Canadian Radio-television and Telecommunications Commission
Conseil de la radiodiffusion et des télécommunications canadiennes

Telecom Decision CRTC 2008-108

Ottawa, 20 November 2008

The Canadian Association of Internet Providers' application regarding Bell Canada's traffic shaping of its wholesale Gateway Access Service

Reference: 8622-C51-200805153

In this Decision, the Commission denies the Part VII application by the Canadian Association of Internet Providers requesting that the Commission order Bell Canada to cease and desist from traffic shaping of its wholesale Asymmetric Digital Subscriber Line services and, in particular, the wholesale service known as Gateway Access Service (GAS).

The Commission's determinations in this Decision relate solely to Bell Canada's traffic-shaping practices in relation to its wholesale GAS, and are based on the evidence filed in this proceeding.

The Commission notes that parties to this proceeding have raised concerns related to existing and emerging Internet traffic management practices that are beyond the scope of this proceeding. In light of the importance of these concerns, in a Public Notice issued today, the Commission initiates a proceeding to review the current and potential Internet traffic management practices of Internet service providers with respect to both retail and wholesale services. The process for this further proceeding, which will include an oral public hearing, is outlined in Telecom Public Notice 2008-19.

Introduction

1. The Commission received an application by the Canadian Association of Internet Providers (CAIP), dated 3 April 2008, for an order directing Bell Canada to cease and desist from traffic shaping[1] of its wholesale Asymmetric Digital Subscriber Line (ADSL) services and, in particular, the wholesale service known as Gateway Access Service (GAS).

2. GAS is a mandated Bell Canada wholesale service that Internet service providers (ISPs) use to provide retail Internet services. GAS carries an ISP's customer's Internet traffic from the customer's location to a point in the Bell Canada network where the aggregated traffic generated by the ISP's GAS customers is handed off to the ISP. GAS is provided pursuant to a tariff that has been approved by the Commission (the GAS tariff).[2]

[1] In its application CAIP also referred to activities by Bell Canada to "shape," "throttle," and/or "choke" Internet traffic. In this Decision the term "traffic shaping" is used to encompass these various terms.

[2] Bell Canada General Tariff, item 5410, Gateway Access Service

3. In Telecom Decision 2008-39, the Commission disposed of CAIP's request for interim relief on an expedited basis. In this Decision, the Commission disposes of CAIP's request for relief on a final basis.

4. The list of parties that made submissions to this proceeding is provided in the Appendix. In addition, comments were received from over 1,300 individuals.

5. The public record of this proceeding, which closed on 1 August 2008, is available on the Commission's website at www.crtc.gc.ca under "Public Proceedings."

General positions of parties

6. Bell Canada submitted that it is engaged in traffic shaping on its network, which consists of slowing down the transfer rates of all peer-to-peer (P2P) file-sharing applications[3] during peak periods, which it defined as between 4:30 p.m. and 2:00 a.m., daily. Bell Canada began shaping the Internet traffic of its own retail customers in October 2007 and that of its GAS ISPs' customers in March 2008.

7. Bell Canada indicated that it uses deep packet inspection (DPI) technology to implement its traffic shaping on essentially a network-wide basis.

8. Bell Canada's position is that its traffic shaping is the best practical approach to address network congestion together with capacity investments and implementation of usage-based pricing, and that it is consistent with the *Telecommunications Act* (the Act) and the GAS tariff.

9. Some parties submitted that Bell Canada's traffic shaping slows down P2P file transfer rates to as low as 30 kilobytes per second (equivalent to 240 kilobits per second). Some further submitted that the transfer rates of some other applications are slowed down in a similar way.

10. Parties disagreed on whether Bell Canada's network is congested and whether GAS ISPs' customers are responsible for any congestion. Therefore, they disagreed on whether, as Bell Canada submitted, shaping the Internet traffic of GAS ISPs' customers is necessary to address congestion. They also disagreed on whether blanket traffic shaping of P2P file-sharing applications during peak periods is a permissible response to address congestion in the network and whether Bell Canada's traffic-shaping practices only affect P2P file-sharing applications.

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[3] P2P file-sharing applications are applications that use P2P networks, where multiple nodes (e.g. the computers of end-users) connect to form a network, in order to distribute files over the Internet. Unlike the traditional network distribution model, where multiple end-users download content from a central server, P2P applications allow end-users to download a single file from multiple end-users simultaneously, thus creating the potential for faster download speeds.

11. CAIP's position was that Bell Canada's traffic shaping of the Internet traffic of the customers of its GAS ISPs violates sections 24[4] and 36[5] and subsections 25(1)[6] and 27(2)[7] of the Act and is contrary to the privacy objective in the Act, and that Bell Canada should have notified its GAS ISPs of its intention to shape traffic.

12. The Commission has identified the following issues to be addressed in its determinations:

I. Is Bell Canada's traffic shaping with respect to GAS in violation of section 24 and subsection 25(1) of the Act?

II. Is Bell Canada's traffic shaping with respect to GAS in violation of subsection 27(2) of the Act?

III. Is Bell Canada's traffic shaping with respect to GAS without prior Commission approval in violation of section 36 of the Act?

IV. Is Bell Canada's traffic shaping with respect to GAS in violation of any Commission rules related to privacy?

V. Did Bell Canada act in violation of a Commission order to provide advance notice of network changes?

I. Is Bell Canada's traffic shaping with respect to GAS in violation of section 24 and subsection 25(1) of the Act?

13. CAIP submitted that Bell Canada's GAS tariff does not include provisions that allow traffic shaping. CAIP submitted that by unilaterally applying traffic shaping to GAS, Bell Canada has altered the terms of its GAS tariff by impeding speed and performance without prior approval of such changes by the Commission, in violation of section 24 and subsection 25(1) of the Act.

14. CAIP submitted that speed is intrinsic to the definition of GAS and, further, that the Commission found in Telecom Order 2006-258 that information regarding the transmission speeds available for GAS is important to competitors who rely upon the availability of the advertised speeds to ensure that GAS meets their requirements. CAIP further submitted that while the GAS tariff refers to operational constraints that are due to underlying loop characteristics, these constraints are unrelated to the use of traffic-shaping technology to degrade the speed and performance described in the GAS tariff.

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[4] Section 24: The offering and provision of any telecommunications service by a Canadian carrier are subject to any conditions imposed by the Commission or included in a tariff approved by the Commission.

[5] Section 36: 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.

[6] Section 25(1): No Canadian carrier shall provide a telecommunications service except in accordance with a tariff filed with and approved by the Commission that specifies the rate or the maximum or minimum rate, or both, to be charged for the service.

[7] Section 27(2): No Canadian carrier shall, in relation to the provision of a telecommunications service or the charging of a rate for it, unjustly discriminate or give an undue or unreasonable preference toward any person, including itself, or subject any person to an undue or unreasonable disadvantage.

15. Bell Canada submitted that it was not operating contrary to the GAS tariff and therefore it was not in violation of section 24 and subsection 25(1) of the Act. Bell Canada submitted that its GAS tariff specifies maximum upstream and downstream speeds, which are offered on a best-effort basis and are not guaranteed at all times.

16. Bell Canada submitted that it was allowed to use technical options such as traffic shaping to ensure fair and proportionate use of its network as specified in its Commission-approved Terms of Service, which apply to all tariffs, and in agreements with ISPs using GAS. In this regard, Bell Canada submitted that all tariffs are subject to the terms of article 8.3 of item 10 (Terms of Service) of its General Tariff, which states:

> Customers are prohibited from using Bell Canada's services or permitting them to be used so as to prevent a fair and proportionate use by others. For this purpose, Bell Canada may limit use of its services as necessary.

17. Bell Canada submitted that it had found that a number of links in its network were congested, and that the number of congested links had increased during peak periods. Bell Canada submitted that it used a common industry practice based on utilization levels of network links to measure congestion. Bell Canada developed specific levels of link utilization for different link transmission speeds at which latency and packet loss increase significantly, resulting in negative impacts on end-users such as slowing of traffic or inability to receive content.

18. Bell Canada submitted that congestion could negatively impact the quality of service experienced by end-users even when the proportion of congested links was relatively small. It noted that it did not allow widespread congestion in its network, and that it implemented traffic-shaping measures in order to prevent this from occurring.

19. Bell Canada submitted that a small proportion of its retail end-users was generating a disproportionate amount of network traffic, and that a significant amount of that traffic was due to the use of P2P file-sharing applications. In Bell Canada's view, such usage impacted the Internet experience of other users by contributing to network congestion.

20. Bell Canada further submitted that P2P file-sharing applications were likely to cause congestion in its network for several reasons:

    - P2P file-sharing applications are designed to open multiple sessions in an effort to transfer data as fast as possible, thus overwhelming other traffic;
    - While a download request is in progress, the end-user receiving the download will respond to multiple upload requests from new downloaders, maximizing upstream bandwidth usage;
    - Queuing of file requests can sustain continuous maximum traffic loads at all times, maximizing downstream bandwidth usage; and
    - Because some P2P file-sharing applications look for the fastest node available, any increase in capacity to one network node will attract increased upload requests from other P2P file-sharing applications on other networks, resulting in the increase of capacity being consumed by P2P file-sharing applications.

21. Finally, Bell Canada submitted that its traffic-shaping practice is the only practical option to deal with congestion that is technologically and economically suitable for its digital subscriber line (DSL) network at this time.

22. Bell Canada submitted that, in light of the above, traffic shaping of all P2P file-sharing applications during peak periods is permitted under article 8.3 of its Terms of Service.

23. Rogers Communications Inc. supported Bell Canada's position and stated that it, along with other ISPs, was traffic shaping P2P file-sharing applications. Cisco Systems, Inc., in support of Bell Canada, stated that even if more bandwidth were added to the network, P2P file-sharing applications are designed to use up that bandwidth.

24. In response, CAIP, supported by Primus Telecommunications Canada Inc. (Primus), submitted that Bell Canada's arguments in relation to its Terms of Service should be dismissed as Bell Canada had not proven that its network is congested. CAIP disagreed with Bell Canada's approach to measuring congestion, stating that it was more appropriate for provisioning rather than determining whether congestion exists. CAIP and Primus further submitted that Bell Canada had not established that any of its GAS customers were making disproportionate use of the network.

25. CAIP and others submitted that P2P file-sharing applications did not make excessive use of network bandwidth. CAIP stated that P2P file-sharing applications did not seek out more bandwidth than the maximum speed of GAS, and that the download of a particular file did not make use of more bandwidth than the download of a file, such as a hypertext markup language (HTML)[8] file, from a single server.

26. CAIP further submitted that if there were network abuse, the Terms of Service could not be invoked to authorize blanket and systematic traffic shaping on a network-wide basis. The Terms of Service allow Bell Canada to limit or terminate service to specific end customers that engage in network abuse, but do not permit Bell Canada to throttle all P2P content destined for competitors' customers.

27. A number of parties suggested that there were alternatives to Bell Canada's traffic-shaping practices that were more reasonable, including:

    - increasing the capacity of Bell Canada's network and/or allocating more bandwidth to Internet usage;

    - shaping the traffic and/or limiting the bandwidth usage of individual end-users; and

    - applying traffic shaping only during moments of actual congestion.

[8] HTML files are the main type of text files used for Web documents. An HTML file consists of text along with imbedded HTML instructions that tell a Web browser how to display a particular page. The markup language denotes, for example, whether text is to be displayed as a paragraph, heading, list, link, and so on.

Commission's analysis and determinations

28. The Commission notes that Bell Canada's Terms of Service form part of the company's Commission-approved tariffs. The Commission also notes that article 8.3 of Bell Canada's Terms of Service, as submitted by Bell Canada, applies to all of its tariffed services, including GAS. Accordingly, the Commission considers that even if the terms and conditions specifically related to GAS do not contemplate traffic shaping, the use of GAS is subject to the constraints set out in article 8.3 of Bell Canada's Terms of Service.

29. In the Commission's view, CAIP has not demonstrated that Bell Canada's methodology for determining congestion in the network is inappropriate. The Commission notes that Bell Canada, as a network operator, is responsible for ensuring that its network is operated effectively and efficiently, and considers that Bell Canada should be able to take measures in this regard. Furthermore, the Commission is satisfied that Bell Canada has established that there is congestion in its network during peak periods.

30. The Commission notes Bell Canada's submission that P2P file-sharing applications are designed to make the maximum use of downstream and upstream bandwidth and to use up additional capacity in the network as it becomes available. The Commission considers that intensive use of such applications could, during periods of high Internet traffic, result in network congestion and degrade the performance of Internet services for other end-users.

31. The Commission notes Bell Canada's finding that a small proportion of end-users of its retail Internet services generated a large share of Internet traffic, and that a large percentage of this traffic was due to the use of P2P file-sharing applications. The Commission considers that it is reasonable to assume that GAS end-users would generate traffic in a similar fashion. The Commission further notes that the usage of any link and any associated congestion would be determined by the aggregate traffic of end-users of both retail and wholesale services passing through that link, with a proportionate contribution to any congestion from the traffic of each end-user.

32. The Commission considers that, in the circumstances of this proceeding, Bell Canada has established that the use of P2P file-sharing applications by the end-users of GAS customers during peak periods would contribute to the network congestion that exists in Bell Canada's network. Accordingly, in the circumstances of this proceeding, Bell Canada has established that some measures are required to prevent its customers from using, or permitting to be used, P2P file-sharing applications so as to prevent fair and proportionate use by others of its network.

33. The Commission notes Bell Canada's submission that the traffic-shaping approach it has implemented is the only practical option that is technologically and economically suitable, at this time, for addressing congestion in its DSL network. The Commission further notes that while CAIP and others suggested alternative traffic management approaches for Bell Canada, there is no evidence on the record regarding the availability, feasibility, or utility of any such alternative solutions.

34. In light of the above, the Commission considers that, based on the record of this proceeding, Bell Canada's application of its traffic-shaping measures to GAS is permitted under article 8.3 of its Terms of Service. Accordingly, in the circumstances of this case, the Commission finds that Bell Canada's application of its traffic-shaping measures to GAS is not in violation of its GAS tariff under section 24 and subsection 25(1) of the Act.

II. Is Bell Canada's traffic shaping with respect to GAS in violation of subsection 27(2) of the Act?

35. CAIP, supported by the Public Interest Advocacy Centre (PIAC), the Canadian Internet Policy and Public Interest Clinic (CIPPIC), Acanac Inc. (Acanac), and Google Inc., submitted that Bell Canada's traffic-shaping measures as applied to the ISP customers of GAS are contrary to subsection 27(2) of the Act. CAIP and others submitted that Bell Canada's arbitrary shaping of all P2P file-sharing traffic violated the Act for the following reasons:

- P2P users and P2P content and application providers were being subjected to unjust discrimination and an undue disadvantage;
- competitors and their end-users were being subjected to an undue disadvantage; and
- Bell Canada was conferring on itself an undue preference by reallocating bandwidth to its ultra-high-speed Internet access and to other data and value-added services.

36. CAIP and others submitted that Bell Canada's traffic-shaping practices – which degrade the performance of P2P file-sharing applications and in some cases, according to CAIP, impact services such as virtual private network (VPN) services, voice over Internet Protocol (VoIP) services, and other encrypted communications – subject the minority of users who use these applications and services to undue discrimination and an undue disadvantage, and exclude these users from the alleged benefits of traffic shaping. In addition, content and application providers and service providers that rely on P2P file-sharing applications have suffered degradation of their ability to distribute their content to end-users.

37. CAIP and others submitted that Bell Canada's traffic-shaping practices caused GAS ISPs and their end-users to be subjected to an undue disadvantage by reducing the speed and utility of their services to end-users. GAS ISPs were especially disadvantaged where they marketed services that promise unfettered access to all forms of data transfer.

38. CAIP further submitted that Bell Canada was granting itself a preference in the retail market by degrading the GAS that it provides to ISPs. CAIP submitted that to the extent that bandwidth being freed up by Bell Canada was being re-allocated to the company's other services, such as its upgraded "Max" DSL services, its online video store, and Internet Protocol Television (IPTV) service, Bell Canada was conferring upon itself an advantage. CAIP also submitted that Bell Canada granted itself a preference by implementing traffic shaping of GAS at essentially the same time as it introduced usage-based charging for its retail Internet services, thus preventing ISPs from effectively competing against Bell Canada with respect to this pricing initiative.

39. CAIP and others submitted that Bell Canada's traffic shaping amounted to unjust discrimination or the conferring of undue or unreasonable preferences and disadvantages because Bell Canada's actions were not justified (a) by alleged congestion; (b) by an approved tariff or other legally binding instrument; or (c) as a proportional and tailored measure. In addition, Bell Canada's actions were used to enhance its competitive advantage by reducing competitors' ability to differentiate their services and by freeing up or reserving bandwidth for its content and enhanced services.

40. Bell Canada, supported by TELUS Communications Company, submitted that there was no discrimination or preference because it applied equivalent traffic-shaping measures to both GAS and retail customers. Bell Canada submitted that this was consistent with determinations in Telecom Decision 2006-77 where the Commission considered it appropriate that cable carriers have the capability to manage potential negative impacts of high-consuming bandwidth end-users in a manner that does not degrade quality of service to all end-users. The Commission also set out the requirement for equivalent treatment to both the cable carriers' retail broadband access services and the third-party Internet access services provided to ISPs.

41. Bell Canada submitted that its implementation of traffic shaping has not resulted in a substantial lessening of competition. Bell Canada provided information on the record to demonstrate that the total number of GAS end-users has continued to grow each month, both before and after traffic shaping was introduced.

42. Bell Canada submitted that it had not introduced traffic shaping to give itself a preference in the retail market when it launched usage-based billing, IPTV service, its "Max" DSL service, and the Bell Video Store. Bell Canada submitted that it had not commercially launched IPTV service. In response to CIPPIC's questions, Bell Canada submitted that high-speed DSL users were throttled in the same way as other users. Bell Canada submitted that any allegations of an ulterior motive connected with the launch of the Bell Video Store assumed that it had significant market power in the online content distribution market, which it does not. Bell Canada also submitted that usage-based billing had been launched a year prior to deployment of its traffic-shaping measures.

Commission's analysis and determinations

43. As noted above, the Commission considers that, based on the record of this proceeding, Bell Canada has established a need to implement traffic shaping of GAS ISP traffic during peak periods and that P2P file-sharing applications can make disproportionate use of the network. Further, the Commission notes Bell Canada's submission that the traffic-shaping approach which it has implemented is the only practical option that is technologically and economically suitable, at this time, for addressing congestion in its DSL network, and that, as noted above, there is no evidence on the record regarding the availability, feasibility, or utility of alternative solutions.

44. The Commission notes that Bell Canada's traffic-shaping measures are applied such that there is equivalent treatment for both its retail Internet service end-users and the GAS ISPs' end-users.

45. There is no basis to conclude, based on the record of this proceeding, that the implementation by Bell Canada of traffic-shaping measures on GAS was intended, as alleged by CAIP, to secure sufficient bandwidth for its own services or to prevent ISPs from effectively competing against Bell Canada's introduction of usage-based charges for its retail service. Further, the Commission considers that there is no evidence on the record to establish that Bell Canada has benefited from the implementation of traffic-shaping measures with respect to GAS in the manner alleged by CAIP.

46. The Commission notes that Bell Canada provided data on the growth rate for GAS, which indicated that there was no substantive change in the growth rate after implementation of its traffic-shaping measures on GAS. The Commission further notes that there is no evidence on the record to demonstrate – or even to suggest – that competition has been reduced following the implementation of Bell Canada's traffic-shaping measures.

47. In light of the above, the Commission concludes that, in the circumstances of this proceeding, Bell Canada's traffic-shaping practices with respect to GAS do not violate subsection 27(2) of the Act.

III. Is Bell Canada's traffic shaping with respect to GAS without prior Commission approval in violation of section 36 of the Act?

48. CAIP, supported by PIAC, CIPPIC, Acanac, and others, submitted that Bell Canada's traffic-shaping practices constitute control of content and influence the meaning and purpose of telecommunications, contrary to section 36 of the Act.

49. CAIP submitted that Bell Canada altered the meaning of content beyond recognition by slowing down the transfer rate of P2P flows by as much as 90 percent. CIPPIC submitted that slowing down of certain file transfers, such as news programs, alters the meaning and purpose of telecommunications.

50. CAIP and others submitted that selective application of traffic shaping to P2P applications is not content-neutral and violates section 36 of the Act and the principle of common carriage. CAIP submitted that Bell Canada exercised control by classifying certain types of content as low priority and quarantining such content until released in a manner determined by Bell Canada.

51. Bell Canada responded that its traffic-shaping practices of slowing down the delivery of content does not amount to controlling content. Bell Canada submitted that it is not involved in any editorial control of the content being transferred through P2P file sharing or in creating content or preventing access to content.

52. Bell Canada also submitted that it does not "influence the meaning or purpose" of P2P file-sharing communications because it has no knowledge of the content. Bell Canada further submitted that since the P2P file-sharing applications it is traffic shaping are not time sensitive, there is no change to, or impact or influence on, the "meaning or purpose" of telecommunications if delivery of content is delayed.

53. CIPPIC questioned how Bell Canada could assure the Commission that the purpose and meaning of content are undisturbed when it slows down the transfer rate for a P2P flow for which it does not know the nature of the content.

Commission's analysis and determinations

54. The Commission notes CAIP's submission that traffic shaping can result in data transfer rates being significantly reduced. The evidence before the Commission is to the effect that the telecommunications that are subject to traffic shaping in the circumstances of this case reach their intended recipients with their contents unchanged, although more slowly than if traffic shaping had not been applied.

55. The Commission notes that, based on the record of this proceeding, the traffic shaping carried out by Bell Canada does not involve any editorial control over the content of the telecommunications and does not involve blocking any telecommunications.

56. Finally, the Commission notes that Bell Canada is only applying traffic shaping to file-sharing applications, which, even without traffic shaping, require time for the complete file to be transmitted before an end-user can access it.

57. Therefore, in the Commission's view, while the traffic shaping carried out by Bell Canada of telecommunications sent by P2P file-sharing applications involves controlling the speed of telecommunications, it does not involve controlling the content.

58. Similarly, in the circumstances of this case, the Commission considers that the traffic shaping carried out by Bell Canada does not influence the meaning or purpose of telecommunications. The Commission considers that, in the context of a P2P file-sharing application, the fact that the transmission of a file is delayed does not alter its meaning or its purpose.

59. In light of the above, the Commission considers that the traffic shaping carried out by Bell Canada does not, in the circumstances of this case, engage section 36 of the Act.

IV. Is Bell Canada's traffic shaping with respect to GAS in violation of any Commission rules related to privacy?

60. CAIP submitted that the DPI technology used by Bell Canada to implement its traffic-shaping measures could be used to access and collect personal information of end-users without prior knowledge or consent. By examining packet headers and packet content, Bell Canada could identify the type of data being transferred, the ISP network used, and an end-user's intention to acquire certain types of content, all of which are personal information under Canadian privacy legislation. CAIP, PIAC, and CIPPIC submitted that Bell Canada's actions run counter to the letter and spirit of the Canadian telecommunications policy objective under paragraph 7(*i*) of the Act and are in violation of clauses 4.3 and 4.8 of the *Personal Information Protection and Electronic Documents Act* (PIPEDA), Schedule 1.

61. CIPPIC noted that it had made a submission to the Office of the Privacy Commissioner of Canada (OPCC) regarding Bell Canada's violations of several principles of PIPEDA through its implementation of DPI technology for traffic shaping. CIPPIC submitted that the

Commission should undertake a full investigation into the privacy implications of current and future uses of DPI, and should work with the OPCC to ensure that the use of DPI technology, if permitted at all, is undertaken in a transparent and safe manner that protects the privacy of Canadians.

62. Bell Canada submitted that privacy-related issues concerning individual end-users are not relevant to this application. Bell Canada submitted that paragraph 7(*i*) of the Act is a legislative objective that can help clarify the purpose of the legislation and is relevant to decision making, but is not a power-conferring provision.

63. Bell Canada stated that it is compliant with its privacy obligations and is not engaging in behaviour alleged by CAIP and questioned by CIPPIC.

64. Bell Canada submitted that its DPI technology examines the packet headers, not the contents, of communication exchanges. Bell Canada further submitted that its DPI equipment does not retain the information reviewed in the packet headers and that the content itself is never reviewed, analysed, or stored as part of the company's traffic-shaping measures. Bell Canada, as well as any third party or vendor contracting with Bell Canada, does not access individual user information such as the particular user, IP address, account, or geographic location. Therefore, contrary to suggestions made by certain parties, Bell Canada does not disclose such user information to any third party for any purpose.

Commission's analysis and determinations

65. The Commission notes CIPPIC's submission to the OPCC regarding Bell Canada's alleged violation of several principles of PIPEDA through its implementation of DPI technology for traffic shaping. The Commission considers that issues regarding compliance with PIPEDA are outside the scope of this proceeding, and they are therefore not addressed in this Decision.

66. The Commission notes that paragraph 7(*i*) of the Act states that an objective of Canada's telecommunications policy is "to contribute to the protection of the privacy of persons" and that this objective does not by itself impose an enforceable obligation on Bell Canada. The Commission notes that Bell Canada is prohibited, pursuant to its Terms of Service, from disclosing confidential customer information, except in certain circumstances. The Commission notes that the DPI technology used by Bell Canada examines the header information of packets, which includes source and destination IP address information, in order to carry out traffic shaping. There is no allegation by any party nor any evidence on the record of this proceeding that any of the examined header information is collected or disclosed by Bell Canada or used by Bell Canada for any purpose other than traffic shaping. No parties alleged that Bell Canada has collected, retained, or disclosed customer information in its ongoing application of its traffic-shaping measures.

67. In light of the above, the Commission finds that, based on the evidence on the record of this proceeding, Bell Canada's traffic-shaping practices do not violate any existing Commission rules related to privacy.

V. Did Bell Canada act in violation of a Commission order to provide advance notice of network changes?

68. CAIP submitted that Bell Canada violated a Commission order in Telecom Decision 97-8, which directed local exchange carriers to provide advance notice of network changes and allow for testing of any proposed changes, as set out in Telecom Letter Decision 94-11. CAIP submitted that the notification requirements should apply to changes in GAS, including the implementation of traffic shaping. In this regard, Bell Canada had not provided any notice of network changes and had not invited GAS ISPs to conduct technical tests of the changes.

69. Bell Canada submitted that the notification requirement that CAIP referred to did not apply to the traffic-shaping measures it had implemented for GAS because:

- the notification of changes referred to in Telecom Letter Decision 94-11 applies to "bottleneck" services, which correspond to essential services. Because GAS was made a conditional mandated non-essential service in Telecom Decision 2008-17, the notification of changes requirement does not apply; and

- GAS ISPs did not have to make adjustments in their networks as a result of the implementation of traffic-shaping measures. Traffic shaping did not entail a change to network-to-network interfaces, which was what the notifiable changes in Telecom Decision 97-8 addressed. Traffic shaping is a part of capacity management and network management activities that are internal to the operation of a network and do not require Bell Canada to notify other carriers pursuant to Telecom Letter Decision 94-11 and Telecom Decision 97-8

70. Bell Canada submitted that it would provide one day's advance notice in the future.

71. CAIP submitted that because GAS is a local exchange service for which there are no economically feasible alternatives, it is a bottleneck service for purposes of application of Commission notification of network change policies. Further, the traffic shaping of GAS is a "network change" as it required modifications to Bell Canada's network including the installation of DPI boxes, modification of logical paths, installation of other new equipment, and reprogramming. As such, it is an appropriate case for applying notification of change rules.

72. CAIP submitted that Bell Canada's implementation of traffic shaping was a modification that caused disruption to affected end-users. Bell Canada had not provided CAIP members with any technical information about its traffic-shaping measures. CAIP submitted that transparency and notice would allow parties to understand the necessity of such measures and diminish disputes through exchanges of information.

Commission's analysis and determinations

73. The Commission considers that Bell Canada is not in violation of the requirement to provide advance notice pursuant to Telecom Letter Decision 94-11 and Telecom Decision 97-8, as ISPs did not have to make any adjustments to their networks as a result of Bell Canada's implementation of traffic shaping.

74. The Commission notes, however, that Bell Canada's actions have had significant impact on the performance of its GAS, albeit for one application, and that Bell Canada had not provided any advance notice to its GAS customers. As a result, GAS ISPs experienced end-user complaints and were not fully equipped to provide appropriate responses. The Commission considers that the nature of the changes resulting from the implementation of traffic-shaping practices should oblige Bell Canada to provide prior notification to its GAS customers. Accordingly, the Commission directs Bell Canada to develop and file with the Commission, by **9 January 2009**, proposed notification requirements to address future changes that impact materially on the performance of GAS. The Commission considers that the notification period should be at least 30 days. The Commission further considers that, at a minimum, the notification of changes should provide clear and meaningful information describing what the changes are, what traffic can be affected, under what conditions, and for how long.

Disposition of CAIP's application

75. In light of all of the above, the Commission **denies** CAIP's application.

Other matters

(a) Resolution of complaints

76. CAIP and others submitted that Bell Canada's traffic-shaping measures affect non-P2P file-sharing applications in certain cases, including VPN services, VoIP services, and encrypted communications.

77. Bell Canada submitted that it was addressing all reported complaints.

78. The Commission expects Bell Canada to develop solutions for complaints on a timely basis. Accordingly, the Commission directs Bell Canada to file a report on the resolution of complaints related to affected non-P2P file-sharing applications by **9 January 2009**.

(b) Further process

79. The Commission's determinations in this Decision relate solely to Bell Canada's traffic-shaping practices in relation to its wholesale GAS, and are based on the evidence filed in this proceeding. The Commission notes that parties to this proceeding have raised concerns related to existing and emerging Internet traffic management practices that are beyond the scope of this proceeding.

80. In light of the importance of these concerns, in a Public Notice issued today, the Commission initiates a proceeding to review the current and potential Internet traffic management practices of ISPs with respect to both retail and wholesale services. The Commission will consider whether such practices are consistent with the Act and whether any measures are required to ensure this. The process for this further proceeding, which will include an oral public hearing, is outlined in Telecom Public Notice 2008-19.

Secretary General

Related documents

- *Review of the Internet traffic management practices of Internet service providers,* Telecom Public Notice CRTC 2008-19, 20 November 2008
- *Canadian Association of Internet Providers' request for interim relief regarding Bell Canada's practice of "throttling" its wholesale ADSL access services,* Telecom Decision CRTC 2008-39, 14 May 2008
- *Revised regulatory framework for wholesale services and definition of essential service,* Telecom Decision CRTC 2008-17, 3 March 2008
- *Cogeco, Rogers, Shaw, and Videotron – Third-party Internet access service rates,* Telecom Decision CRTC 2006-77, 21 December 2006
- *Bell Canada – Gateway Access Service,* Telecom Order CRTC 2006-258, 4 October 2006
- *Local competition,* Telecom Decision CRTC 97-8, 1 May 1997
- Telecom Letter Decision CRTC 94-11, 4 November 1994

Appendix

List of parties

Acanac Inc.

Advancing Democracy & Media Sanity in Canada

British Columbia Civil Liberties Association

Canadian Advanced Technology Alliance

Canadian Association of Voice Over IP Providers

Canadian Internet Policy and Public Interest Clinic (on behalf of the Campaign for Democratic Media)

Cisco Systems, Inc.

Coalition of Internet Service Providers Inc.

Daniel Matan

Distributel Communications Limited

Google Inc.

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