categories has changed the way the Coalition should answer the Commission's questions and advance its final argument. Some of the questions are now irrelevant to the larger purposes served by the creation of the Commission's baskets, cited above.

81. The Coalition perceives the Commission to be aware of several concerns with an overly pure conception of essential facility, or of restricting the categories of facilities which might be leased by competitors to essential facilities only. This is in keeping with the Minister's Comments to the Commons Committee on Industry, Science and Technology

## 7.1 Answers

Question A1:

*Should the Commission adopt the definition of essential facility proposed in the Competition Bureau's September Draft Bulletin as the definition of essential service to be used by the Commission for the purposes of the Act, including the achievement of the telecommunications policy objectives of the Act?*

Answer.

82. The Coalition considers that the creation of the “conditional mandated non-essential” category of services, and the duration of available competitor services in such a category, has affected the answer that the Coalition would otherwise give to this question, and the following questions, in the absence of such a category.
83. If conditional mandated non-essential (basket 4) services will continue to be provided until they can be dispensed with, and the determination to dispense with them is made on a study of market conditions for specific telephone exchanges, or by specific routes, then the Coalition can live with the Competition Bureau’s definition of essential services, because that definition will not determine the extent of services which can be leased.
84. If, as Mr. Osborne says, the essential facilities test “will not be met for most, if not all, wholesale access facilities used for residential access in urban areas” (at paragraph 446), and mandatory access to non-essential facilities is phased out, then under almost all conditions this would amount to a catastrophe for the remaining independent Internet Service Providers.

Question A2

*If not, what definition of essential service would be appropriate and contribute best to the achievement of those policy objectives?*

86. The Coalition’s basis for its definition of essential service rests in the evidence of Mr. Stephen Barnes submitted by the Coalition.
87. The Coalition defines Essential Services as follows:
- a. Telecommunications services provided through large scale highly subadditive investment by incumbent telephone and cable carriers in

outside plant feeder and distribution facilities, support structures, and the associated passive and active electronic and optical components that allow such facilities to provide basic connectivity and multiplexing functions and their functional equivalents.

88. The definition of essential services advanced by the Coalition focuses on the microeconomics of local competition between two or more carriers providing local access services and a bundle of network-based telecommunications services in a single, small service area. This is the level of granularity in the network that the Commission needs to concentrate on in order to define the services that are essential on an ongoing basis.
89. The measurement of subadditivity has been demonstrated by Mr. Barnes to be the only objective mechanism to quantify the market power thresholds which should lead to measurably proportionate unbundling regulation. The value of suspended investments by reasonably efficient competitors, which are foreclosed in the absence of such excess of market power, can then be quantified to establish the basis of pricing of essential services from which competitors would derive revenues at the wholesale level as a stepping stone towards investing into their own facilities.
90. In this proceeding, the Coalition has affirmed that it intends to invest into telecommunications broadband wireless facilities if DSL wholesale is unbundled from DSL aggregation and is re-priced at Phase II Cost + 15% for the time it takes to actually build such wireless facilities.
91. In order to reward investments by incumbent local exchange and cable carriers in a duopolistic market, without discouraging further competitive entry, the Coalition proposes to suspend unbundling obligations of the ILECs and ICCs, for a certain period of time, but without suspending the requirement to unbundle at the end of the temporary monopoly.
92. At the end of the temporary monopoly, competitors would be able to subscribe to wholesale services priced at levels exempt from deliberate margin squeeze.

93. In this proceeding, during cross examinations<sup>39</sup>, TELUS stated that its decisions to invest in facilities was to provide high-definition television distribution capabilities, and that the requirement to share its telecommunications facilities with ISPs, which accounts for less than 1% of all of its accesses, had no bearing on its decisions to invest. This reality hardly supports the theory advanced by the Bureau of Competition that ILEC DSL wholesale is foreclosing ILECs from making non-telecommunications investments under the Broadcasting Act.

Question A3

*How should any new definition of essential service be applied? For example, what specific criteria, if any, should be used to apply any new definition of essential service?*

94. The Coalition considers that the creation of the baskets 1-6 in the Commission's Attachment to its letter to parties of October 3 has largely obviated this question, and the ones that follow. The Commission does not seem to believe that the essential facilities should be the only ones to be mandated or otherwise made available.
95. The Coalition also considers that some discretion will inevitably be exercised by the Commission in assigning a service to a particular basket.
96. Not all ILEC wholesale DSL services can be grouped together for the purpose of determining which category they should be assigned to. Distinction must first be made between current DSL wholesale services available under general tariff, and DSL wholesale services mandated as a competitor service free from margin squeeze. A second level of distinction must also be made between aggregated and pure DSL access services. Finally, a third distinction should be made between pure

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<sup>39</sup> Transcript of October 26, 2007 at paragraphs 12942 to 13001

DSL access services from central offices, on the one hand, and those from remotes for which subloop unbundling is not available, on the other. For the reasons stated in the above answer, the assignment of DSL wholesale services to categories stipulated in the Commission's October 3<sup>rd</sup> 2007 proposal must be done in accordance with the circumstances. Such circumstances include a judgment whether or not DSL wholesale is being used by competitors as an enabler to an eventual self-supply, which may take less or more time depending on the particular circumstances prevailing in a given geographic market.

97. Such circumstances include the actual availability of licensed spectrum which ISPs could obtain from Industry Canada. CISP and Xittel submit that ISPs should not be denied access on the basis that the cable company could enter the market, as such circumstances are out of the control of ISPs. “
98. The Coalition's answers to the Commission interrogatory, found in **Appendix A**, detail which services can go into which baskets, and which ones should be subject to phase-out duration to be explicitly determined as part of a follow-up process to this proceeding.

#### Question B

*Based on the definition proposed by a party in response to (a), which specific facilities, functions and services currently provided by the major ILECs, Société en commandite Télébec (Télébec), the cable carriers and CLECs would fall within the definition of essential service? Include comments on the Commission's preliminary view that interconnection services offered by LECs required to permit the interchange of traffic with PSTN customers would fall within any revised definition of essential service.*

99. The Coalition has answered this question in detail in its submission in relation to Exhibit 4, presented on November 9, 2007, and found in this Argument as Appendix A. The Coalition also answered this question in its response of November

16 to CRTC exhibit 10, in response to the question “Classification of DSL Access Service”.

100. It reads in part:

“When cable companies are not present in a relevant market, CISP and Xittel submit that all forms of DSL wholesale, including those with aggregation and backhaul, should be declared essential. The presence of the cable carrier on a given aggregation route should be necessary for such a route to be declared forborne. Likewise, faced with non-functional TPIA services, CISP and Xittel submit that all forms of DSL wholesale, including those with aggregation and backhaul, are essential. The CISP and Xittel submit that the Commission should define DSL access service as essential in the case where there is no cable company present.”

Question C

*What pricing principles should apply to essential services? To the extent that any such proposed principles differ from the mandatory pricing that now applies to Category I competitor services, is there a need for a transition period, and what should be the scope and duration of any such transition period?*

101. The pricing principles that currently apply to essential services should remain in effect. The transition periods are described in Appendix A.

Question D

*When should future reviews of the assignment of essential services be conducted (e.g., on a regular basis, on the basis of applications, etc.)?*

102. The Coalition considers that the movement of services from basket to basket will be conditional on circumstances, especially changes in the technologies of

production and the availability of substitutes. Reviews of the placement of services in the various baskets should be timely and ongoing. This suggests that such reviews could be launched by application of interested parties.

#### Question E1

*What regulatory regime, including pricing principles, should apply to wholesale services not included within any new definition of essential service?*

103. The essential problem before ISPs is not really the definition of essential services. It is the margin squeeze that is being can be exercised by telephone companies on higher speed DSL offerings. The Coalition has addressed this question in its submission of November 16 in relation to Exhibit 10, in response to Classification of DSL Access Service.
104. From the perspective of the ISPs, the objective of this proceeding is to streamline regulations mandating ILECs to provide competitor services such as to make investment conditions more favourable for the ILECs as well as encourage ISPs to invest into their own facilities.
105. Prior to Decision 2002-76, Internet Service Providers were initially purchasing services from ILEC affiliates which were said to be non-dominant by the ILECs. When the CRTC determined that that the ILEC subsidiaries had as much market power than the ILECs themselves, the Commission requested that the offerings of the unregulated affiliates be regulated at terms and conditions published in tariffs. ILECs began to negotiate with ISPs to establish what we call aggregated ADSL tariffs that would provide the same province-wide transport functionality that had been provided to the ISPs. Such transport capacity did not exist in the pure ADSL access tariffs (Bell GT5400/TCI GT214) then used by the ILEC affiliates to assemble the offerings then sold to the ISPs and to the public at large.

## 8. CISP's Proposals for Margin Squeeze

106. CISP members are victims of margin squeeze, particularly for DSL light service, where the ILEC retail rates are less than the rates which ISPs pay to the ILECs for wholesale DSL light services.
107. The Coalition considers that when assigning competitor services to a phase out with mandatory rate increases over time, the Commission should retain some explicit control to prevent margin squeeze, in the same way than does the EU in its 2002 Access Directive<sup>40</sup>.
108. At this time, under the Commission's proposed framework, only those services which would be deemed essential would be free from margin squeeze, that is, constrained to Phase II costs plus 15%. However, in the Commission's basket proposal, the pricing principles for services assigned to the third category would not be explicitly capable of preventing margin squeeze. As to the third basket, non-essential subject to phase-out, the Commission has made no commitment to prevent margin squeeze between wholesale rates offered to ISPs and retail rates offered to telco customers directly.
109. The ILECs filed their wholesale services as general tariffs and not as services reserved to competitors that are also Canadian carriers. The ILECs have several resellers and corporations which are not Canadian carriers as customers who subscribe to the same tariffs as the ISPs, though none of them can contribute to the development of facilities-based competition in Canada<sup>41</sup>.
110. As the Commission sets out to implement its October 3rd proposal, for a service to be categorized as non-essential subject to phase out (the third category), **it must first made available exclusively to Canadian carriers as a competitor service free from margin squeeze.**
111. The issue of control against margin squeeze was not made explicitly part of the scope of the proceeding, and is assumed away by the recommendations of the Osborne report. Neither is it dealt with in the ILEC evidence, nor in a single

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<sup>40</sup> <http://www.ictregulationtoolkit.org/en/Document.1496.pdf>

<sup>41</sup> The largest of the CISP members, Xittel, Oricom and B2B2C are Canadian Carriers which do contribute to the orderly development of facilities-based competition in Canada, each with several thousand customers on fixed wireless broadband facilities.

statement of the Bureau of Competition. In fact, the presumption that Phase II costs plus 15% even resolves margin squeeze has not even been tested.

112. Furthermore, absent an explicit mechanism to prevent competitor services from being subject to margin squeeze, the Commission will not have any basis to justify the use of mandatory annual rate increases and phase-out.

113. The Commission only proposes to prohibit margin squeeze for services deemed to be meet the definition of essentiality in the first and second categories, by capping the allowable mark-up to 15% over Phase II costs for services in these categories.

114. **It is essential to limit the mark-ups of competitor services during a transition period sufficiently long to allow the deployment of additional facilities.** Indeed, this is the basis of the promise that the ISPs are making in this proceeding: resolve the margin squeeze problem during a transition period and watch the investments in facilities skyrocket, provided that radio spectrum is actually made available.

115. It must also be recognized that the definition of essential service used by TELUS and the Bureau both assume that the object of the unbundling is the use of such a service or facility as an input to the pursuit of facilities-based competition by a Canadian carrier. It is a *non sequitur* that a service be declared essential and be provided to entities which have no intention or ability to pursue facilities-based competition. **Such services should only be made available to Canadian carriers.**

#### Question E2

Is there a need for a transition period with respect to any new regulatory regime for non-essential wholesale services, and what should be the scope and duration of any such transition period?

107. CISP considers that the transition to a new regulatory regime is intimately linked to the question of when appropriate quantities of radio spectrum will become available. The government has announced that television broadcasting spectrum will become available in the year 2011, which is four years from now. As a practical matter, the phasing out of some access services will have to be linked to when sufficient spectrum is actually in the hands of independent ISPs. It will take four years in effect to create the policy environment for ISPs to get hold of enough of this spectrum, and to ensure a policy environment in which it is safe for capital to flow into ISPs. It may take several more years for the radio-based access facilities to be deployed. Consequently, yes, there should be a transition period for non-essential facilities, and it should be tied to the creation of a policy environment in which ISPs actually obtain the spectrum necessary to offer high-speed access.

## **8. CISP's proposals to invest in facilities**

108. In our cross-examinations and in oral argument, the Coalition was at pains to show that the ISPs have been carefully dissuaded from building facilities because the DSL offerings of the telcos – the ones that were actually available to paying customers – consisted of aggregation and access features, offered at cheaper prices than the pure DSL access tariffs, which in fact turned out not to be available.

109. The Coalition declares today that its members are interested and capable of combining the portion of the access facilities of the incumbents which are deemed essential, with our own self-supplied facilities. The resulting self-supplying of back-haul facilities with access at essential rates will improve our margins. The prospect of improved margins is all that is necessary to justify our investments in first-mile access facilities.

110. In order for this to happen, the recommendations of the Coalition must be adopted. They include:

- For a service to be categorized as non-essential subject to phase out (the third category), it must first be made available exclusively to Canadian carriers as a competitor service free from margin squeeze.
- The transition period for non-essential services must be sufficiently long to allow the deployment of additional facilities.
- The ISPs must be able to get hold of radio spectrum which is to be made available from the transition to digital from analog television, which is set to take place in 2011. The transition period must allow for ISPs actually to obtain and deploy this spectrum.
- The Commission must accept the notion, proposed by the Minister of Industry in the Commons Committee on Industry, that there can be non-essential services which will not be phased out.