



Telecom Public Notice CRTC 2004-2

Ottawa, 7 April 2004

Regulatory framework for voice communication services using Internet Protocol

Reference: 8663-C12-200402892 and 8663-B2-200316101

The Commission has received both an application and a letter requesting it to address the regulatory requirements for the provision of voice communication services using Internet Protocol (IP). With this public notice, the Commission provides its preliminary views on the regulatory framework applicable to those services. The Commission is of the preliminary view that voice communication services using IP that utilize telephone numbers based on the North American Numbering Plan and provide universal access to and/or from the Public Switched Telephone Network (PSTN) (referred to in this public notice as "VoIP" services) have functional characteristics that are the same as circuit-switched voice telecommunications services. In the Commission's preliminary view, its existing regulatory framework should apply to VoIP services, including its determinations related to forbearance. The Commission considers, on a preliminary basis, that to the extent that VoIP services provide subscribers with access to and/or from the PSTN along with the ability to make and/or receive calls that originate and terminate within the geographic boundaries of a local calling area as defined in the Incumbent Local Exchange Carriers' (ILECs) tariffs, they should be treated for regulatory purposes as local exchange services, and be subject to the regulatory framework governing local competition, established in Local competition, Telecom Decision CRTC 97-8, 1 May 1997 and subsequent determinations. In this public notice, the Commission also expresses preliminary views on the following three matters: (i) the applicability of existing tariffs, and requirements to file tariffs; (ii) the provision of 9-1-1 and enhanced 9-1-1 service, message relay service and privacy safeguards; (iii) the applicability of the national contribution collection mechanism as introduced in Changes to the contribution regime, Decision CRTC 2000-745, 30 November 2000. Interested parties are invited to provide comments on the Commission's preliminary views and any other pertinent matters and to participate in a public consultation.

Introduction

1. Internet Protocol (IP) can be described as a standardized method of transporting information in voice, video and data packets over the same network, including the Internet or a managed network. While packet-based networks were originally designed for the transmission of data, advances in IP now allow these packet-based networks also to carry high quality voice traffic on an efficient basis.
2. While the Internet itself is a broadband network, residential users were initially limited to accessing the Internet via slow speed, narrowband (dial-up) connections. The advent of cable modems and digital subscriber loop (DSL) technology, however has allowed for high-speed access to the Internet.

3. Until recently, generally available voice communication services using IP only allowed subscribers to make and/or receive calls from a computer and communications could only take place when all parties to the call used the same telephony application software. These services, referred to as "peer-to-peer" (P2P), do not connect to the Public Switched Telephone Network (PSTN) and do not generally use telephone numbers that conform with the North American Numbering Plan (NANP).
4. The Commission notes that much has changed since the first systems supporting voice communication services using IP were introduced. The International Telecommunication Union, the Internet Engineering Task Force, and the European Telecommunications Standardization Institute have introduced global standards, for example, for high-quality speech coders, universal addressing, call control and signalling. Global standards have allowed for the interoperability among network components of packet-based networks and have improved voice communication services using IP.
5. Voice communication services using IP now allow subscribers to make calls over a broadband connection, for example with a conventional phone-set attached to an adaptor or an IP telephone. These services use telephone numbers that conform to the NANP and allow subscribers to make calls to, or receive calls from, the PSTN. Although the term "VoIP services" may be used to refer to both these services and to P2P, it will be used in this public notice to refer only to services that use NANP-conforming telephone numbers and provide universal access to and/or from the PSTN.
6. The Commission has received both an application and a letter requesting the Commission to address the regulatory requirements for the provision of VoIP services. On 6 November 2003, Bell Canada submitted an application requesting, among other things, that the Commission commence a proceeding to address the rules, if any, which govern the provision of telecommunications services by cable companies and other service providers that offer VoIP services. On 12 January 2004, Call-Net Enterprises Inc. submitted a letter asking what regulatory requirements would apply to service providers that are now offering VoIP services.
7. In light of the availability of voice services and the calls for clarification of the regulatory rules, the Commission considers that there is a need to set out its views on the regulatory regime applicable to the provision of those services. This public notice contains the Commission's preliminary views in this regard and invites parties to provide comments and reply comments. The Commission also provides for a public consultation where those parties that file written submissions will have the opportunity to present their views orally.

Commission's regulatory framework

8. In *Review of regulatory framework*, Telecom Public Notice CRTC 92-78, 16 December 1992 (Public Notice 92-78), the Commission stated that it was of the view that in an information-based economy, a modern and efficient telecommunications infrastructure was a fundamental component of, and vehicle for, the production and consumption of goods and services. The Commission noted that technological change and increasing competition had significantly altered the nature of the telecommunications industry, so that, in addition to fulfilling the basic communications requirements of all subscribers, telecommunications had

evolved into a tool for information management and a productivity enhancer for business. The Commission also noted that these changes allowed the telephone companies under its jurisdiction that provide local exchange service to develop a wide range of new audio, video and high-speed data services to satisfy the demands of both business and residential consumers in the local and long distance markets.

9. Following Public Notice 92-78, in *Review of regulatory framework*, Telecom Decision CRTC 94-19, 16 September 1994 (Decision 94-19), the Commission established a comprehensive regulatory framework for the telecommunications industry, in accordance with the telecommunications policy objectives outlined in section 7 of the *Telecommunications Act* (the Act) and in light of the continuing evolution of the industry. In that decision, the Commission stated that:

The digital universe promises a range of telecommunications services seemingly limited only by the rate of diffusion of new technology, access to capital and the imagination of users. It is important, in such a dynamic environment, that regulation encourage, rather than impede, the provision of efficient, innovative and affordable services.

10. The Commission further stated that:

In brief, telecommunications today transcends traditional boundaries and simple definition. It is an industry, a market and a means of doing business that encompasses a constantly evolving range of voice, data and video products and services. Telecommunications services range from basic access services connecting subscribers within a physical area, to multi-media applications where virtual communities that transcend geographic boundaries are created among users with common interests. It is this evolution of telecommunications that has given rise to visions of an information highway linking Canadians with each other and the world.

11. Although in Decision 94-19 the Commission did not specifically contemplate the advent of VoIP services, it laid the groundwork for a future characterized by efficiency, innovation and affordability, regardless of the technology that was to follow.
12. Over the past decade, in response to the constantly evolving telecommunications environment, the Commission has issued a number of determinations, consistent with the Commission's views in Decision 94-19, permitting telephone companies to provide a wide range of new services and encourage more competition in all market segments, including the market for local exchange services. In *Local competition*, Telecom Decision CRTC 97-8, 1 May 1997 (Decision 97-8), the Commission established the regulatory framework allowing for local competition, creating opportunities for Competitive Local Exchange Carriers (CLECs) to enter the market in competition with Incumbent Local Exchange Carriers (ILECs).
13. The regulatory framework established in Decision 94-19 and subsequent decisions, was intended to assist in the development of a telecommunications infrastructure that will allow all Canadians, not just a select few, ubiquitous and affordable access to an increasing range of competitively provided basic and advanced information and communications products and

services to serve increasingly diverse user requirements. In order to achieve these objectives, the Commission has consistently placed greater reliance on market forces and attempted to ensure that regulation, where required, is effective. For example, in Decision 94-19, the Commission permitted the ILECs to bundle tariffed services with other services, provided that the companies met certain conditions including service bundle pricing rules. The service bundle pricing rules established in Decision 94-19 have subsequently been modified and extended in a number of decisions.

14. The Commission has also issued a number of decisions in which it has forborne from regulating certain classes of services provided by certain classes of service providers, including *Regulation of wireless services*, Telecom Decision CRTC 94-15, 12 August 1994, *Forbearance – Services provided by non-dominant canadian carriers*, Telecom Decision CRTC 95-19, 8 September 1995, Decision 97-8, and *Forbearance – Regulation of toll services provided by incumbent telephone companies*, Telecom Decision CRTC 97-19, 18 December 1997.
15. The Commission notes that since Decision 94-19, competition has led to greater choice of products and services for both business and residential consumers, and to significant price decreases for most services, including long distance, Internet, data, wireless and international services. As competition has been achieved in these markets, the Commission has refrained from regulating those elements which market forces are able to discipline. Market forces allow for greater choice and service provider responsiveness and ensure that user requirements, not regulators, drive service considerations. The Commission has maintained the view that regulation of local exchange services remains necessary given the weak state of competition in the local exchange services market.
16. In *Price cap regulation and related issues*, Telecom Decision CRTC 97-9, 1 May 1997 (Decision 97-9), the Commission established a price cap regime based on the view that price regulation, rather than rate base/rate of return regulation, provides ILECs with stronger incentives to minimize costs, to operate more efficiently and to be more innovative in the provision of services. Under this revised price regulation regime, ILECs retain the benefits of their efficiency.
17. The Commission considers that the provision by ILECs of VoIP services is consistent with the specific objective of the Commission in Decision 97-9, and maintained in *Regulatory framework for second price cap period*, Telecom Decision CRTC 2002-34, 30 May 2002, to "provide incumbents with incentives to increase efficiencies and to be more innovative".
18. One of the key underlying principles of the regulatory framework established for local exchange service competition was that of technological neutrality. The Commission provided the opportunity for all competitive Canadian carriers, whatever transmission technology they used and whether their services were fixed or mobile, to become CLECs, subject to the regulatory obligations established in Decision 97-8.

19. Similarly, in *Regulation under the Telecommunications Act of certain telecommunications services offered by "broadcast carriers"*, Telecom Decision CRTC 98-9, 9 July 1998, the Commission stated that consistent with its overall approach to telecommunications regulation, it was not appropriate to define the market for telecommunications services with reference to technology. Instead, service attributes should be the focus of analysis.
20. The regulatory framework established in Decision 97-8 maintained the ILECs' obligation to file tariffs for local exchange services. CLECs, by contrast, are not required to file tariffs for retail telecommunications services. Pursuant to Decision 97-8 and subsequent determinations, ILECs and CLECs, and to a certain extent resellers providing local service, are required to meet certain regulatory obligations. The regulatory obligations imposed on ILECs, CLECs and resellers by the Commission in Decision 97-8 and subsequent determinations, are listed in tabular form in the Appendix to this public notice.
21. In the following section the Commission sets out its preliminary views on certain regulatory obligations of providers of VoIP services, including those requirements related to the filing of tariffs; to the provision of 9-1-1 and Enhanced 9-1-1 (E9-1-1) service, message relay service (MRS), and privacy safeguards; and to contribution.

Commission's preliminary views

22. As indicated earlier, VoIP services utilize telephone numbers that conform to the NANP and allow subscribers to call and/or receive calls from any telephone with access to the PSTN anywhere in the world. In the Commission's preliminary view, these characteristics of VoIP services are functionally the same as those of circuit-switched voice telecommunications services.
23. Consistent with the principle of technological neutrality, in the Commission's preliminary view VoIP services should be subject to the existing regulatory framework, including the Commission's forbearance determinations. It follows that the regulatory requirements imposed on VoIP service providers would depend on the class of the service provider (e.g., ILEC, CLEC, non-dominant Canadian carrier, mobile wireless service provider, local service reseller) and the type of service being offered.
24. Thus when ILECs provide VoIP services in their incumbent territories, they would be required to adhere to their existing tariffs or to file proposed tariffs where required, in conformity with applicable regulatory rules. CLECs, including wireless CLECs and ILECs out-of-territory, would not be required to file tariffs for retail local VoIP services; however, they and, to a certain extent resellers providing local VoIP service, would be required to meet the regulatory obligations imposed pursuant to Decision 97-8 and subsequent determinations. ILECs, non-dominant Canadian carriers, and mobile wireless service providers that are not CLECs would not be required to file tariffs for VoIP services that fall within the scope of applicable existing forbearance determinations.

25. To the extent that VoIP services provide subscribers with access to and/or from the PSTN along with the ability to make and/or receive calls that originate and terminate within an exchange or local calling area as defined in the ILECs' tariffs, in the Commission's preliminary view, these services should be treated as local exchange services and are referred to as local VoIP services.
26. The Commission recognizes that certain providers of local VoIP services may not initially be able to provide 9-1-1, E9-1-1, MRS, or the privacy safeguards set out in the Appendix. The Commission considers that it is therefore of fundamental importance that subscribers to local VoIP services are made aware of the nature and terms of the service being offered to them. The Commission expects all local VoIP service providers to specifically and clearly advise potential and existing subscribers of such information, including for example, the availability of and limitations on 9-1-1/E9-1-1 service, and is of the preliminary view that a condition of service pursuant to section 24 of the Act should be imposed to that effect. Further, in the Commission's preliminary view, it should become mandatory for all local VoIP service providers to provide 9-1-1, E9-1-1 service, MRS, and the privacy safeguards as soon as practicable.
27. The Commission notes that the CRTC Interconnection Steering Committee (CISC) is currently dealing with a significant number of issues related to voice communications using IP in various CISC working groups. Examples include *Public Telephone Networks Interconnections Involving IP Technology* (NTTF004.doc) and *Service Delivery Issues for Mobile VoIP 9-1-1 Calls* (ESTF035.doc). The Commission considers that CISC would be the appropriate forum to address issues related to providing local VoIP service subscribers with 9-1-1/E9-1-1 service, MRS, and privacy safeguards. In addition, as the telecommunications industry is in the early stages of providing VoIP services, the Commission considers that CISC should also consider issues relating to access to VoIP services by persons with disabilities.
28. In Decision 97-8, the Commission established a central fund for the subsidization of high-cost residential local services in rural and remote areas. In *Changes to the contribution regime*, Decision CRTC 2000-745, 30 November 2000, the Commission introduced a national contribution collection mechanism, under which all telecommunications service providers that exceed a certain revenue threshold are required to contribute to the fund based on a percentage of the total contribution-eligible revenues from Canadian telecommunications services. Revenues from retail Internet services are not contribution-eligible. Definitions for the purposes of determining contribution-eligible revenues were subsequently approved by the Commission in *Industry Consensus Reports submitted by the Contribution Collection Mechanism (CCM) Implementation Working Groups*, Order CRTC 2001-220, 15 March 2001 (Order 2001-220).
29. As VoIP services provide access to and/or from the PSTN, it is the Commission's preliminary view that they are not retail Internet services, as that term is defined in Order 2001-220, and that the revenues from VoIP services are accordingly contribution-eligible. It is also the Commission's preliminary view that P2P services are retail Internet services and that the revenues from P2P services are accordingly not contribution-eligible.

Call for comments

30. The Commission invites comments on its preliminary views set out in this public notice, as well as on any other matters that may be pertinent to the regulatory framework for voice communications services using IP. The Commission also invites those parties who submit comments to participate in a public consultation, where they will have the opportunity to present their views orally and where the Commission will take the opportunity to clarify parties' views, as required. Following the consultation, parties will have the opportunity to submit written reply comments.

Procedure

31. Persons wishing to become parties to this proceeding are required to notify the Commission of their intention to do so by **16 April 2004** (the registration date) and to provide their contact information. They should do so by contacting the Secretary General by mail at CRTC, Ottawa, Ontario, K1A 0N2, by fax at (819) 994-0218 or by email at procedure@crtc.gc.ca. They are to indicate in the notice their e-mail address where available. If such parties do not have access to the Internet, they are to indicate in their notice whether they wish to receive disk versions of hard copy filings.
32. The Commission will issue, as soon as possible after the registration date, a complete list of parties and their mailing addresses (including their email addresses, if available), identifying those parties who wish to receive disk versions.
33. Parties are invited to file comments on the Commission's preliminary views and on any other matters set out in this public notice, by **28 April 2004**, serving a copy on all other parties by that date.
34. Any research studies or other material that parties wish to refer to in this proceeding are to be submitted along with written submissions filed in accordance with the previous paragraph.
35. A public consultation will be held on **19-20 May 2004** at 140 Promenade du Portage, Niveau 0, Phase IV, Gatineau, Quebec. Parties wishing to make an oral presentation at the consultation are required to file comments pursuant to paragraph 33 above, and to indicate their intention to participate in the consultation by **16 April 2004**.
36. The Commission reserves the right to group parties of similar views together for the purpose of presenting their views at the public consultation.
37. The Commission will issue an organization and conduct letter to outline the process of the public consultation.
38. Any persons who wish merely to file written comments in this proceeding without receiving copies of the various submissions may do so by submitting their comments in writing to the Commission by **28 April 2004**.
39. The Commission will not formally acknowledge comments. It will, however, fully consider all comments and they will form part of the public record of the proceeding.

40. Parties may file reply comments with the Commission, serving a copy on all other parties by **28 May 2004**.
41. Where a document is to be filed or served by a specific date, the document must be actually received, not merely sent, by that date.
42. Parties may file their submissions electronically or on paper. Submissions longer than five pages should include a summary.
43. Where the submission is filed by electronic means, the line *****End of document***** should be entered following the last paragraph of the document as an indication that the document has not been damaged during electronic transmission.
44. Please note that only those submissions electronically filed will be available on the Commission's web site and only in the official language and format in which they are submitted.
45. Each paragraph of your submission should be numbered.
46. The Commission also encourages parties to monitor the record of this proceeding (and/or the Commission's web site) for additional information that they may find useful when preparing their submissions.

Important

47. All information submitted, including your name, email address, and any other information not submitted under a claim for confidentiality, will be posted on the Commission's web site. Documents received in electronic format will be posted on the Commission's web site exactly as you send them, and in the official language and format in which they are received. Documents not received electronically will be available in .pdf format.

Location of CRTC offices

48. Submissions may be examined or will be made available promptly upon request at the Commission offices during normal business hours:

Central Building
Les Terrasses de la Chaudière
1 Promenade du Portage, Room 206
Gatineau, Quebec J8X 4B1
Tel: (819) 997-2429 – TDD: 994-0423
Fax: (819) 994-0218

Metropolitan Place
99 Wyse Road, Suite 1410
Dartmouth, Nova Scotia B3A 4S5
Tel: (902) 426-7997 – TDD: 426-6997
Fax: (902) 426-2721

405 de Maisonneuve Blvd. East
2nd Floor, Suite B2300
Montréal, Quebec H2L 4J5
Tel: (514) 283-6607
Fax: (514) 283-3689

55 St. Clair Avenue East, Suite 624
Toronto, Ontario M4T 1M2
Tel: (416) 952-9096
Fax: (416) 954-6343

Kensington Building
275 Portage Avenue, Suite 1810
Winnipeg, Manitoba R3B 2B3
Tel: (204) 983-6306 – TDD: 983-8274
Fax: (204) 983-6317

Cornwall Professional Building
2125 – 11th Avenue, Room 103
Regina, Saskatchewan S4P 3X3
Tel: (306) 780-3422
Fax: (306) 780-3319

10405 Jasper Avenue, Suite 520
Edmonton, Alberta T5J 3N4
Tel: (780) 495-3224
Fax: (780) 495-3214

580 Hornby Street, Suite 530
Vancouver, British Columbia V6C 3B6
Tel: (604) 666-2111 – TDD: 666-0778
Fax: (604) 666-8322

Secretary General

This document is available in alternative format upon request and may also be examined at the following Internet site: <http://www.crtc.gc.ca>

Regulatory framework and other attributes for local services competition

Please note that these charts have been prepared as a convenience only. The regulatory framework for local service competition as set out in Decision 97-8 and subsequent decisions remain the Commission's final determinations.

Regulatory framework	ILECs and CLECs	Local service resellers
Tariffs	ILECs are required to file tariffs for local services in accordance with the price cap regime ¹ . CLECs are not required to file tariffs for retail services ² .	Resellers do not file tariffs.
9-1-1 and E9-1-1	LECs are required to connect the caller with the appropriate emergency centre for 9-1-1 call direction and to provide Automatic Location Identification (ALI) information for E9-1-1 to be passed to the emergency centre where available ³ .	Commission determinations explicitly assume that resellers, by virtue of the underlying LEC's obligations, will provide 9-1-1 ⁴ . As a condition of obtaining services from a LEC, resellers are required to provide to the carrier ALI information for E9-1-1 ⁵ .
MRS for the hearing impaired	LECs are required to provide MRS ⁶ .	Commission determinations explicitly assume that resellers, by virtue of the underlying LEC's obligations, will provide MRS ⁷ .
Privacy safeguards	LECs are required to provide call blocking, call trace and other privacy features ⁸ . LECs are required to abide by Commission rules regarding the confidentiality of customer information ⁹ .	As a condition of obtaining services from a LEC, resellers are required to comply with the same privacy safeguards as the LECs ¹⁰ .

1 *Regulatory framework for second price cap period*, Telecom Decision CRTC 2002-34, 30 May 2002, established a four-year price cap regime that applies to the service baskets of the major ILECs.

2 *Local competition*, Telecom Decision CRTC 97-8, 1 May 1997 (Decision 97-8), (para. 272).

3 Decision 97-8 (para. 279 and 286).

4 Decision 97-8 (para. 279).

5 *Follow-up to Order CRTC 2000-500 – Provision of reseller end-customer information*, Order CRTC 2000-1048, 22 November 2000.

6 Decision 97-8 (para. 279 and 286).

7 Decision 97-8 (para. 279).

8 Decision 97-8 (para. 288).

9 Decision 97-8 (para. 289).

10 Consensus report CTEW015, approved by the Commission in letter dated 1 February 2000.

Regulatory framework	ILECs and CLECs	Local service resellers
Directory listing	ILECs are required to provide a complete directory listing ¹¹ . CLECs are required to provide listings to the directory ¹² .	Resellers are not subject to any requirements.
Equal access	LECs ¹³ are required to provide equal access.	Resellers are not subject to any requirements ¹⁴ .
Number portability	LECs are required to provide number portability ¹⁵ .	Resellers do not have the right to have direct access to administer their own number portability ¹⁶ . Resellers would arrange with a LEC to port numbers obtained through the lease of access services from the LEC.
LEC interconnection	LECs are required to provide for reciprocal interconnection ¹⁷ , to have bill and keep ¹⁸ arrangements, and to have a point of interconnection per exchange ¹⁹ .	Resellers are not subject to any requirements. PSTN interconnection can be obtained through the lease of facilities.
Contribution	LECs are required to pay contribution based on a percentage of their Canadian telecommunication services revenues, subject to certain exceptions and less certain deductions ²⁰ . LECs are eligible to receive benefits from the contribution regime on a per NAS basis ²¹ .	Resellers are required to pay contribution based on a percentage of their Canadian telecommunication services revenues, subject to certain exceptions and less certain deductions ²² . Resellers are not eligible to receive benefits from the contribution regime ²³ .

11 Decision 97-8 (para. 229).

12 Decision 97-8 (para. 227).

13 Decision 97-8 (para. 190).

14 Telecom Order CRTC 99-379, 29 April 1999 (para. 29).

15 *Competition and Culture on Canada's Information Highway: Managing the Realities of Transition*, submitted to the Government of Canada on 19 May 1995 in response to Order in Council P.C. 1994-1689, dated 11 October 1994 and *Implementation of regulatory framework – Local number portability and related issues*, Telecom Public Notice CRTC 95-48, 10 November 1995.

16 Telecom Order CRTC 99-5, 8 January 1999 (para. 10).

17 Decision 97-8 (para. 17).

18 Decision 97-8 (para. 63).

19 Decision 97-8 (para. 32).

20 *Changes to the contribution regime*, Decision CRTC 2000-745, 30 November 2000 (Decision 2000-745) (para. 93).

21 Decision 2000-745 (para. 133) and Decision 97-8 (para. 173).

22 Decision 2000-745 (para. 93).

23 Decision 97-8 (para. 173).

Other attributes	ILECs and CLECs	Local service resellers
Terms of service	ILECs are required to abide by the terms of service approved in their tariffs. CLECs are required to provide information on certain terms of service to customers prior to contracting for service ²⁴ and are required to provide certain information upon request ²⁵ .	As a condition of obtaining services from a LEC, resellers are required to comply with the same obligations as CLECs ²⁶ .
Quality of service	ILECs are required to report on their performance based on the Commission's quality of service indicators and standards. CLECs are not subject to any requirements.	Resellers are not subject to any requirements.
Power	LECs generally provide reliable power but are not subject to any requirements.	Resellers are not subject to any requirements.
Alternate format of billing and services information	LECs are required to provide alternate format on request ²⁷ .	Resellers are required to provide alternate format on request ²⁸ .

24 Decision 97-8 (para. 293).

25 Decision 97-8 (para. 292).

26 Consensus report CTEW015, approved by the Commission in letter dated 1 February 2000.

27 Telecom Order CRTC 98-626, 26 June 1998 (para. 20) and *Alternative formats for a person who is blind*, Order CRTC 2001-690, 31 August 2001.

28 *Extending the availability of alternative format to consumers who are blind*, Telecom Decision CRTC 2002-13, 8 March 2002 (para. 22).