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

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Regulatory framework for voice communication services using Internet Protocol

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Table of contents

Paragraph

Summary

I. Introduction 1

II. Background 8

The Commission's preliminary views 8

VoIP services 16

VoIP service categories 29

The legislative framework 32

III. Forbearance requests 37

The Companies' and TELUS' forbearance requests 37

Applicability of existing retail IS forbearance determinations 41

Requests for forbearance from regulation 71

Analysis based on Decision 94-19 framework 74

A separate section 34 analysis 133

Subsection 34(2) 134

Subsection 34(1) 172

Subsection 34(3) 191

Conclusion 193

IV. Regulatory framework 195

Application of the regulatory framework for local competition 195

Registration of VoIP resellers 196

Access to numbers and local number portability 205

Directory listings 215

Equal access 226

Winback rules 243

Canada

Access for the disabled 261
Message relay service 273
Privacy safeguards 293
Tariff filing requirements for in-territory local VoIP service 311
Regulation of non-dominant carriers that provide local VoIP service 328
Regulation of ILECs providing local VoIP services in territories where local competition is not yet permitted 345
IP interconnection 358
Contribution 370
Contribution-eligibility of VoIP services 373
Retail Internet deduction 381
Bundled services 390
Eligibility of VoIP services to receive subsidy from National Contribution Fund 393
Amount of subsidy to be paid from the National Contribution Fund 409
Access 413
Removal of VoIP restriction on third-party Internet access 415
Removal of VoIP restrictions on DSLSPs 430
Access providers' condition 448
Applicability of existing forbearance determinations 484

In this Decision, the Commission renders its determinations in the proceeding initiated by Regulatory framework for voice communication services using Internet Protocol, *Telecom Public Notice CRTC 2004-2, 7 April 2004 (Public Notice 2004-2). The Commission sets out the details of the appropriate regulatory regime applicable to the provision of VoIP services, which it defines as voice communication services using Internet Protocol (IP) that use telephone numbers that conform to the North American Numbering Plan, and that provide universal access to and/or from the Public Switched Telephone Network (PSTN). To the extent that VoIP services provide subscribers with access to and/or from the PSTN along with the ability to make or receive calls that originate and terminate within an exchange or local calling area as defined in the incumbent local exchange carriers' (ILECs') tariffs, they are referred to in this Decision as local VoIP services.*

Consistent with Public Notice 2004-2, peer-to-peer voice communication services using IP (P2P services), as defined in this Decision, are not subject to regulation.

In the proceeding initiated by Public Notice 2004-2, some of the large ILECs requested that the Commission confirm that a certain category of VoIP services was subject to existing forbearance determinations for retail Internet service (IS). The Commission denies this request.

The Commission also received requests for forbearance from the regulation of VoIP services, under section 34 of the Telecommunications Act *(the Act). In considering these requests, the Commission uses two separate approaches. The first is based on the analytical framework initially set out in* Review of regulatory framework, *Telecom Decision CRTC 94-19, 16 September 1994 (Decision 94-19), and the second approach considers parties' arguments without the use of the Decision 94-19 framework. Under both analytical approaches, the Commission reaches the same conclusion: that it would be inappropriate to refrain, at this time, from the exercise of any power or the performance of any duty under sections 24, 25, 27, 29 and 31 of the Act, in relation to local VoIP services provided by the ILECs.*

The Commission determines that local VoIP services should be regulated as local exchanges services and that the regulatory framework governing local competition, set out in Local Competition, *Telecom Decision CRTC 97-8, 1 May 1997 (Decision 97-8) and subsequent determinations, applies to local VoIP service providers, except as otherwise provided in this Decision. In particular, the Commission addresses the following matters with respect to implementation of this regulatory framework: registration of VoIP resellers, access to numbers and local number portability, directory listings, equal access, winbacks, access for the disabled, message relay service, privacy safeguards, tariff filing requirements, regulation of non-dominant carriers, regulation of VoIP services in territories where local competition is not permitted, and IP interconnection.*

Further in the Decision, the Commission determines that VoIP services are contribution-eligible and that existing subsidies are available to VoIP service providers that meet existing rules and requirements. The Commission also determines that P2P services, which are not being regulated, are not contribution-eligible.

The Commission then addresses issues related to access. It directs the large cable carriers to remove a restriction in their third-party Internet access (TPIA) tariffs in order to allow TPIA customers to provide VoIP services, in addition to retail IS, and directs the ILECs to remove a restriction in their tariffs in order to allow digital subscriber line service providers that obtain unbundled loops, connecting links, and co-location to provide VoIP services, in addition to retail IS. The Commission denies a request to impose an access condition on the ILECs and cable carriers.

Finally, the Commission determines that the provision of VoIP services is subject to all existing applicable forbearance determinations, such that ILECs are not required to file tariffs in relation to, for example, their long distance VoIP services. Dissenting opinions by Commissioners Wylie and Noël are attached.

I. Introduction

1. On 6 November 2003, Bell Canada submitted an application requesting 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 voice over Internet Protocol services. On 12 January 2004, Call-Net Enterprises Inc. (Call-Net) submitted a letter asking what regulatory requirements would apply to the provision of such services.

2. In response, the Commission issued *Regulatory framework for voice communication services using Internet Protocol*, Telecom Public Notice CRTC 2004-2, 7 April 2004 (Public Notice 2004-2), setting out a number of preliminary views on the regulatory regime applicable to the provision of VoIP services, which it defined as voice communication services using Internet Protocol (IP) that use telephone numbers that conform to the North American Numbering Plan (NANP), and that provide universal access to and/or from the Public Switched Telephone Network (PSTN). The Commission initiated a public proceeding, including an oral consultation, inviting comments on its preliminary views and on any other pertinent matters.

3. The process initially set out in Public Notice 2004-2 was subsequently expanded to allow for an interrogatory stage. The oral consultation took place 21-23 September 2004 and the public process concluded with reply comments, filed by 13 October 2004.

4. In response to Public Notice 2004-2, the following parties filed comments, reply comments and/or responses to interrogatories: Aliant Telecom Inc., Bell Canada, Saskatchewan Telecommunications (SaskTel), and Société en commandite Télébec (Télébec) [collectively, the Companies[1]], Alcatel Canada Inc. (Alcatel), ARCH: A Legal Resource for Persons with Disabilities (ARCH), Association des centres d'urgence 9-1-1 du Québec, AT&T Global Services Canada Co. (AT&T), Bell West Inc. (Bell West), British Columbia Public Interest Advocacy Centre on behalf of the British Columbia Old Age Pensioners' Organization, the Council of Senior Citizens' Organizations of B.C., Federated Anti-Poverty Groups of B.C., the Senior Citizens' Association of Canada, End Legislated Poverty, and the Tenant Rights Action Coalition (BCOAPO et al.), Call-Net, the Canadian Association of Chiefs of Police,

[1] SaskTel and Télébec each submitted supplementary comments, in addition to those filed by the Companies.

the Canadian Association of Internet Providers, the Canadian Cable Telecommunications Association (CCTA) [formerly known as the Canadian Cable Television Association], the City of Calgary (Calgary), the Coalition for Competitive Telecommunications Pricing (CCTP), Cogeco Cable Canada Inc. (Cogeco), the Communications, Energy and Paperworkers Union of Canada (CEP), Comwave Telecom Inc. (Comwave), Cybersurf Corp. (Cybersurf), Bragg Communications Inc. doing business as EastLink, Edmonton Police Service, Futureway Communications Inc., doing business as FCI Broadband, the Greater Vancouver Regional District, on behalf of itself and the other members of the British Columbia 9-1-1 Service Providers Association, The Greenlining Institute, Microcell Solutions Inc., on behalf of itself, and its affiliate, Inukshuk Internet Inc. (Microcell[2]), the Ministry of Economic Development and Trade on behalf of the Government of Ontario (Ontario), MTS Allstream Inc. (MTS Allstream), New North Networks Ltd. (New North), Nortel Networks (Nortel), Northwestel Inc. (Northwestel), the Ontario 9-1-1 Advisory Board (OAB), Ontera (formerly known as O.N.Telcom), the Public Interest Advocacy Centre on behalf of the Consumers' Association of Canada, the National Anti-Poverty Organization, and l'Union des Consommateurs (the Consumer Groups), Primus Telecommunications Canada Inc. (Primus), pulver.com (Pulver), Québécor Média Inc. (QMI) on behalf of Vidéotron Télécom ltée and Vidéotron ltée, RipNET Limited (RipNET), Rogers Communications Inc. (Rogers), Shaw Cablesystems GP (Shaw), the Telecommunications Workers Union (TWU), TELUS Communications Inc. (TCI) on behalf of itself and TELUS Communications (Québec) Inc. (collectively TELUS), l'Union des municipalités du Québec, UTC Canada (UTC), Vonage Holdings Corp. and Vonage Canada Corp. (Vonage), WorldCom Canada Ltd., doing business as MCI Canada, Xit télécom inc. on behalf of itself and Télécommunications Xittel inc. (Xit), Yak Communications (Canada) Inc. (Yak), and the Yukon Government (Yukon). A number of these parties also participated in the oral consultation. In addition, seven individuals submitted comments.

5. In this Decision, the positions of the interested parties have necessarily been summarized; however, the Commission has carefully reviewed and considered the oral and written submissions of all parties.

6. Due to concerns for public safety related to access to emergency services by users of VoIP services, the Commission addressed the matter of 9-1-1 and Enhanced 9-1-1 (E9-1-1) service in advance of the other issues in this proceeding. The Commission disposed of this matter in *Emergency service obligations for local VoIP service providers*, Telecom Decision CRTC 2005-21, 4 April 2005 (Decision 2005-21).

7. The issues raised in the proceeding initiated by Public Notice 2004-2 are discussed below under the following headings:

   Section II – Background

   Section III – Forbearance requests

   Section IV – Regulatory framework

[2] Microcell's reply comments were submitted by Microcell Telecommunications Inc. on behalf of Microcell Solutions Inc., and Inukshuk Internet Inc.

II. Background

The Commission's preliminary views

8. In Public Notice 2004-2, the Commission set out a number of preliminary views with respect to the regulation of VoIP services. The Commission noted that 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. The Commission was of the preliminary view that these characteristics of VoIP services were functionally the same as those of circuit-switched voice telecommunications services.

9. One of the underlying principles of the regulatory framework established for local exchange service competition in *Local competition*, Telecom Decision CRTC 97-8, 1 May 1997 (Decision 97-8) was that of technological neutrality. Consistent with the principle of technological neutrality, the Commission expressed its preliminary view in Public Notice 2004-2 that VoIP services should be subject to the existing regulatory framework, including the Commission's forbearance determinations. It followed that the regulatory requirements imposed on a VoIP service provider would depend on the class of service provider into which it fell [e.g., incumbent local exchange carrier (ILEC), competitive local exchange carrier (CLEC), non-dominant Canadian carrier, mobile wireless service provider, local service reseller] and the type of service it offered.

10. 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, the Commission was of the preliminary view that these services should be treated as local exchange services. They were referred to as local VoIP services.

11. ILECs providing local VoIP services in their incumbent territories would be required to adhere to their existing tariffs or to file proposed tariffs, 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 services, would be required to meet the regulatory obligations imposed pursuant to Decision 97-8 and subsequent related determinations. ILECs, non-dominant Canadian carriers, and mobile wireless service providers that were not CLECs would not be required to file tariffs for VoIP services that fell within the scope of applicable forbearance determinations.

12. In Public Notice 2004-2, the Commission also recognized that certain local VoIP service providers may not initially be able to provide 9-1-1, E9-1-1, Message Relay Service (MRS), or privacy safeguards. The Commission considered that it was of fundamental importance that subscribers to local VoIP services be made aware of the nature and terms of the service being offered to them. The Commission stated that it expected all local VoIP service providers to advise potential and existing subscribers specifically and clearly of such information. 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. As noted above, the Commission addressed the issue of access to 9-1-1/ E9-1-1 service in Decision 2005-21.

13. In Public Notice 2004-2, the Commission noted that the CRTC Interconnection Steering Committee (CISC) was already dealing with a significant number of issues related to VoIP service. The Commission considered 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 the privacy safeguards. In addition, the Commission considered that CISC should also consider issues relating to access to VoIP services by persons with disabilities.

14. 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 (Decision 2000-745), the Commission introduced a national contribution collection mechanism, under which all telecommunications service providers (TSPs) 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 (IS) 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).

15. As VoIP services provide access to and/or from the PSTN, it was the Commission's preliminary view that they are not retail IS, as that term was defined in Order 2001-220, and that the revenues from VoIP services are accordingly contribution-eligible. It was also the Commission's preliminary view that peer-to-peer (P2P) services, defined in the following section, are retail IS and that the revenues from P2P services are accordingly not contribution-eligible.

VoIP services

16. The Commission notes that the term "VoIP services" may be used by some, for non-regulatory purposes, to include P2P services, which are IP-enabled voice communications services that do not connect to the PSTN and do not generally use NANP-conforming telephone numbers; however, the term "VoIP services" will be used in this Decision to refer only to those services that use NANP-conforming telephone numbers and that provide universal access to and/or from the PSTN. Consistent with Public Notice 2004-2, and the record of this proceeding, P2P services are not subject to regulation. Further, to the extent that VoIP services provides subscribers with access to and/or from the PSTN along with the ability to make or receive calls that originate and terminate within an exchange or local calling area as defined in the ILEC's tariffs, they will be referred to in this Decision as local VoIP services.

17. 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 IP network. While packet-based networks were originally designed for the transmission of data, advances in IP technology allow these packet-based networks to also carry high-quality voice traffic on an efficient basis.

18. The introduction of IP technology into the PSTN marks another step in the evolution of telecommunications networks. Examples of earlier evolutionary steps include electromechanical step-by-step switching and digital switching technologies. In each case, technological advances have increased the ability of networks to carry greater amounts of voice traffic at lower per unit costs. This has reduced the per unit capital and operating costs of TSPs; this reduction in costs has in turn reduced prices of telecommunications services for consumers.

19. Traditional circuit-switched services involve the dedication of one or more specific circuits to each call that connect the calling and called parties until the call is terminated. This gives rise to potential inefficiencies, in that no other use can be made of the entire circuit throughout the duration of the call, regardless of whether or not any content is actually being transmitted over the circuit at any given instant.

20. In contrast, IP technology involves packet-switching, which breaks down the content of a call into discrete packets, each of which contains the destination address. These packets are then transmitted over a network along with other packets and the content of each call is reassembled at the destination. One of the major efficiencies of an IP network is that it does not require the dedication of switching and transport infrastructure to particular types of voice or data traffic. This allows the network to handle far more traffic in a more efficient manner.

21. 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 are referred to as P2P services.

22. VoIP services, by contrast, allow subscribers to make calls over a broadband connection, for example with a conventional telephone attached to an adaptor or with an IP telephone, using NANP-conforming telephone numbers and providing universal access to and/or from the PSTN.

23. While the Internet itself is a broadband network, residential users were initially limited to accessing the Internet via slow-speed, dial-up connections. The advent of cable modems and digital subscriber line (DSL) and other technologies, however, has allowed for high-speed broadband access to the Internet. In turn, high-speed Internet access and other broadband connections have allowed for the delivery of high-quality VoIP services.

24. VoIP technology has allowed for the introduction of new features to consumers, including being able to send voice messages as an e-mail attachment, having a "softphone" on a personal computer to make and receive calls when travelling, and being able to configure all these features over a web-based interface. For service providers, VoIP technology allows considerable savings in the network equipment required to offer voice services and allows the rapid deployment of such features as a telephone number assigned to the customer's VoIP service from an exchange outside of the user's exchange, and a single telephone number that simultaneously rings multiple telephone numbers. Large business enterprises have for some time used IP technology or other packet-based technology over their private networks to provide for cost-effective voice communications and enhanced features for their businesses.

25. Based on evidence filed during this proceeding, it is evident to the Commission that there is widespread interest on the part of major ILECs, CLECs, cable companies and other service providers in providing a variety of VoIP services, with a range of different features, to residential and business customers. At the time of the oral consultation, Bell Canada, TELUS, SaskTel, Call-Net, Woods Lake Cable, Primus, Vonage, and Yak, for example, were all offering one or more types of VoIP service. Many other participants also indicated their intention to begin offering VoIP services. It is evident to the Commission, from parties' responses, that current and potential service providers anticipate significant growth in VoIP services.

26. The Commission notes that the promise of IP, in achieving more efficient networks and new features for consumers, has prompted telecommunications companies throughout the world to dedicate significant capital expenditures to transform their networks.

27. The Commission welcomes this evolution and expects that Canadian TSPs will seize the advantages offered by IP-based technology, to enhance their efficiency and competitiveness, to extend accessible, reliable and affordable telecommunications services of high quality throughout Canada and to stimulate research and development into new telecommunications services.

28. The Commission notes that the Canadian telecommunications policy set out in the *Telecommunications Act* (the Act) encourages such developments. The Commission notes further that its price cap approach to regulation, which has been in place for nearly eight years in Canada, encourages regulated Canadian carriers to introduce new technologies into their networks that increase efficiency, by permitting them to retain the benefits of such increased efficiency.

VoIP service categories

29. In Public Notice 2004-2, the Commission referred to VoIP services (which did not include P2P services) as a broad category. In this proceeding, the Companies referred to P2P services as Category 1 services and submitted that VoIP services should be seen as falling into three categories, as follows:

- Category 2 VoIP services: VoIP services that operate over a broadband Internet connection obtained by the customer from a supplier of choice and that enable the customer to make and receive calls to or from the PSTN and, typically, as well as to and from other broadband connected users;

- Category 3 VoIP services: IP services that provide the ability to make and receive voice calls to and from the PSTN, as well as to and from other connected users and that are supplied with an underlying connection, other than a retail Internet connection, to the service provider's network; and

- Category 4 VoIP services: IP business services offered over network access facilities (LAN, WAN), either provided by the service provider or by another party, connected to the service provider's IP network and which do not utilize

retail Internet services for connection to the service provider's network. The Companies submitted that Category 4 VoIP services offer, at a minimum, functionality analogous to that of existing business telephony services provided over circuit-switched networks and may offer additional functionality not available over circuit-switched networks.

30. TELUS divided VoIP services into two categories (that did not encompass P2P services), which it described as follows:

- Access-independent VoIP services: services that do not require that the service provider provide the underlying network on which the service rides, nor do they require the service provider to obtain the permission of the network provider to offer the service application to customers on that network; and

- Access-dependent VoIP services: IP-based voice services in which access and service are necessarily linked, as they are provided by simply changing the underlying technology of the local access network from circuit-switched to packet-switched.

31. The Companies and TELUS agreed that the Companies' Category 2 VoIP services were equivalent to TELUS' access-independent VoIP services and that Category 3 VoIP services were equivalent to access-dependent services. The Commission will use these two sets of terms interchangeably in this Decision. With respect to Category 4 VoIP services, TELUS took the view that these fell within its concept of access-dependent services. By contrast, the Companies stated that TELUS' access-independent classification could include Category 4 VoIP services.

The legislative framework

32. The basic scheme of the Act provides that all telecommunications services[3] provided by Canadian carriers must be provided under tariffs approved by the Commission, subject to criteria set out in the Act. The Act also gives the Commission the authority to refrain from requiring carriers to file tariffs for approval (and from the exercise of other of its powers and duties), in respect of certain services or classes of services, based on certain findings of fact that the Act authorizes the Commission to make. The Commission notes that the focus of the Act is on telecommunications services rather than on the underlying technologies that are used to provide the services.

[3] In the Act, "telecommunications service" is defined to mean "a service provided by means of telecommunications facilities and includes the provision in whole or in part of telecommunications facilities and any related equipment, whether by sale, lease or otherwise." In turn, "telecommunications facility" is defined in the Act to mean "any facility, apparatus or other thing that is used or is capable of being used for telecommunications or for any operation directly connected with telecommunications, and includes a transmission facility."

33. Subsection 25(1) of the Act sets out the basic tariffing requirement as follows:

> (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.

34. Subsections 27(1) and (2) of the Act set out the main criteria governing carriers' rates and practices as follows:

> (1) Every rate charged by a Canadian carrier for a telecommunications service shall be just and reasonable.
>
> (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.

35. Section 34 of the Act provides for forbearance from regulation as follows:

> (1) The Commission may make a determination to refrain, in whole or in part and conditionally or unconditionally, from the exercise of any power or the performance of any duty under sections 24, 25, 27, 29 and 31 in relation to a telecommunications service or class of services provided by a Canadian carrier, where the Commission finds as a question of fact that to refrain would be consistent with the Canadian telecommunications policy objectives.
>
> (2) Where the Commission finds as a question of fact that a telecommunications service or class of services provided by a Canadian carrier is or will be subject to competition sufficient to protect the interests of users, the Commission shall make a determination to refrain, to the extent that it considers appropriate, conditionally or unconditionally, from the exercise of any power or the performance of any duty under sections 24, 25, 27, 29 and 31 in relation to the service or class of services.
>
> (3) The Commission shall not make a determination to refrain under this section in relation to a telecommunications service or class of services if the Commission finds as a question of fact that to refrain would be likely to impair unduly the establishment or continuance of a competitive market for that service or class of services.

36. Other legislative provisions referred to in section 34, include the following:

> 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.

25(3) A tariff shall be filed and published or otherwise made available for public inspection by a Canadian carrier in the form and manner specified by the Commission and shall include any information required by the Commission to be included.

27(3) The Commission may determine in any case, as a question of fact, whether a Canadian carrier has complied with section 25, this section or section 29, or with any decision made under section 24, 25, 29, 34 or 40.

27(4) The burden of establishing before the Commission that any discrimination is not unjust or that any preference or disadvantage is not undue or unreasonable is on the Canadian carrier that discriminates, gives the preference or subjects the person to the disadvantage.

27(5) In determining whether a rate is just and reasonable, the Commission may adopt any method or technique that it considers appropriate, whether based on a carrier's return on its rate base or otherwise.

III. Forbearance requests

The Companies' and TELUS' forbearance requests

37. The Companies and TELUS either sought confirmation that certain VoIP services were already forborne under previous Commission determinations or sought forbearance on a going forward basis. More specifically, they requested forbearance with respect to local VoIP services as follows:

(a) The Companies requested that the Commission confirm that, pursuant to subsections 34(1), (2) and (3) of the Act, Category 2 VoIP services, including services of the same class that the Companies may offer in the future are forborne in relation to sections 25, 29, 31 and subsections 27(1), (5) and (6) of the Act, in accordance with determinations reached in a series of Commission orders, culminating in *Forbearance from retail Internet services*, Telecom Order CRTC 99-592, 25 June 1999 (Order 99-592) and determine that these services are forborne in relation to subsections 27(2), (3) and (4);

(b) SaskTel requested, if the Commission did not confirm that Category 2 VoIP services are forborne, as requested in (a) above, that the Commission determine that Category 2 VoIP services, including services of the same class that SaskTel may offer in the future, are forborne.

(c) The Companies requested that the Commission determine that Categories 3 and 4 VoIP services, including services of the same class that the Companies may offer in the future, are forborne in relation to sections 25, 27, 29 and 31 of the Act;

(d) TELUS requested that the Commission find that access-independent VoIP services are covered by the Commission's existing forbearance orders regarding retail IS; and

(e) TELUS requested, if the Commission does not make the finding requested in (d) above, that the Commission forbear from economic regulation of access-independent VoIP services.

38. In the following sections, the Commission deals first with the Companies' and TELUS' requests under items (a) and (d) of the previous paragraph, that it confirm that Category 2 VoIP services are forborne. It then turns to the requests, under items (b), (c) and (e) of the previous paragraph, that the Commission forbear from the regulation of VoIP services under sections 25, 27, 29 and 31 of the Act.

39. As most VoIP services, other than local VoIP services, would be forborne under the Commission's preliminary view, which is confirmed below, this Decision focuses principally on local VoIP services.

40. The Commission notes that both the Companies and TELUS clearly stated that they were not seeking forbearance with respect to the local exchange services market generally. Accordingly, that broader issue is not addressed and does not form part of this Decision.

Applicability of existing retail IS forbearance determinations

Positions of parties

41. The Companies and TELUS submitted that Category 2 or access-independent VoIP services are IS, delivered over retail Internet connections. They contended that, like other retail IS, these VoIP services are forborne pursuant to Order 99-592, in which the Commission forbore from rate-regulating retail IS provided by carriers that were not already subject to a retail IS forbearance decision. More specifically, they submitted that the Commission forbore conditionally or unconditionally, depending on whether the carrier in question had the appropriate accounting separations in place. They further submitted that the Commission noted that it had not forborne from regulating the underlying transmission facilities.

42. TELUS described its access-independent VoIP service as similar to that of Vonage and Primus, that is, a service that rides over any high-speed retail Internet connection, be it DSL provided by TELUS or an independent DSL service provider (DSLSP), cable modem provided by a cable company or independent third party, or wireless broadband. The Companies described their Category 2 VoIP services as delivered over an Internet connection, in a manner that parallels the way in which Internet service providers (ISPs) provide applications such as e-mail, messaging, video and audio content, virus protection, firewall services, downloadable games and interactive games.

43. TELUS and the Companies argued that access-independent or Category 2 VoIP services were not simply primary exchange service (PES) delivered over an alternative technology, because subscribers procure the voice service separately from the high-speed retail IS.

44. TELUS stated that access-independent VoIP services shared many characteristics with other Internet applications, such as Microsoft's Hotmail and other e-mail and instant messaging services (many of which feature voice capabilities). In TELUS' view, a VoIP service was one of many applications that resided at the edge of the network and that could be accessed by means of high-speed Internet access.

45. From a functional standpoint, the Companies supported this position, stating that Category 2 VoIP services were applications that complemented Internet connection services. The Companies submitted that services offered by Vonage, Primus, BabyTEL, Call-Net, and Navigata Communications Inc. (Navigata) were marketed as Internet applications, not as telephone services.

46. Xit stated that VoIP services offered by ILECs and incumbent cable carriers would be part of the local telephone services market, but that VoIP services that transit the networks of ISPs unaffiliated with the ILECs or incumbent cable carriers through public Internet peering points would be considered to be part of the retail IS market.

47. Cybersurf submitted that to the extent that VoIP services were transported over the public Internet without any routing constraints that require the transporting of such calls over proprietary networks, such services (Category 2 and access-independent services) could be considered to be Internet applications.

48. Most of the parties disagreed with the ILECs' contention that VoIP service was retail IS because it was delivered over a retail Internet connection. These parties generally argued that use of an Internet connection alone does not qualify VoIP service as retail IS.

49. The Consumer Groups observed that several parties sought to categorize VoIP service as retail IS, or an Internet-based application, simply in the hopes of applying the Commission's current forbearance of retail IS to VoIP services. In the Consumer Groups' view, this categorization confused elements of VoIP operation with the meaningful issue of the functional equivalence of VoIP and circuit-switched telephone service.

50. Call-Net and MTS Allstream submitted that VoIP was simply a voice service using IP over a packet-switched network instead of traditional circuit-switched infrastructure. Call-Net, the CCTA, UTC and the Consumer Groups submitted that the most important feature of a VoIP service was the ability to make calls to and receive calls from any PSTN subscriber, which is the defining feature of PES. UTC also submitted that both PES and VoIP subscribers could access other networks (such as wireless or long distance networks) which are interconnected with the PSTN.

51. In Call-Net's view, the service provided was essentially the same as PES, although it enabled more features and Internet connectivity because of the difference in the underlying data network. MTS Allstream and the CCTA stated that from the perspective of the end-customer, "VoIP" was merely a new word for a familiar service – a service which allowed one party to talk to another party in real time. The underlying technology which was used to achieve this result was irrelevant to the parties who were participating on the call or to the customer who paid the bill. The CEP expressed a similar view.

52. The CCTA submitted that VoIP services did not necessarily use the public Internet, nor were they properly characterized as IS. The CCTA disagreed with the Companies' and TELUS' position that VoIP services were like other Internet applications. It argued that the service was called voice over IP for the very reason that it was used to place voice calls, not surf the Internet or exchange e-mails.

53. MTS Allstream noted that the Companies and TELUS emphasized the need for a retail broadband Internet connection to access VoIP services, but did not focus on the need for a call to traverse the public Internet to the VoIP provider's platform. MTS Allstream submitted that it was unlikely that the VoIP call of an ILEC high-speed Internet subscriber would go over the public Internet. In MTS Allstream's opinion, such calls could be provisioned utilizing the DSL Internet connection to provide a fully dedicated quality-of-service-enabled voice path directly from the customer's premises to the PSTN gateway, without using the public Internet. MTS Allstream concluded that it might even be impossible to detect when such calls were carried over the Internet and when they were provided as a managed IP or access-dependent VoIP service.

54. The Companies argued that the Commission recognized Category 2 VoIP to be retail IS when it carved out "PSTN Voice" in Order 2001-220 from the exemption to pay contribution granted in respect of other retail IS. In the Companies' view, differentiating PSTN Voice in such a manner proved that the Commission considered VoIP to be retail IS in fact and law, as there would otherwise have been no reason to carve out VoIP in this manner.

55. A number of parties disagreed with the Companies' position. The Consumer Groups stated that the definition of "retail Internet services" in Order 2001-220 excluded "PSTN voice services" solely for the purpose of determining the scope of the contribution exemption for revenues from retail IS. Call-Net pointed out the Chairman's statement in the public consultation that Order 2001-220 was very clear that "PSTN voice services refer to real-time voice communication via the Internet to or from a telephone set or other equipment." Thus in Call-Net's view, the argument presented by the Companies in this regard ignored the clear definition of these services in Order 2001-220.

56. The Companies further suggested that in *New Media,* Telecom Public Notice CRTC 99-14, 17 May 1999 (Public Notice 99-14), the Commission recognized that VoIP services which piggyback on customer-supplied Internet connections should be treated in the same manner as other Internet applications for regulatory purposes. The Companies pointed out that the Commission included IP telephony in a list of new media services and stated that such services could be provided over "more traditional means of distribution" and over "networks interconnected on a local or global scale." The Companies argued that the Commission had recognized, in Public Notice 99-14, that retail IS had evolved and would evolve over time in unexpected ways, making it impractical to list all retail IS. The Companies claimed that the Commission stated that forbearance of new media services would encourage Internet applications. They further claimed that since the new media decision, they and other ISPs had launched many new Internet applications that had not been tariffed. In the Companies' view, VoIP services were the evolutionary developments or enhancements of high-speed retail IS, which were already forborne.

57. Call-Net disagreed with the Companies' position. In particular, Call-Net submitted that the Companies' interpretation of Public Notice 99-14 was without merit, as that Public Notice was concerned with whether or not Internet content that qualified as programming services should be regulated under the *Broadcasting Act*.

58. The Companies and TELUS also submitted that in the Commission's *Report to the Governor in Council: Status of Competition in Canadian Telecommunications Markets – Deployment/Accessibility of Advanced Telecommunications Infrastructure and Services*, 27 November 2003 (2003 Competition Report), VoIP was listed as a component of the emerging stand-alone business Internet application market. They cited the following passage:

> ISPs and other telecommunications companies do participate in emerging stand-alone business Internet applications markets which include services such as premium Web hosting, Internet data centres and off-site data storage, security, firewall, and network management; audio, video, and Web conferencing, VoIP, IP-PBX, and Internet fax services; and domain name registration, among others.

Commission's analysis and determinations

59. The Commission has issued a number of forbearance orders relating to IS. In 1997 and 1998, the Commission issued several company-specific Orders in which it forbore from regulating the applicants' tariffed Internet access service (e.g., Telecom Order CRTC 97-928, 30 June 1997, for TCEI PLAnet Service).

60. In 1999, the Commission issued Order 99-592 as an omnibus forbearance order in relation to "retail end-user Internet services" provided by all Canadian carriers that were not, at the time, already subject to forbearance determinations with respect to retail IS.

61. The Commission considers that the facts cited by the Companies and TELUS, namely that Category 2 or access-independent VoIP services are delivered as retail IS over a high-speed Internet connection, that they may make use in whole or in part of the public Internet, and that they reside at the edge of the network, are not determinative of the question as to whether the existing retail IS forbearance determinations apply to these VoIP services. The Commission considers that the issue is not the technology being used, but rather the nature of the service being provided.

62. The Commission notes that most parties generally disagreed with the Companies' and TELUS' position that some types of Category 2 VoIP services shared many of the characteristics of other Internet applications, or complemented Internet connection services. These parties argued that VoIP services were not used to exchange e-mails or surf the Internet, but to provide real-time voice communications.

63. As noted by many parties, the Commission considers that the defining characteristic of VoIP services, which distinguishes them from retail IS, is that, while they may share some portion of the underlying transmission infrastructure – the Internet – in order to connect users, their points of origination and termination are addressable by NANP numbers and their international equivalents, allowing for the ability to connect to anyone on the PSTN. In the Commission's view, the primary function of Category 2 VoIP services is not accessing the Internet, but rather is accessing the PSTN in order to make and receive telephone calls.

64. The Commission does not accept the arguments that it has in the past determined that VoIP service is retail IS. As previously noted, the term "VoIP services" includes only those services that allow access to and/or from the PSTN and use NANP-conforming numbers (i.e. not P2P services). The Commission clearly distinguished PSTN-connected voice services from retail IS in Order 2001-220.

65. In that Order, the Commission stated the following:

> Retail Internet service includes all Internet Services (IS), independent of speed and the facilities over which the services are carried. For greater certainty retail IS includes, but is not limited to, all IS that permit the users of those services to upload and/or download information from the Internet and to use applications such as electronic mail, but it does not include Public Switched Telephone Network (PSTN) Voice services or other contribution-eligible telecommunications services, nor does it include goods or services the revenues from which fall within the definition of the Canadian Non-Telecommunications Revenues. (Emphasis added)

66. Contrary to the Companies' argument that the exclusion of PSTN Voice services from the contribution exemption for retail IS means that VoIP must be seen as retail IS, the Commission notes that the sentence beginning with the words "for greater certainty" is included precisely to clarify the point that PSTN Voice services are not considered retail IS under Order 2001-220.

67. As regards Public Notice 99-14, the Commission cannot find support in that Public Notice for the Companies' submission that VoIP services are retail IS. Furthermore, in that Public Notice, the Commission did not make any forbearance determinations in relation to telecommunications services. What the Commission did state in Public Notice 99-14 was that it would exempt undertakings providing broadcasting services over the Internet from the licensing requirements of the *Broadcasting Act*.

68. With respect to the passage quoted by the Companies from the 2003 Competition Report, the Commission notes that this excerpt is part of an annual report on state of competition across the Canadian telecommunications sector. In the Commission's view, the passage cannot be regarded as the equivalent of a Commission finding resulting from a regulatory process regarding the classification and treatment of local VoIP services.

69. In summary, the Commission considers that the forbearance orders relating to retail IS did not - nor were they ever intended to – capture voice services that connected to the PSTN.

70. In light of the above, the Commission finds and confirms that VoIP services are not retail IS contemplated by Order 99-592 and associated forbearance determinations. Accordingly, Category 2 local VoIP services do not fall within the scope of existing retail IS forbearance determinations.

Requests for forbearance from regulation

71. In considering the requests for forbearance, the Commission must determine that forbearance would be consistent with section 34 of the Act. In applying that section in the present proceeding, the Commission has utilized two separate approaches.

72. The first approach uses an analytical framework based on principles commonly used in economics and competition policy. This framework was initially set out by the Commission in *Review of regulatory framework*, Telecom Decision CRTC 94-19, 16 September 1994 (Decision 94-19). Under this approach, referred to in this Decision as the Decision 94-19 framework, the determination of whether or not to forbear from regulating a service or class of services is based on a determination of the relevant market in which the service(s) is (are) offered and on whether the ILECs have market power in that market.

73. The second approach considers the arguments presented by parties seeking forbearance under section 34 of the Act that were not necessarily advanced within the Decision 94-19 framework.

Analysis based on Decision 94-19 framework

Background

74. Decision 94-19 sets out a three-step analysis for considering forbearance applications. The first step is identifying the relevant market. The relevant market is the smallest group of products and geographic area in which a firm with market power can profitably impose a sustainable price increase. The identification of the relevant market is based on the substitutability of the services in question.

75. The second step in the analysis involves determining whether a firm has market power with respect to the relevant market. As indicated in Decision 94-19, there cannot be sustainable competition in a market in which a firm possesses substantial market power. Market power can be demonstrated by the ability of a firm to raise or maintain prices above those that would prevail in a competitive market.

76. The third step in the analysis is to determine whether, and to what extent, forbearance should be granted.

Positions of parties

77. TELUS stated that

> …in determining if two products or services are sufficiently close substitutes to be in the same economic market, the underlying issue is whether or not the price of one product or service is affected by the price of the other product or service…The prices do not need to move together in lock-step, but they will generally move together.

78. TELUS stated that to be considered close substitutes, two products or services did not need to be identical; rather, TELUS suggested, the issue was whether the services would be sufficiently similar so as to satisfy the same general need of consumers and would, therefore, be sufficiently good substitutes to be in the same economic market.

79. The Companies submitted that the relevant market for Categories 1, 2 and 3 VoIP services was the residential local communications services market, which in their view also included the full range of wireline local communications services, wireless services and certain Internet

data services, such as Instant Messaging. In addition, the Companies submitted that the relevant market for Categories 2, 3, and 4 was the business local communications services market, which also included numerous other services that provided business customers with internal voice communications and with voice access to and from the PSTN.

80. TELUS argued that VoIP services and traditional circuit-switched voice were close enough substitutes to be in the same economic market. TELUS further stated that customers with high-speed retail Internet access could and would readily shift between access-independent VoIP and traditional circuit-switched voice service in response to changes in relative prices. With respect to access-independent service, TELUS submitted that although this service along with high-speed retail Internet access was not a service that was identical to traditional circuit-switched voice service, the two services seemed sufficiently similar so that enough customers would consider them to be reasonable substitutes. TELUS stated that access-dependent VoIP services resembled traditional telephone service from a user's perspective because voice and access services were only available together from the same firm. TELUS further submitted that customers would compare the various characteristics of VoIP and traditional telephone service and select the one that they preferred.

81. A number of other parties, including BCOAPO et al., Call-Net, the CCTA, the Companies, the Consumer Groups, MTS Allstream, Primus, and QMI, agreed that VoIP services could be considered close substitutes for local exchange services. The CCTA and QMI also submitted that local VoIP services should be included in the same relevant market as local exchange services.

82. The CCTA submitted that the decision of customers to use VoIP was based on the need for basic voice functionalities and that consumers did not care whether a voice service was circuit-switched or IP-based or access-dependent or access-independent. The CCTA submitted that consumers would not distinguish between access-dependent VoIP services and existing circuit-switched local exchange services. Moreover, the CCTA stated that consumers were unlikely to know that the managed telephone or access-dependent service was relying on IP-based technology, rather than traditional circuit-switched technology. The CCTA added that most Category 3 and 4 VoIP service providers would rely on both IP-based managed networks and circuit-switched facilities. The CCTA and Rogers stated that current VoIP limitations would not prevent customers from taking the service in place of PES; rather, customers may be prepared to make trade-offs in terms of price and additional features.

83. Call-Net argued that the introduction of a new IP-based technology to access the PSTN did not lead to the conclusion that VoIP was in any material way different from PES. Call-Net further submitted that the most important feature of a VoIP service was the ability to make calls to and receive calls from any PSTN subscriber, which in its view was the defining feature of traditional PES service. Call-Net stated that access-independent VoIP was in effect PES with additional features, which allowed subscribers to access their service from any high-speed connection. In Call-Net's view, how subscribers augment their existing service with VoIP would depend on the relative importance of limitations and features, as well as cost. Call-Net stated that the extent to which this replacement would occur was mere speculation at this time.

84. CEP submitted that the functionality of VoIP was equivalent to circuit-switched telecommunications service and that their use of the PSTN was what mattered. In its view, "voice is voice." CEP submitted that whether a voice communication service was network-managed, decoupled, provided through a third party or bundled with other services was irrelevant.

85. The Consumer Groups submitted that VoIP was simply a new technology for voice carriage. In their view, the fact that VoIP had additional capabilities that functioned as Internet-delivered services did not negate the central reality that it was primarily designed for voice services. They argued that voice services would be the core feature of VoIP services for some time to come.

86. MTS Allstream submitted that regardless of how a VoIP service was configured, the end-product was essentially the same – a voice service that enables a subscriber to access the PSTN and to make and/or receive calls which originated and terminated within an ILEC's exchange or local calling area. MTS Allstream submitted that, but for the fact that Categories 3 and 4 VoIP services were not accessed via the public Internet, there was really nothing to distinguish these services from Category 2 VoIP services. MTS Allstream submitted that for third-party provisioned VoIP services, voice quality issues may arise because of shared Internet transmission capacity. However, MTS Allstream anticipated that as voice prioritization capabilities were deployed, service quality levels should be comparable and perhaps even superior to existing standards. In MTS Allstream's view, all categories of VoIP services and traditional PSTN-based local voice services such as PES should be considered to be part of a single product or service market, both business and residential.

87. MTS Allstream submitted that VoIP services did not constitute a distinct service or product market since, all else being equal, a VoIP service customer could readily substitute a conventional local exchange voice telephone service for VoIP service if the price of VoIP service was increased on a non-transitory basis. MTS Allstream submitted that the reverse also held in the case of a non-transitory increase in the price of conventional local exchange voice telephony service, although to a lesser degree, since only those subscribers with high-speed Internet access would be in a position to subscribe to VoIP service. MTS Allstream also submitted that the relative prices of voice services delivered over different technologies, including the costs associated with switching to VoIP service, would ultimately play an important role in terms of the rate of adoption of the service in Canada.

88. Primus stated that even in-territory access-independent VoIP services were, from the customers' perspective, a substitute for PES. They noted that approximately 70% of their customers used the service in a fixed fashion on either a primary or secondary line basis. In Primus' view, this strongly suggested that customers considered it and were using it as a substitute for PES service. Primus submitted that from a customer's perspective, features of Category 2 VoIP services were identical to, or closely aligned with, those traditionally available through PES.

89. QMI argued that just because a given VoIP service offering provided more or less call management features than traditional PES, or permitted some of its customers to select a phone number from a non-native area code, or incorporated flat-rate long distance calling did not in

any way imply that the general population would fail to consider the offering a substitute for traditional PES. QMI stated that substitutes for much of this supposedly new functionality already existed in the pre-VoIP world, through services such as foreign exchange lines, and call forwarding features. QMI stated that, in the end, consumer perceptions would decide what services occupied the same relevant market space.

90. UTC acknowledged that PES and VoIP had some different features, but argued that this did not alter the fact that the core service was essentially the same. It stated that users of PES and VoIP services could communicate orally in real time with the universe of local exchange subscribers using NANP telephone address for incoming and outgoing calls and could access other networks that interconnected with the PSTN. In UTC's view, while the additional features of VoIP and PES may differ, this basic communications function was equivalent. UTC submitted that the fact that most VoIP service providers were offering their customers local number portability (LNP) suggested that customers may be prepared to drop PES when they take VoIP service.

91. Yak asserted that service attributes, not technology, should be the primary focus when assessing the appropriate market for VoIP-related telecommunications services. Yak stated that the relevant product market was non-mobile voice telephone services, subdivided into local services and long distance services, whereby VoIP was one product within this broader market definition. Yak agreed that, simply because VoIP did not have some of the service attributes of PES, it did not necessarily mean that the service should not be characterized as PES. Yak stated that its observation, informed by its development of its own VoIP service offering, was that the key product attributes that appeal to VoIP services customers were essentially similar to those exhibited by existing PES. For example, Yak submitted that many consumers used cordless telephones, which do not function in a power outage, yet are still considered to be a part of PES despite this limitation. Yak therefore stated that it only intended to address this issue if customers indicated that it was a significant concern. Yak stated its intention to monitor voice quality, including any degradation caused by downloading, to determine what measures, if any, needed to be taken to maintain voice quality. In developing its own VoIP service, Yak determined that the key product attributes which appealed to VoIP customers were essentially similar to those of PES.

92. Ontario stated that it was unclear whether VoIP services would be viewed by current telephone subscribers as a perfect substitute at this time. They noted that VoIP technology offered unique features that may be attractive to certain subscribers.

93. The CCTP argued that VoIP was a distinct new service, which operated in a separate market from traditional PES. The CCTP argued that the functional differences between VoIP services and PES were so significant that the two services could not fairly be said to be functionally the same.

94. Northwestel stated that VoIP was a new and different service from traditional PES, offering more features and capabilities than PES. In its view, in the early stages of VoIP adoption, consumers would be primarily attracted to VoIP applications as an inexpensive alternative to toll.

95. The CCTA stated that the cable companies intended to launch VoIP services that met or exceeded the reliability of and quality of traditional voice services of the telephone company.

96. The Companies submitted that numerous competitors were pricing their VoIP services to win over existing customers of local exchange services. The Companies stated that they expected Category 3 services to be marketed by cable companies as a substitute for ILEC PES. The Companies also stated that Category 3 VoIP services would likely have some form of power backup, so as not to be affected by Internet outages, they may have specific or guaranteed quality, or they may be offered at a lower price on a best-efforts basis.

97. With respect to the manner in which VoIP were and would be marketed, MTS Allstream referenced Primus' and Vonage's websites, submitting that they demonstrated how their services could be used in place of existing phone service:

> Whether you have DSL and use TalkBroadband as a second phone line, or have cable High Speed Internet and want to go even further and replace your existing home line, Primus will send you everything you need. All you have to do is plug it in and start talking. (Primus web site)
>
> Vonage is an all-inclusive phone service that can replace your current phone company. (Vonage web site)

98. MTS Allstream pointed out that the Companies and TELUS had publicly stated their intention to market IP-based voice services as direct substitutes for PES. MTS Allstream cited paragraph 3 of the covering letter to Bell Canada's Tariff Notice 6813, 10 May 2004 which stated that Bell Canada's Managed Internet Protocol Telephony (MIPT) service would be offered as an IP alternative to Centrex service (a conventional local telephone service):

> MIPT is being offered as an IP alternative to the Company's Centrex III service. It will also meet customer demand for an IP-based business telephony service compatible with Centrex III. The Company proposes to offer MIPT in a manner which enables customers to deploy MIPT side-by-side with their existing Centrex III locals without disruption and without termination charges as Centrex III locals are migrated to MIPT ports. (Emphasis added by MTS Allstream.)

99. TELUS argued that it was clear that access-independent VoIP service providers viewed their service as a substitute for traditional circuit-switched telephone service, as they offered number portability and promoted their services as an alternative to the traditional telephone service.

100. The Companies submitted that the rate of consumer adoption for Category 2 VoIP services might be affected by a number of limitations, including emergency calling and service availability during power outages. However, the Companies stated that several service providers had already announced their intention to introduce VoIP services that addressed these limitations. They also stated that they anticipated that the benefits offered by VoIP services would promote the adoption of high-speed IS by Canadian consumers and ultimately provide further opportunities for Category 2 VoIP service providers.

101. The Companies asserted that a difference between Category 2 and Category 3 VoIP services was that the price paid by the customer for a Category 3 service necessarily included access to the service provider's underlying IP network from the terminal equipment at the customer's location.

102. QMI stated that the ILECs would bundle their in-territory access-independent VoIP offerings with their in-territory high-speed Internet offerings, such that the two purchase decisions would very quickly collapse into one.

103. Call-Net submitted that when an ILEC offered VoIP services over its own broadband facilities, there may be little if any technical distinction between Category 2 and 3 VoIP services.

Commission's analysis and determinations

Relevant market

104. As indicated above, the first step in the Decision 94-19 framework involves identifying the relevant market for local VoIP services. The Commission notes that most parties, including TELUS, MTS Allstream, the CCTA and Yak, agreed that VoIP services are in the same relevant market as circuit-switched local exchange services. The Companies took a broader view of the relevant market.

105. A key question that must be answered with respect to the identification of the relevant market is whether local VoIP services and circuit-switched local exchange services are, or are not, sufficiently close substitutes.

106. The Commission agrees with TELUS that in determining if two products or services are sufficiently close substitutes to be in the same economic market, the underlying issue is whether or not the price of one product or service is affected by the price of the other product or service. As noted by TELUS, the prices need not move together in lock-step, but they will generally move together.

107. In this regard, the Commission considers that the extent of substitutability (or lack thereof) of services can be demonstrated by way of statistical evidence in relation to the willingness of consumers (or lack thereof) to replace one service with the other in response to changes in prices of the services in question.

108. The Companies and TELUS indicated that new entrants are pricing VoIP services in order to compete for circuit-switched local exchange customers. However, the Commission considers that due to the fact that VoIP services are at a very early stage of development, there is insufficient statistical evidence on the record regarding demand responses to changes in the relative prices of local VoIP services and circuit-switched local exchange services.

109. In the absence of sufficient statistical evidence, the Commission has assessed whether or not the services are close substitutes based on the evidence in relation to whether or not local VoIP services meet the same general user requirements as circuit-switched local exchange services. As suggested by TELUS, in order for two services to be close substitutes, they need not be identical; rather, the issue is whether the services are sufficiently similar so as to satisfy the same general need of consumers and will, therefore, be sufficiently good substitutes to be in the same economic market.

110. Based on the submissions of parties with respect to the substitutability of the services in question, the Commission has identified four factors that will assist in determining whether or not local VoIP services meet the same general user requirements that circuit-switched local exchange services satisfy: the fundamental purpose of the services; the manner in which local VoIP services are marketed and offered; whether or not consumers perceive, or can be expected to perceive, local VoIP services as close substitutes for circuit-switched local exchange services; and whether or not local VoIP services and circuit-switched local exchange services are, or will be, purchased as replacements for one another.

111. The Commission considers that the use of IP does not define the fundamental purpose of the service; rather, it defines the underlying technology used to provide and transport the service. As noted above, transmission and switching technologies have been evolving and changing since the earliest days of telephony. From a consumer's perspective, the key question is not what technology is used to provide a service, but rather what use the service is to the consumer.

112. As Dr. Crandall, an expert witness for TELUS, testified in response to a question regarding how the consumer is to perceive the difference between access-dependent and access-independent VoIP services,

> I don't know why they have to…all they need to know is what the service delivers. They don't need to know technically how it's delivered.

113. In the Commission's view, the fundamental purpose of circuit-switched local exchange services is to provide two-way, real-time voice communications to and/or from anyone on the PSTN. The Commission considers that the fundamental purpose of local VoIP service, whether Category 2, 3 or 4, is the same.

114. The Commission notes that both local VoIP services and circuit-switched local exchange services feature a variety of options, some of which are common and some of which may be unique to each service. Both local VoIP and circuit-switched local exchange services offer, for example, call display and voicemail, whereas local VoIP service also allows, for example, online access to call details and nomadic capability. In addition, local VoIP service allows subscribers to obtain a telephone number from an exchange outside their geographic area. In the Commission's view, however, while such features enhance the respective services, they are not core attributes of the services, the fundamental purpose of which remains the same.

115. This conclusion is reinforced by the manner in which the services are marketed and offered. The Commission notes that a number of parties referred to the fact that VoIP services were being marketed and offered as a replacement for circuit-switched local exchange services.

116. As noted by MTS Allstream, the websites of Primus and Vonage indicate that their services can be used as replacements for customers' existing circuit-switched telephone services.

117. With respect to Category 3 VoIP services, the Commission notes that these services utilize a managed network, are integrated with a broadband access service, can guarantee quality of service, allow for the provision of 9-1-1/E9-1-1 capabilities, and can have some form of back-up power.

118. The Commission further notes that a number of the cable companies indicated that they will be offering VoIP services that would meet the CLEC requirements of Decision 97-8.

119. The Commission notes that Bell Canada's MIPT service[4] and TELUS' IP Evolution service[5] are examples of Category 4 VoIP services. The Commission notes the Companies' statement that MIPT is offered as an alternative to Bell Canada's Centrex III service and TELUS' statement in Tariff Notice 150, 23 August 2004 that IP Evolution is similar to TELUS' current Centrex service and is being offered as either an enhancement or an alternative to Centrex service. The Commission notes further that Bell Canada's and TELUS' tariffs for their respective Category 4 VoIP services allow customers to migrate their users from Centrex locals to Category 4 local VoIP service individually, while remaining in one Centrex group. Clearly, these services are, or will be, used as replacements for existing Centrex services.

120. TELUS took the position that Categories 3 and 4 VoIP services are in essence the same as their circuit-switched counterparts, regardless of the difference in technology. As a TELUS witness stated,

> TELUS does not seek to escape local exchange regulation in its traditional incumbent territories merely by changing the technology inside our networks. [Translation] It is not by simply replacing its Class 5 switches with packet routers that an ILEC can justify forbearance from regulation. That would be merely a change in the technology used.

121. In regard to Category 2 local VoIP services, a number of parties argued that the fact that there are two "purchase decisions" involved, in that Internet access service must be obtained separately from local VoIP service, differentiates the service from circuit-switched local exchange service, as well as Category 3 VoIP services. The Commission notes, however, that for those customers who already have high-speed Internet access service, there is only one purchase decision required for Category 2 local VoIP service, just as for circuit-switched local exchange service. Moreover, an ILEC could offer a bundle, consisting of high-speed Internet access and Category 2 local VoIP service as a single purchase, for a single price. In the Commission's view, the fact that Category 2 services may be offered separately from the access service will not be a determinative factor in whether or not Category 2 VoIP service will be marketed and offered by the ILECs, and perceived by consumers, as a replacement for circuit-switched local exchange services.

122. Some parties argued that Category 2 local VoIP services have certain limitations, regarding service and voice quality, security, reliability (e.g. lack of back-up power) and lack of E9-1-1 capabilities, which could affect the rate of substitution by consumers. The record of this proceeding indicates, however, that as VoIP services evolve, VoIP service providers will improve service offerings, as a result of regulatory requirements (e.g. E9-1-1), consumer demand and competitive pressures.

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[4] Approved on an interim basis in *Managed Internet Protocol Telephony service*, Telecom Order CRTC 2004-256, 30 July 2004.

[5] Approved on an interim basis in *TELUS Communications Inc. – IP Evolution Service*, Telecom Order CRTC 2004-445, 23 December 2004.

123. Furthermore, the Commission notes that, as submitted by some parties, when an ILEC provides Category 2 VoIP services over its own access facilities, the ILEC has the ability to control and manage the underlying infrastructure that delivers the service. Accordingly, in these circumstances, the ILEC is in a position to address many, if not all, of the limitations associated with Category 2 VoIP service, and offer a service that is essentially the same as a Category 3 VoIP service. Moreover, to the extent that quality deficiencies remain, the Commission considers, as noted by many parties, that, in making purchase decisions, customers will weigh the limitations against the relative price for the service and the advantages of VoIP services as compared with circuit-switched local exchange services.

124. The Commission considers that neither the additional features nor the limitations of local VoIP services define or modify the fundamental purpose of the service nor will they prevent consumers from perceiving local VoIP service a replacement for circuit-switched local exchange service.

125. Indeed, the Commission notes that several local VoIP service providers have indicated their intention to provide LNP, which is only required if customers intend to replace their current telephone service with the local VoIP service. In fact, the Commission notes that Primus indicated, on a confidential basis, the proportion of its residential and business customers that are currently porting numbers. While VoIP services are still in the early stages of development and there is minimal empirical evidence available with respect to porting numbers to VoIP services, the Commission considers that Primus' numbers regarding LNP are materially significant, and indeed a clear indication of the replacement of circuit-switched local exchange service with local VoIP service.

126. Based on the record of this proceeding, the Commission concludes that local VoIP services satisfy, or will satisfy, the same general user requirements of consumers of circuit-switched local exchange services. The Commission therefore finds that local VoIP services are close substitutes for circuit-switched local exchange services, and therefore are part of the same relevant market as these circuit-switched services.

127. The Commission notes that the Companies stated that the relevant market includes local wireline and wireless services, as well as other Internet data services (such as Instant Messaging among PC users), submitting that their usage is often a substitute for voice communication. However, the Commission does not consider that the Companies have presented evidence to support this position. The Commission considers that it is not sufficient to argue that some usage of one service has been replaced by the usage of another.

128. The Commission considers that the Companies have not presented sufficient evidence to demonstrate that Internet data services, such as Instant Messaging, are offered, purchased or used as substitutes for local exchange service, let alone as close substitutes. With respect to mobile wireless service in particular, the Commission notes that this service has been treated as a separate market for regulatory purposes since its introduction two decades ago. Further, the Commission further notes that in its *Report to the Governor in Council: Status of Competition in Canadian Telecommunications Markets – Deployment/Accessibility of Advanced Telecommunications Infrastructure and Services*, 25 November 2004 (2004 Competition Report), indicated that as of 2003, less than 2% of Canadian households had wireless service

only. In the Commission's view, this suggests that Canadian users do not regard mobile wireless as a close substitute for wireline telephone service. The Commission therefore finds that the Companies' definition of the relevant market is untenable at this time.

Market power

129. Under the Decision 94-19 framework, the second step is to determine the market power of a given firm with respect to the relevant market.

130. As noted above, forbearance with respect to local exchange services was not requested by any of the ILECs in this proceeding[6].

131. While market share may not always be determinative of market power, it is clear that the ILECs are the dominant providers of local exchange services in Canada. The Commission's 2004 Competition Report indicated that the ILECs accounted for 98% of local residential revenues and 92% of local business revenues in 2003 and that competitors, including ILECs out-of-territory, accounted for 2% of local residential revenues and 8% of local business revenues. The Commission notes that there was no evidence presented in this proceeding to demonstrate that those market shares have altered materially since the end of 2003 or that the ILECs do not have market power in relation to local exchange services.

132. The Commission therefore determines, based on the Decision 94-19 framework, that it would not be appropriate to refrain, at this time, from the exercise of any power or the performance of any duty under sections 24, 25, 27, 29 and 31 of the Act in relation to local VoIP services offered by the ILECs.

A separate section 34 analysis

133. As indicated above, the Commission considers that in order to fully consider the arguments of parties seeking forbearance for VoIP services in this proceeding, it is appropriate to conduct two separate analyses: one within the Decision 94-19 framework, and one outside of that framework. With respect to the latter, as subsection 34(2) of the Act requires the Commission to forbear from regulation where the terms set out in that section are satisfied, the Commission turns to it first.

Subsection 34(2)

134. Subsection 34(2) of the Act reads as follows:

> Where the Commission finds as a question of fact that a telecommunications service or class of services provided by a Canadian carrier is or will be subject to competition sufficient to protect the interests of users, the Commission shall make a determination to refrain, to the extent that

[6] The Commission has recently initiated a public proceeding with the release of *Forbearance from regulation of local exchange services*, Telecom Public Notice CRTC 2005-2, 28 April 2005, which seeks comments on the appropriate framework for forbearance from the regulation of local exchange services.

it considers appropriate, conditionally or unconditionally, from the exercise of any power or the performance of any duty under sections 24, 25, 27, 29 and 31 in relation to the service or class of services.

Positions of parties

135. In the Companies' view, the ILECs did not have market power in the provision of VoIP services, and would therefore not be able to introduce a successful VoIP service priced above competitive levels. They argued that there was already vigorous competition for Category 2 VoIP services, that cable companies in particular would be formidable facilities-based competitors in the provision of Category 3 VoIP services, and that Bell Canada was the only ILEC that had launched an in-territory Category 4 VoIP service, which it did only after others had launched Category 4 VoIP services in Bell Canada's territory. The Companies also submitted that customers who subscribed to VoIP services had the safety net of regulated local exchange services and of wireless services to meet their communications needs if VoIP services proved unsatisfactory.

136. With respect to the claim that there was already vigorous competition in the provision of VoIP services, the CCTP submitted that the current roll-out and development of VoIP services in Canada was responding well to customers' needs. It argued that there were now and would continue to be wider choices available to Canadians with respect to VoIP services than there were currently available in wireless, a market in which the Commission did not apply economic regulation.

137. The Companies argued that many years of actual industry experience invalidated claims that the ILECs could leverage market power in one area to eliminate competition in another. They stated that over the last 25 years, the various segments of the telecommunications service industry had been opened to competition, and that the ILECs had never eliminated competition; in fact, all sectors that had been opened to competition, and where the Commission had forborne from regulating the ILECs, remained vibrantly competitive. They cited wireless, retail IS, long distance, private lines, switched data services, and terminal devices as examples.

138. The Companies submitted that some parties might argue that prices for ILEC VoIP services should be regulated to prevent ILECs from lowering prices to force competitors from the market. The Companies and TELUS submitted that this argument had no economic rationale, in that a low pricing strategy would not be effective in driving competitors from the market, because the barriers to entry were low, the number of market entrants was high, and the size of some anticipated entrants was large. Several other parties supporting the Companies' and TELUS' position agreed that barriers to entry were low.

139. TELUS argued that neither functional equivalence nor substitutability was the relevant test for determining whether or not price regulation was required for access-independent VoIP service. It submitted that the correct test was whether or not TELUS could exert market power to act anti-competitively. TELUS argued it had no market power to act anti-competitively in the provision of access-independent VoIP service because it was not dominant in the provision of in-territory high-speed retail IS service, as the Commission had recently affirmed. Second, TELUS stated it could not prevent its high-speed Internet customers from purchasing

access-independent VoIP services from numerous new entrants. Finally, TELUS submitted that it did not have control over any essential facilities that competitors needed in order to provide access-independent VoIP service.

140. Additionally, TELUS stated that with respect to access-dependent VoIP services, it generally supported the Commission's preliminary view that they should be subject to the existing local exchange carrier (LEC) regime established in Decision 97-8 and subsequent determinations. As noted above, TELUS emphasized that it was not seeking forbearance from economic regulation of PES, nor any PES-like access-dependent VoIP service not carried over the Internet that it might offer in the future. TELUS acknowledged that simply changing the underlying technology of the local access network from circuit-switched to packet-switched would not change the network or its basic associated service.

141. Alcatel submitted that the Commission should forbear from economic regulation of VoIP services, consistent with the need to maintain a high rate of innovation and rapid market deployment for the next generation of broadband services. In Alcatel's submission, new entrants would effectively provide a price cap for VoIP services.

142. Most other parties disagreed with the Companies' and TELUS' views concerning their lack of market power in respect of local VoIP services. They argued that granting forbearance would run counter to the Commission's goal of facilities-based competition and that it would offer the incumbents advantages that would result in anti-competitive behaviour on their part and higher rates for users.

143. Cybersurf stated that if the Companies and TELUS actually offered a Category 2 VoIP service, as opposed to a Category 3 or 4 VoIP service, it did not object if forbearance was granted. However, Cybersurf stated that it would be very easy for ILECs to route their own VoIP traffic packets on their own IP-based networks to ensure a superior quality of service and greater PES functionality for their own end-users, while allowing competitor traffic to be routed along the Internet without special treatment. Cybersurf submitted that it would be difficult to ensure that the ILECs actually were offering Category 2 VoIP services, as opposed to Category 3 or 4. Therefore, Cybersurf submitted that forbearance granted to Category 2 VoIP services, offered by an ILEC or cable carrier in-territory, must include a condition prohibiting such behaviour and must be backed up by a method of verification to ensure that such conduct does not occur.

144. MCI Canada argued that if the ILECs' VoIP services were functional substitutes for PES (a matter which they stated the ILECs conceded), and that the ILECs were dominant in the market for PES (a matter that they stated the ILECs did not attempt to refute), then it logically followed that the ILECs were dominant in the provision of VoIP services. MCI Canada submitted that given the ILECs' 97% share of the PES market and their virtual monopoly in the provision of broadband access services, it was ludicrous to think that the ILECs would not use their dominance and control in these markets to engage in anti-competitive behaviour. It stated that simply because the ILECs might choose to deliver PES over a different or evolving technology platform did not make them any less dominant in the retail market for voice services or in the wholesale markets for local access and transport services. Therefore, MCI Canada submitted, deregulation of the ILECs' VoIP services, at this stage of competition in the

local market, would not only spell disaster for competitive VoIP service providers, but would also seriously damage the fledgling industry of CLECs, which had been trying to establish themselves in the market ever since it was first opened to competition.

145. The CCTA submitted that for the ILECs, VoIP service was a threat to their monopoly in the local exchange services market and that they would therefore have an incentive to lose money on VoIP service, in order to preserve their monopoly for as long as possible.

146. The Consumer Groups submitted that without economic regulation for ILECs, these providers could price VoIP below cost, create barriers to access to their networks by competitive VoIP providers and bundle unregulated Internet access services with VoIP in an anti-competitive fashion. QMI also stated that the ILECs had the financial means and incentive to pursue below-cost pricing practices to destroy competition.

147. UTC asserted that in a forborne environment, an ILEC could: use VoIP to circumvent the winback rules whenever a PES customer was lost to a competitor, avoid the tariff requirements and bundling rules for customer-specific contracts by substituting VoIP for traditional PES service elements, and engage in targeted pricing initiatives on a selective basis, using VoIP to undercut competitors wherever it faced competition, while recouping higher PES rates from captive customers.

148. MTS Allstream submitted that, as the dominant providers of both PES and DSL Internet access services in their respective serving territories, the Companies and TELUS had both the incentive and the opportunity to use their market power and incumbency status in each of these markets to steer as much voice traffic as possible over their fully ubiquitous, managed IP networks. MTS Allstream suggested that the Companies and TELUS knew that fully managed VoIP services would have a much greater chance of success in the market because these services were private and secure and had a higher quality of service than access-independent VoIP services, which were accessed over the public Internet.

149. Yak listed several specific types of behaviour that the ILECs could contemplate, in order to lever their existing market power and thus stifle choice. Yak suggested that the ILECs could:

a) Increase the price of stand-alone DSL (a forborne service under the current rules), while reducing the price of a bundle comprising VoIP plus DSL and keeping steady the pricing for PES plus DSL. In doing so, the ILECs would destroy the market for independent VoIP operators over their DSL service, and entrench their position;

b) Encourage PES customers to migrate to a VoIP offering which is indistinguishable from PES, and indeed, has some additional features or improvements in service quality which might provide a migration inducement. Once done, the ILECs could deny equal access, including 1010 dial-around service and number portability, thus undermining the long distance, local and VoIP business of competitors;

c) Introduce a premium broadband IS and make this service available only to their own VoIP customers. The premium service could have better service options in terms of download or upload speeds, increased bandwidth capacity, and/or superior repair and response times. Again, the availability of such a restrictive product would deter many customers from using an alternative VoIP provider; and

d) Seek to enter into multi-year contracts with customers in all of these activities, a conduct which is permitted for forborne activities. New entrants would thus be foreclosed from gaining these customers for a lengthy period.

150. The CCTP submitted that the concern expressed by some parties that ILECs would be able to price below cost to eliminate competitors was unfounded, given the number of existing and anticipated suppliers offering VoIP services and the evidence and history of forborne services.

151. Yak suggested that the Commission may want to entertain early forbearance for ILEC "access non-accompanying" VoIP, where the ILEC wishes to offer VoIP service to cable company broadband customers; however, Yak noted that the difficulty was to ensure that the ILECs' VoIP service was not sold to the ILECs' own DSL customers except in accordance with tariff requirements.

152. The CCTA submitted that the ILECs' ownership and control over the existing infrastructure gave them the ability to gain advantages in offering in-territory access-independent VoIP services that were not available to their competitors. It suggested that the ILECs could self-supply all of the critical inputs necessary to provide an in-territory access-independent VoIP service, while any non-ILEC access-independent VoIP service provider would need to obtain at least some of these inputs from the ILECs or another LEC.

Commission's analysis and determinations

153. The Companies' arguments regarding the competitive environment for local VoIP services included the following points:

- cable companies will emerge as strong competitors for the provision of local VoIP services;
- barriers to entry for local VoIP services, especially Category 2 services, are low; as a result, Category 2 operators are already providing vigorous competition and offering low prices;
- because of the low barriers to entry, it would be irrational for the Companies to engage in predatory practices, given the unrecoverable revenue losses that such practices would entail;
- experience with forbearance in other sectors of the telecommunications service industry, such as long distance, wireless and IS, has demonstrated that the ILECs cannot leverage market power in one area to eliminate competition in another; and

- customers who subscribe to VoIP services have the safety net of regulated local exchange services and of wireless services to meet their communications needs if VoIP services should prove to be unsatisfactory in a forborne environment.

154. TELUS advanced similar arguments in support of its request that tariffs not be required for access-independent VoIP services, including:

- access-independent VoIP services are highly competitive and ILECs would have no market power;
- ILECs would have no opportunity to leverage local exchange services market power;
- ILECs would have no other opportunity to act anti-competitively; and
- forbearance would not harm the interest of users or competition.

155. With regard to arguments concerning the capacity of cable companies to emerge as strong competitors in VoIP services, the Commission recognizes that cable companies possess certain strengths comparable to those of the ILECs. These include large and established customer bases, experience in operating an IP network infrastructure, and access connections to households.

156. The Commission notes, however, that cable companies face certain obstacles that the ILECs do not, and that the ILECs have certain advantages not shared by the cable companies. For example, the cable companies' existing shared cable network must be upgraded in order to offer quality local exchange service currently offered by the ILECs and expected by customers. Furthermore, the Commission notes that cable companies – with the exception of EastLink – have virtually no experience in either the residential or business market for local exchange services, and will therefore have to build expertise in serving telephone customers. Processes related to customer transfer, including number portability, directory listings, operator services, E9-1-1, and billing, will have to be implemented successfully.

157. Alone among existing and potential VoIP service providers, the ILECs own and operate a ubiquitous PSTN network, including the access and underlying infrastructure, that encompasses both business and residential customers. PSTN access is an integral component of any local VoIP service and the ILECs are the only provider with ubiquity.

158. Furthermore, the Commission notes that the ILECs have the ability to migrate existing circuit-switched local exchange service customers to a fully managed VoIP service that is both owned and operated by them. For example, the ILECs' Category 4 VoIP tariffs allow for the incremental migration of a particular customer's circuit-switched Centrex locals to Centrex IP service. The Commission considers that the ILECs' ability to migrate their existing customers so easily represents a significant barrier to entry for competitors, as competitors would not be able to migrate, to their Category 4 VoIP service, an ILEC Centrex customer's locals one at a time.

159. With regard to the argument that Category 2 providers are already providing vigorous competition for local VoIP services at low prices, the Commission is of the view that it is too early to draw conclusions about the state of competition, given the fledgling stage of the development of Category 2 VoIP services. Evidence presented in this proceeding was, in the Commission's view, persuasive regarding the competitive difficulties that Category 2 service providers were likely to face in a forborne environment.

160. The Commission considers that the ILECs possess the relative advantage of their strong incumbent position in local exchange services. Facilities-based competition in local services has been in place in Canada for nearly eight years and yet, as of the end of 2003, the ILECs accounted for 98% of local residential revenues and 92% of local business revenues across the country. The Commission also notes that even in the long distance service market, which has been fully competitive for thirteen years, only 41% of residential subscribers have tried a long distance provider other than an ILEC.[7] In the Commission's experience, customers of local exchange service are very reluctant to change local service providers. This inertia – particularly with respect to residential customers – has proven to be a significant hurdle for competitors.

161. With regard to the arguments about the competitive environment in Category 2 services, the Commission agrees that barriers to entry for Category 2 services are low. However, Category 2 VoIP service providers are dependent on service components purchased from LECs such as numbers and PSTN connections. In areas where there are no CLEC alternatives available, these service providers would rely solely on the ILEC for these components. The ILECs, by contrast, with their ubiquitous components and facilities, including access facilities, are in a position to self-supply all that is needed to offer local VoIP services.

162. The Commission considers that the ILECs would have both the incentive and the ability to offer unregulated Category 2 local VoIP services to their own high-speed retail Internet access customers with superior quality of service to that offered by their competitors. Moreover, while a Category 2 local VoIP service would on its face involve two purchase decisions, where the ILEC provided both the DSL and a Category 2 local VoIP service it could, as indicated above, offer a combined bundle with the result that the two purchase decisions would quickly collapse into one. The Commission considers, therefore, that the ILECs would be able, with relative ease, to transform their Category 2 local VoIP service, where they also provided the Internet access connection, into a service that was indistinguishable from a Category 3 local VoIP service. The Commission accordingly considers that it would be difficult for Category 2 local VoIP service providers to compete against an ILEC in these circumstances.

163. With regard to the argument that it would be irrational for the ILECs to engage in below-cost pricing because, given the low barriers to competitive entry, it would not be possible for the ILECs to recapture the foregone revenues, the Commission considers that the evidence presented in this proceeding was not convincing on this point. No persuasive arguments were presented to the effect that, in a forborne environment, the ILECs would not have the motivation, the means and the opportunity to engage in below-cost pricing that would have the effect of stifling competition. Indeed, the Commission considers that it would be rational to expect the ILECs, in a forborne environment, given their current dominance in the provision of local exchange services, to seek to protect their dominant position.

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[7] The 2004 Competition Report, page 108.

164. The Commission considers that it can be expected that the revenue stream provided by their dominant position in local services would make it feasible for the ILECs to provide local VoIP services below cost (on a stand-alone basis, and particularly when bundled with DSL) in the short term. This would be likely, in the Commission's view, to stifle competition, which in turn would make it possible for the ILECs, in the medium to long term, to raise or maintain prices above those that would prevail in a competitive market.

165. Moreover, the Commission would expect that, in a forborne environment, the ILECs' ability to target competitors' customers would also permit the ILECs to control the migration of circuit-switched local exchange service customers to their own and to competitors' local VoIP services, thereby allowing them to preserve, as much as possible, their existing customer base.

166. The Commission considers that if forbearance were granted prematurely, the ILECs' ability and incentive to engage in the combination of targeted below-cost pricing of local VoIP services, as well as bundling strategies, prior to the entry and roll-out of other facilities-based competitors, would have a material negative impact on the potential for sustainable competition in the provision of local VoIP services, and therefore on the protection of the interests of users. These strategies would unduly impair the competitive abilities of all potential market participants, and not just those market participants who depend upon the ILECs for required services and facilities.

167. With regard to the Companies' arguments concerning the competitive markets that emerged following forbearance in other sectors of the telecommunications service industry, the Commission considers that the precedents cited by the Companies were not helpful to their case. In respect of long distance, private lines, switched data services and terminal devices, when the Commission issued its forbearance determinations, it was satisfied, based on the evidence presented to it, that there was sustainable competition in each market and that the incumbents did not possess market power. The evidence presented in this proceeding has not persuaded the Commission that comparable conditions are present with respect to the provision of local VoIP services.

168. With respect to wireless, at the start of mobile wireless deployment, the advantages of incumbency were far less significant than they are in respect of VoIP services currently. The two licensed service providers had to construct new networks, interconnect to the PSTN, and overcome a number of other challenges related to quality of service, coverage and service features. With respect to retail IS forbearance, at the time of the forbearance determinations, the ILECs had even fewer advantages of incumbency and even less incentive and opportunity to engage in anti-competitive activity. Moreover, in the case of both mobile wireless and IS, these were new and distinct services for both ILECs and competitors.

169. With regard to the Companies' argument that customers who subscribe to VoIP services have the safety net of regulated local exchange services and of wireless services to meet their communications needs if VoIP services proved unsatisfactory, the Commission does not consider that this argument has a direct bearing on the issue of whether, in the case of VoIP services, there is sufficient competition to protect the interest of users, as required under subsection 34(2) of the Act.

170. Based on the record of this proceeding, the Commission is unable to find, at this time, as a question of fact, that local VoIP services provided by the ILECs are or will be subject to competition sufficient to protect the interests of users.

171. Accordingly, the Commission considers that it would not be appropriate, at this time, to refrain pursuant to subsection 34(2) of the Act, from the exercise of any power or the performance of any duty under sections 24, 25, 27, 29 and 31 of the Act in relation to local VoIP services provided by the ILECs.

Subsection 34(1)

172. Subsection 34(1) of the Act reads as follows:

> The Commission may make a determination to refrain, in whole or in part and conditionally or unconditionally, from the exercise of any power or the performance of any duty under sections 24, 25, 27, 29 and 31 in relation to a telecommunications service or class of services provided by a Canadian carrier, where the Commission finds as a question of fact that to refrain would be consistent with the Canadian telecommunications policy objectives.

173. The Canadian telecommunications policy objectives referred to in subsection 34(1) (the telecommunications policy objectives) are found in section 7 of the Act, which reads as follows:

> It is hereby affirmed that telecommunications performs an essential role in the maintenance of Canada's identity and sovereignty and that the Canadian telecommunications policy has as its objectives
>
> (a) to facilitate the orderly development throughout Canada of a telecommunications system that serves to safeguard, enrich and strengthen the social and economic fabric of Canada and its regions;
>
> (b) to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada;
>
> (c) to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications;
>
> (d) to promote the ownership and control of Canadian carriers by Canadians;
>
> (e) to promote the use of Canadian transmission facilities for telecommunications within Canada and between Canada and points outside Canada;

(f) to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective;

(g) to stimulate research and development in Canada in the field of telecommunications and to encourage innovation in the provision of telecommunications services;

(h) to respond to the economic and social requirements of users of telecommunications services; and

(i) to contribute to the protection of the privacy of persons.

Positions of parties

174. Parties made a number of submissions with respect to how forbearing from regulating VoIP services might assist in contributing to investment, innovation, risk-taking, a greater reliance on market forces and the international competitiveness of the Canadian telecommunications industry.

175. The Companies and a number of other parties submitted that if regulation forced some market participants to obtain tariff approval before introducing new services or improving existing ones, there would be a strong disincentive to take risks and to invest, which would affect the level of innovation and associated job creation. These parties claimed that regulated Canadian carriers would be unable to respond quickly to changing market conditions, to introduce new VoIP services and to modify or withdraw existing ones in response to changing market conditions. Moreover, a requirement to file tariffs on the public record would provide valuable marketing information to competitors, which the Companies claimed would dampen the incentives of non-regulated competitors to obtain their own market knowledge and to be innovators in the development of products and pricing options.

176. The Companies suggested that forbearance would, by contrast, provide a regulatory framework conducive to the development and offering of VoIP services, by the Companies, thereby promoting innovation, and the competitiveness of Canadian telecommunications internationally.

177. The CCTP agreed that the effect of tariff regulation of VoIP services would be to undermine innovation, investment, choice and competitiveness for Canada. Alcatel also supported forbearance in economic aspects of VoIP regulation, expressing its concern that an unfavourable regulatory environment relating to VoIP for ILECs would materially reduce investment plans.

178. Other parties disagreed with these views. For its part, MTS Allstream suggested that the key to encouraging investment, innovation and choice remained the elimination of barriers to entry. MTS Allstream agreed with the CCTA's position that premature deregulation of the ILECs' local VoIP services would allow them to raise the cost of entry or diminish the likelihood of successful entry of others by locking up existing customers or by offering artificially low prices to defend their market position. MTS Allstream considered that this would reduce competition and innovation.

179. Cogeco agreed that facilities-based competition in local telephony had to remain the final objective, because only that would provide lasting benefits to customers in the form of lower rates, better service and innovation, which it asserted was the key to economic growth and investment.

180. Comwave submitted that VoIP innovation had not come from the ILECs at all. It suggested that innovation would come from companies such as itself, which would only emerge in an environment that did not see VoIP services marginalized by larger players imposing "triple plays."

181. Call-Net submitted that innovations had co-existed with important social and economic regulatory policies, designed to protect consumers from abuse of market dominance and to encourage the development of a competitive telecommunications market in Canada, in the face of market failure and structural biases in the market. Call-Net submitted that innovation could occur and had occurred "within the type and extent of social and economic regulations highlighted by the Commission in its preliminary views."

182. The Consumer Groups submitted that VoIP was simply an incremental, technological change in the delivery of voice communications and the Commission normally did not abandon regulatory requirements due to simple technological improvements in the name of fostering innovation. In support of this view, they stated that the implementation of digital-switching by LECs in the 1990s had occurred without any forbearance to aid in implementation of this technological improvement.

Commission's analysis and determinations

183. While parties did not for the most part, specifically address the telecommunications policy objectives in the Act, the Commission will address their arguments in light of these objectives, whenever this is appropriate.

184. The parties that supported forbearance focused on the argument that forbearance would encourage investment, innovation and risk-taking, would mean minimal regulation and would stimulate the international competitiveness of the Canadian telecommunications industry. These parties also argued that regulation would deter investment and innovation because the process associated with regulation – principally disclosure of market-sensitive information, regulatory lag and resulting competitive disadvantage – would hamper the competitive position of the regulated company and advantage its competitors.

185. The Commission recognizes that the successful pursuit of the Canadian telecommunications policy objectives requires substantial investments to be made in the Canadian telecommunications sector. As far as the ILECs are concerned, the record shows that they are already making the investments necessary to migrate their networks to IP technology and will continue to do so. The Commission is of the view, moreover, that the existing price cap regulatory regime continues to provide the ILECs with incentives to invest in IP facilities and services, even if they continue to be required to file tariffs, in that the benefits of the network efficiencies that they derive by implementing IP can be passed on to ILEC shareholders.

186. In addition, however, the Commission considers that the attainment of the telecommunications policy objectives also requires considerable investment from competitors. The Commission considers that premature forbearance in respect of local VoIP services would significantly reduce the ability and/or incentive of competitors to make the necessary investments to achieve these objectives.

187. With respect to innovation, the Commission notes that the ILECs have been innovators in the provision of telecommunications services in Canada where competition has been permitted and they have continued to be regulated. The Commission considers that regulated competition in areas where the ILECs have remained dominant has allowed the entire Canadian telecommunications industry to achieve high levels of innovation, investment and efficiency. The Commission is of the view that there is nothing in the current regulatory environment that impedes ILECs from using the opportunities provided by IP to offer new and innovative services. Indeed, competition from cable carriers and other service providers who use IP will provide an incentive for ILECs to innovate.

188. The Commission has considered the arguments presented as to how forbearance would be either consistent or inconsistent with a number of the other telecommunications policy objectives, including achieving affordable telecommunications services and fostering increased reliance on market forces for the provision of telecommunications services. In the end, the Commission considers that premature removal of the tariffing requirements for ILECs' local VoIP services and a premature reliance on market forces would diminish the likelihood of sustainable competition and its attendant benefits to consumers of lower rates, new services, and innovation.

189. Based on the record of this proceeding, the Commission is unable to find, as a question of fact, that to refrain at this time from exercising any power or performing any duty under sections 24, 25, 27, 29 or 31 of the Act in relation to local VoIP services provided by the ILECs would be consistent with the Canadian telecommunications policy objectives.

190. In regard to the Companies' arguments about regulatory lag leading to competitive disadvantage, the Commission has recognized that timeliness in disposing of ILEC tariffs was a concern that needed to be addressed. In response to this concern, the Commission has recently released *Introduction of a streamlined process for retail tariff filings,* Telecom Circular CRTC 2005-6, 25 April 2005 (Circular 2005-6), which sets out how ILEC tariff filings will be disposed of in a timely manner. The Commission intends to address all compliant ILEC retail tariff filings within ten days of receipt of application. This will include any ILEC local VoIP tariff filings. The Commission also notes that the ILECs can request *ex parte* treatment of their tariff filings, provided they are able to demonstrate that the competitive harm that they may incur from disclosure outweighs the traditional public interest in disclosure, as outlined in Decision 94-19. Filings made on an *ex parte* basis allow the ILECs to enter the market with a new service or make changes to an existing service without granting their competitors prior knowledge of such service offerings. The Commission considers that these measures will help to ensure that regulation of ILECs is efficient and effective, consistent with the telecommunications policy objectives.

Subsection 34(3)

191. Subsection 34(3) of the Act reads as follows:

> The Commission shall not make a determination to refrain under this section in relation to a telecommunications service or class of services if the Commission finds as a question of fact that to refrain would be likely to impair unduly the establishment or continuance of a competitive market for that service or class of services.

192. Based on the Commission's determinations above, that it would not be appropriate to forbear pursuant to subsections 34(1) and 34(2) of the Act, it is unnecessary to consider subsection 34(3) of the Act, in this case.

Conclusion

193. In light of the foregoing, the Commission **denies** the Companies' and TELUS' requests for forbearance from the regulation of local VoIP services.

194. The Commission determines that local VoIP services should be regulated as local exchange services, and that the regulatory framework governing local competition as set out in Decision 97-8 and subsequent determinations applies to local VoIP service providers, except as otherwise provided in this Decision.

IV. Regulatory framework

Application of the regulatory framework for local competition

195. In this section of the Decision, the Commission addresses matters regarding the implementation of the regulatory framework for local competition as it applies to local VoIP service providers. Specifically, the Commission addresses those aspects of the regulatory framework to which parties argued specific attention was required, in order to accommodate the provision of local VoIP services.

Registration of VoIP resellers

Background

196. The Commission stated, in *Interexchange competition and related issues*, Telecom Decision CRTC 85-19, 29 August 1985, that resale is the subsequent sale or lease on a commercial basis, with or without adding value, of communications services or facilities leased from a carrier.

197. In *Competition in the provision of public long distance voice telephone services and related resale and sharing issues*, Telecom Decision CRTC 92-12, 12 June 1992 (Decision 92-12), the Commission required resellers and sharing groups to register with the Commission prior to receiving service.

198. In Telecom Order CRTC 97-590, 1 May 1997 (Order 97-590), the Commission noted that, where the Internet was used as the underlying transmission facility by a service provider to provide public switched IX voice or data services, the service provider was to register as a reseller.

Positions of parties

199. The Companies noted that Vonage and other VoIP service providers offering voice applications in Canada were not listed on any of the Commission's registration lists.

200. Vonage submitted that it did not resell local PES and, accordingly, should not automatically be subject to regulatory restrictions that flow naturally from a reseller's shared network and contractual relationship to a LEC. Vonage stated that it should be classified for what it was, namely a VoIP provider.

201. Yak submitted that VoIP service providers should be required to register with the Commission.

Commission's analysis and determinations

202. In Order 97-590, the Commission determined that service providers that used the Internet to provide public switched IX voice or data services were required to register as resellers. The Commission considers that this determination applies to IX VoIP service providers that are not Canadian carriers.

203. Furthermore, with respect to local VoIP service providers (other than Canadian carriers), the Commission considers that since they lease services or facilities from LECs, such as PSTN access and numbers, that are used in the provision of local VoIP services, they operate as local VoIP resellers.

204. Accordingly, the Commission directs that all local VoIP service providers that are not operating as Canadian carriers are to register with the Commission as resellers, as a condition of obtaining services from a Canadian carrier or other TSP.

Access to numbers and local number portability

Background

205. In Decision 97-8, the Commission permitted CLECs direct access to numbering resources and required all LECs to implement LNP. In Telecom Order CRTC 99-5, 8 January 1999 (Order 99-5), which dealt with the issue of porting numbers by non-LECs, the Commission concluded that extending access to the portability database to non-LECs in the absence of the corresponding obligations on the part of LECs, would alter the terms of the framework established for local competition in Decision 97-8, in a manner which was contrary to the public interest.

206. In a letter dated 8 April 1999, the Commission approved *CISC Consensus on Adherence by Resellers to LEC Obligations relating to 9-1-1, Message Relay Service (MRS) and Number Retention,* which required resellers to release telephone numbers for porting where customers moved to other service providers.

Positions of parties

207. Yak requested that the Commission clarify that local VoIP service resellers would be permitted to obtain numbers directly from the Canadian Numbering Administrator (CNA), submitting that obtaining numbers from LECs was expensive. It submitted that numbers were a valuable national resource and that there was no reason to prevent legitimate operators from gaining access to the numbers they needed in order to conduct their business.

208. Cybersurf submitted that access to numbering resources and to LNP must be made available to VoIP service providers.

209. TELUS submitted that making central office codes available to any IP-based service providers not subject to the regulatory constraints that apply to LECs and wireless service providers would create numbering inefficiencies, leading to premature area code exhaust and the early exhaust of the current NANP.

210. FCI Broadband submitted that all VoIP service providers should be required to provide LNP and that the current rules regarding access to numbers should continue to apply.

211. The CCTP, AT&T, MCI Canada, and the Consumer Groups submitted that all VoIP service providers should have direct access to telephone numbers from the CNA. AT&T argued that the ability to obtain the numbering resource directly would provide flexibility to service providers and constraints, if necessary, on the conduct by LECs providing the resource. MCI Canada and the Consumer Groups also submitted that all VoIP service providers should have to provide LNP.

212. The Companies, the CCTA, Rogers, Cogeco, MTS Allstream, Microcell, Primus, QMI, TELUS, UTC, and Xit submitted that the existing framework regarding direct access to numbers and requirement to provide LNP should continue to apply.

Commission's analysis and determinations

213. In Decision 97-8, the Commission accorded certain rights, along with accompanying obligations, to LECs. Included among the obligations was the requirement that all LECs implement LNP. The Commission considers that this ruling applies to LECs providing local VoIP services.

214. Included in the rights accorded in Decision 97-8 to CLECs, but not to resellers, was the right to directly access NANP numbers from the CNA, as well as the LNP database. Local VoIP resellers, like resellers of circuit-switched services, are able to obtain numbers and number portability from any number of LECs in the marketplace, and are not unduly constrained by the lack of direct access to either. Given the Commission's determination that local VoIP services should be regulated as local exchange services, the Commission considers that the existing rules should apply equally to VoIP service resellers.

Directory listings

Background

215. In Decision 97-8, the Commission determined that there should be at least one complete directory made available in each local calling area, so that any user of the local network is able to obtain the information needed to use the local network. ILECs are therefore required to provide complete directory listings to each subscriber. CLECs are required to provide the telephone numbers of their subscribers to the ILECs for that purpose. However, there is no such requirement for resellers, who must pay tariffed rates for the inclusion of the telephone numbers of their subscribers in the local telephone directory.

Positions of parties

216. The Companies argued that directory listings should be driven by customer demand. They submitted that for Category 2 VoIP services particularly where the customer's 10-digit telephone number did not correspond to the customer's location, it may be difficult to determine which directory constitutes the customer's local directory. TELUS expressed a similar view, highlighting that access-independent services were nomadic and not geographically based.

217. The Companies also contended that if a service provider did not know what telephone numbers particular subscribers had from one day to the next, it would become difficult to prepare a directory with phone numbers linked to those persons and their addresses.

218. Call-Net stated that while the ability to change a telephone number easily might be a feature of VoIP, it was not clear why anyone would want to do so, because it would then become more difficult for anyone to call that person.

219. Yak submitted that CISC was the appropriate body to deal with directory issues.

220. FCI Broadband stated that directory listings constituted a fundamental dimension to telephone service in Canada and that this would not change with the displacement of circuit-switching by packet-switching. FCI Broadband further stated that although resellers that provided circuit-switched telephony were not currently subject to any directory listing requirements, this was a clear example of a requirement that should be imposed on local VoIP service providers in the public interest, and that to determine otherwise would be to risk serious erosion in the usefulness of the directory. Xit also submitted that the current obligations with respect to directory listings should be maintained.

Commission's analysis and determinations

221. With respect to the Companies' submission that directory listings would be difficult to prepare if customers changed telephone numbers from one day to the next, the Commission notes that customers can change their numbers with circuit-switched local exchange service, and considers that VoIP does not raise any new concern in this respect.

222. With respect to TELUS' and the Companies' comments that access-independent services are nomadic and not geographically based, the Commission considers that phone numbers are in fact geographically based and associated with particular local calling areas. The Commission considers that directory listings are beneficial to customers whether or not they are using the nomadic feature of VoIP services, since it assists others to call them regardless of their location.

223. Given the Commission's determination that local VoIP services should be regulated as local exchange services, the Commission considers that the same reasons for requiring ILECs to provide a comprehensive directory of local telephone numbers in each local calling area, and for requiring CLECs to provide their local listings to ILECs for that purpose, apply in the case of local VoIP services. The Commission does not consider that there is anything specific to local VoIP services that would justify modifying the existing rules for ILECs and CLECs, nor does it consider that there is anything specific to local VoIP services to justify imposing new obligations, either on local VoIP resellers or on ILECs, with respect to local VoIP service providers' directory listings.

224. Regarding directory listings for local VoIP services, there was a question as to which directory would carry a listing when a local VoIP service customer has a telephone number in an exchange that is different from the one in which his or her service address is located. Consistent with what the Commission regards as the main reason that a customer selects such a telephone number, the Commission considers that the number should be included in the directory of the local calling area where the customer can be reached, and can reach other listed numbers, as a local call.

225. Accordingly, the Commission determines that existing directory listings requirements for ILECs, CLECs and resellers will also apply when they provide local VoIP services. Directory listings should appear in the local directory where calls to and/or from that number are local calls, regardless of the geographic location of the customer's service address.

Equal access

Background

226. In Decision 92-12, the Commission introduced competition in public long distance voice telephone services and required ILECs to provide equal access to interexchange carriers (IXCs). This allowed telephone subscribers to determine which IXC they wished to use for their long distance calls when they dialled 1+. In Decision 97-8, the Commission required CLECs to provide equal access to all IXCs, at terms and conditions equivalent to the terms and conditions contained in the ILECs' tariffs. This obligation did not extend to resellers.

227. In Telecom Order CRTC 99-379, 29 April 1999 (Order 99-379), the Commission rejected a request to extend the equal access obligation to resellers. The Commission stated that, in light of the fact that local service resellers have none of the rights of CLECs pursuant to Decision 97-8, it would be inappropriate to impose on such resellers such a fundamental LEC obligation as equal access.

Positions of parties

228. The CCTA, Cogeco, MTS Allstream, Microcell, Primus, Rogers, and UTC submitted that the existing requirements for equal access should apply to local VoIP service providers. Call-Net noted that its VoIP service offering, which provides an equal access capability for long distance, incurred no significant additional costs compared to providing equal access over its regular CLEC service.

229. Call-Net noted that, through contractual arrangements, resellers were obtaining the rights of CLECs in respect of access to LNP, bill and keep interconnection arrangements and unbundled local loops used to provide DSL access services. Call-Net stated that in an environment in which resellers of VoIP services can offer the full functionality of a LEC to their customers, they should be required to assume the CLEC obligations, most notably equal access. Call-Net submitted that the Commission's rationale in Order 99-379 no longer applied in the new VoIP environment, since resellers now appeared able to contract most of the rights previously thought to be only available to CLECs.

230. The Companies noted that equal access was established to provide PES customers a choice of long distance service providers at a time when local exchange service was provided by the ILECs on a monopoly basis. The Companies argued that equal access was unnecessary since VoIP customers dissatisfied with their long distance services had the ability to choose another VoIP service provider. TELUS expressed similar views. Comwave also submitted that VoIP service providers should not be required to provide equal access.

231. The Companies noted that the systems of existing long distance service providers were designed to operate in conjunction with circuit-switched LEC networks; these systems would need to be supplemented in order to support equal access for VoIP services. They questioned whether any long distance provider would be willing to implement such changes, given the current flat-rate pricing structure of VoIP services. The Companies further submitted that providing equal access to VoIP customers would present an extremely costly and complex challenge and the Companies expected there would be no demand for equal access from VoIP customers. The Companies noted that in *General Tariff approved on an interim basis with modifications for Microcell Connexions Inc.*, Order CRTC 2000-831, 8 September 2000, the Commission relieved the ILECs of their obligation to interconnect their IX networks with that of a wireless CLEC, based on technical difficulties and costs associated with implementing equal access.

232. Yak stated that Canadians want access to alternative long distance suppliers, and argued that the wireless experience had shown that the absence of equal access leads to higher long distance charges. It further submitted that if customers perceived that taking VoIP service would restrict their choice of long distance provider, and thus increase the cost of long distance calling, they would be less likely to switch to VoIP service.

233. Yak urged the Commission to continue its equal access rules and to extend them to resellers, arguing that the technical and logistical issues were not sufficiently burdensome to outweigh the undeniable benefits of equal access. Yak suggested that the issues could be submitted to CISC for consideration and recommendation. FCI Broadband submitted that all VoIP service

providers, including resellers, should be obliged to provide equal access. In addition, MCI Canada stated that resellers should be required to provide equal access to the extent that they were capable.

234. Vonage did not believe it necessary to allow its VoIP customers to choose their IXC, noting that customers wishing to have separate providers for local and toll services could choose to subscribe to traditional telephone service, or access other communications services through calling cards.

235. Nortel stated that from a technology perspective, there was no reason why the LECs could not provide equal access, as long as the call came into a switching system that was integrated into the PSTN. However, Nortel submitted that VoIP would present some unique regulatory challenges because of its inherently non-location specific nature which made it impossible to distinguish between local, long distance and international services. Nortel's research indicated that less than 5% of broadband households would pay for a broadband phone service that did not include long distance or any additional next-generation services.

236. TELUS submitted that a requirement for equal access would simply not make sense in the VoIP environment, if it were even possible to implement. TELUS noted that there was often no distinction between local and long distance calling using access-independent VoIP services.

Commission's analysis and determinations

237. In Decision 94-19, the Commission was of the view that open access was essential to creating a ubiquitous public infrastructure, a network of networks to meet the evolving communications needs of Canadians.

238. The Commission notes that the equal access obligation originally applied to ILECs in order to ensure that competitive IXCs would be able to provide services to their customers on the same footing as the incumbent IXCs. The Commission notes further that the equal access obligation was extended to CLECs, pursuant to Decision 97-8, to prevent limiting competition through exclusive agreements between CLECs and IXCs. More specifically, the Commission considered it necessary, in Decision 97-8, to impose equal access obligations on CLECs so that CLECs would not confer any undue or unreasonable preference with respect to access to their networks on any person, including IXCs.

239. In the Commission's view, undue preference to oneself and unjust discrimination against competitive IX service providers remains a concern, and arises regardless of the underlying technology being used to provide the local service. The Commission considers that access by IXCs to end-users remains an important objective.

240. The Commission disagrees with Call-Net that the rationale for Order 99-379 does not apply in the new VoIP environment. The Commission considers that the issues concerning the ability of resellers to engage in contractual arrangements with CLECs are no different now than they were at the time that local competition was first permitted.

241. While the Companies submitted that the implementation of equal access for VoIP services would be extremely costly and complex, they did not provide evidence to support this claim. In contrast, Call-Net noted that there were no significant additional costs in providing equal access with its VoIP product.

242. A number of parties to this proceeding submitted that equal access should not be required in a VoIP environment, arguing that a dissatisfied VoIP customer could choose from another VoIP provider, or could subscribe to a circuit-switched offering, in order to obtain more satisfactory service. The Commission considers that maintaining the equal access obligation on LECs providing VoIP service is consistent with the principle of technological neutrality. In the Commission's view, it would be inappropriate to relieve LECs offering local VoIP service from providing equal access when their circuit-switched competitors are subject to the obligation. Indeed, as ILECs are migrating their circuit-switched networks to IP, to relieve them of their equal access obligation with respect to local VoIP services, would allow them ultimately to abandon the obligation entirely. The Commission considers that the possibility of a LEC conferring undue or unreasonable preference with respect to access to its networks continues to be a valid concern and further considers that consumers should continue to have options by being able to select IXCs, when selecting VoIP service from a LEC. Accordingly, the Commission determines that the existing equal access obligation will apply to LECs providing VoIP services.

Winback rules

Background

243. In a Letter Decision entitled *Commission Decision regarding CRTC Interconnection Steering Committee dispute in competitive winback guidelines* issued on 16 April 1998, the Commission stated that it was of the view that asymmetrical winback guidelines for ILECs would help protect consumers and ensure effective competitive entry.

244. In that Letter Decision, the Commission directed that an ILEC was not to contact a customer in an attempt to win back that customer for a period of three months after that customer's local exchange service had been completely transferred to another local service provider. The one exception to that prohibition was that ILECs were allowed to win back customers who called to advise them that they intended to change local service providers. The Commission noted that it considered that such occurrences would be the exception rather than the rule, since CLECs generally dealt with ILECs on behalf of customers.

245. In *Application of the winback rules with respect to primary exchange service*, Telecom Decision CRTC 2002-1, 10 January 2002 (Decision 2002-1), the Commission amended the winback rules, to read as follows:

> …an ILEC is not to attempt to win back a business customer with respect to primary exchange service, and in the case of a residential customer, with respect to primary exchange or any other service, for a period of three months after that customer's primary local exchange service has been

completely transferred to another local service provider, with one exception: ILECs should be allowed to win back customers who call to advise them that they intend to change local service provider.

246. The Commission noted that ILECs would not be prohibited from attempting to win back customers who had switched services other than residential PES, and that ILECs would continue to be free to market their residential PES and other services through various other means such as radio, print and television.

247. In *Call-Net Enterprises Inc. v. Bell Canada – Compliance with winback rules*, Telecom Decision CRTC 2002-73, 4 December 2002, the Commission reiterated that it considered that the winback rules applied from the time that an ILEC received a local service request until three months after the customer had been completely transferred to another local service provider. The Commission noted that the prohibited winback activities did not commence only once a customer's service had been transferred, but also related to activities aimed at convincing customers to change service providers before the transfer had been effected.

248. In *Call-Net Part VII Application – Promotion of local residential competition*, Telecom Decision CRTC 2004-4, 27 January 2004 (Decision 2004-4), the Commission determined that it was appropriate to extend the no-contact period from three to twelve months, noting that it would allow CLECs a reasonable opportunity to demonstrate the quality and reliability of their services and that it should have minimal impact upon the marketing ability of the ILECs.

Positions of parties

249. Several parties submitted that winback rules should be implemented to prevent ILECs from targeting local services customers that switch to a new VoIP service provider. Ontera stated that winback rules should apply unless, at some point in the future, competition had taken hold to such an extent that a reasonable case could be made that they were no longer required. FCI Broadband stated that the winback rules, as they are currently formulated, should apply to ILECs and cable carriers when using their own access facilities.

250. The Companies submitted that it was not necessary or appropriate for the Commission to impose winback restrictions on ILECs and cable carriers or any other service providers providing broadband access because VoIP services were applications provided in a competitive environment. TELUS argued that VoIP and retail IS were subject to a high degree of competition and also noted that a retail IS provider that was also a VoIP service provider might have no way of knowing where its former VoIP service customers took their business, nor how to contact them, for the purposes of trying to win them back.

251. SaskTel submitted that restrictions on winback activity would greatly restrict its ability to market its VoIP service effectively.

252. The CCTP stated that it did not consider it appropriate to apply winback rules to VoIP services, as they were, in its view, a type of Internet application that was not a replacement for PES.

253. Rogers did not believe that winback rules would be possible, as there was no need for the customer or the service provider to contact Rogers in the event that the customer was using a broadband connection to obtain Internet telephony. Rogers also suggested that the Commission had only imposed winback rules against incumbents to date and since cable carriers were new entrants in the telephone market, it made no sense to impose telephone winback rules on them.

Commission's analysis and determinations

254. The Commission has considered winback rules to be necessary and appropriate to prevent anti-competitive behaviour. In Decision 2004-4, the Commission stated that although winback activity could be a feature of mature competitive markets, the local services market was far from being a mature competitive market. The Commission considers that the same concerns regarding the potential for anti-competitive conduct by ILECs arise in the case of winning back local VoIP customers. The Commission considers that, absent the winback rules, the ILECs could use the same incumbency advantages to win back local VoIP customers as they could use to win back PES customers.

255. For example, the Commission considers that since most local VoIP customers will be former ILEC PES customers, the ILECs will have knowledge of the customers' telecommunications needs, preferences and calling patterns. Winback rules will prevent ILECs from attempting to win back former PES or local VoIP service customers before they have sufficient experience with a competitor's VoIP service in order to be in a position to evaluate the service fairly. The Commission considers that winback rules allow competitive VoIP service providers an appropriate period of time to demonstrate the reliability and quality of their services, before the ILEC can attempt to regain the customer.

256. Some parties submitted that winback rules should apply to cable incumbents' VoIP offerings. The Commission considers that the ILECs are the dominant providers of local exchange services, and therefore considers that it is not necessary to apply winback rules for VoIP services to cable incumbents.

257. With respect to TELUS' argument that retail IS is competitive and thus no winback rules are needed for VoIP, the Commission is of the view that the fact that there is competition in the provision of retail IS does not diminish the need for winback rules for local VoIP service.

258. The Commission notes that applying winback rules to VoIP services would not mean that customers could not switch back to an ILEC if they were dissatisfied with their service. As noted in Decision 2004-4, winback rules merely prevent the ILECs from contacting customers who have decided to switch their local residential services to win them back. The winback rules do not apply where customers contact the ILEC.

259. In addition, the winback rules would not apply where customers cancel local phone service and then purchase local VoIP service from any other provider without the ILEC knowing or being involved in the changeover. The rules will only be triggered when a VoIP service provider contacts an ILEC to notify the ILEC of a change of service, which would typically occur with the initiation of a local service request.

260. Accordingly, the Commission determines that the reasons for which the winback rule for PES was established apply equally in relation to the provision by ILECs of local VoIP services. The Commission therefore extends the winback rules to apply to local VoIP service as follows:

> …an ILEC is not to attempt to win back a business customer with respect to primary exchange service or local VoIP service, and in the case of a residential customer of local exchange service (i.e. PES or local VoIP service), with respect to any service, for a period commencing at the time of the local service request and terminating 12 months after that customer's primary local exchange service or local VoIP service has been completely transferred to another local service provider, with one exception: ILECs should be allowed to win back customers who call to advise them that they intend to change local service provider.

Access for the disabled

Positions of parties

261. ARCH submitted that it would be a breach of the Charter, subsection 27(2) of the Act, and section 5 of the *Canadian Human Rights Act* to offer VoIP technology to the public in a manner which fails to accommodate the needs of persons with disabilities.

262. ARCH submitted that the Commission should require carriers to include a number of specific features on telephones in order to provide accessibility for persons with disabilities. ARCH also submitted that since a person who was blind could not see or feel the virtual keypad, it was essential that softphones provided alternative interface mechanisms, as well as instructions on their use. ARCH further submitted that it was important that the software used in softphones be compatible with screen-reading software.

263. BCOAPO et al. submitted that standards for access by persons with disabilities were not issues to be parked for future consideration. In BCOAPO et al.'s view, it might be more efficient to build such standards into VoIP services from the outset than to retrofit an established system at a later point; more significantly, accessibility ought not to be regarded as an afterthought. They argued that the Commission should establish a deadline for full implementation of an appropriate set of accessibility standards.

264. The Consumer Groups, Yukon, UTC and CEP submitted that VoIP service providers should be required to accommodate disabled consumers as did other telecommunications providers offering voice and related services.

265. The Companies, TELUS and Vonage each submitted that Commission regulation was not required in order for users with special needs to benefit from IP technology. They argued that software and peripherals had been developed without the imposition of regulation and that regulatory intervention would more likely result in one-size-fits-all solutions, which would deny users the benefits of choice and stifle innovation. In their view, the Commission should rely to the greatest extent possible on market forces to promote accessibility to VoIP services by users with special needs.

266. Yak submitted that the unique nature of VoIP services demanded specific regulatory treatment and that it might not be possible or practical to meet some of the current regulatory requirements. In Yak's view, the Commission should not insist on these requirements while CISC looked for solutions. The Companies, TELUS, MTS Allstream, Cybersurf, the CCTP and the CCTA agreed that CISC would be an appropriate forum to develop solutions which would permit VoIP service providers to meet their social obligations.

267. ARCH submitted that CISC should be required to establish an Accessibility Working Group which would investigate and assess the types of features which could be incorporated with VoIP services, as well as any other IP-enabled services which may be developed in the future, in order to ensure their ongoing accessibility to persons with disabilities. In ARCH's view, it would be appropriate for the Accessibility Working Group to report to the Commission on a semi-annual basis regarding any new accessibility features or any modifications to existing features for VoIP services, as well as on accessibility features for any other IP-enabled services which would warrant consideration by the Commission.

268. ARCH also submitted that it would be appropriate for the Commission to direct the Accessibility Working Group to examine accessibility issues related to VoIP and other IP-enabled services. In ARCH's view, this group could also report to the Commission on a semi-annual basis regarding VoIP technologies such as text-to-text, Video Relay Service, adjustable voice quality and multi-mode communications (involving video, audio and text) so that they could be implemented as they become available.

Commission's analysis and determinations

269. The Commission considers that the record of this proceeding is not sufficient to examine the reasonableness of ARCH's requests with respect to VoIP services. However, it views these as important issues which require further investigation.

270. The Commission considers that IP technology has great potential to provide innovative communication tools for disabled consumers. It considers that one of the greatest problems in accessibility for the disabled is a general lack of attention to their needs when new technologies and services are first being developed. The Commission also considers that VoIP service providers should address issues regarding accessibility for the disabled to IP services and ensure that applications and technologies are being developed. In the Commission's view it is more cost-effective to make these technologies, applications and services accessible early in the development process.

271. Accordingly, the Commission requests CISC to assess the accessibility needs of people with disabilities with respect to the development of VoIP technologies. The Commission requests that CISC ensure that VoIP service providers, experts in techno-accessibility, consumer groups such as ARCH, BCOAPO et al., and all other relevant parties have the opportunity to participate in these discussions.

272. The Commission also requests that CISC provide the Commission with a report, within six months, which:

- identifies the telecommunications needs of persons with disabilities;
- investigates solutions which meet these needs in the VoIP environment; and
- provides a plan for the implementation of these solutions.

Message relay service

Background

273. MRS allows hearing-impaired subscribers to communicate with others connected to the PSTN by providing operator intermediation. A hearing person who wishes to communicate with a hearing-impaired person dials a toll-free number to be connected to an operator who contacts the hearing-impaired user and relays the communication using a teletypewriter (TTY). Conversely a hearing-impaired person, with a TTY, contacts a hearing person through the relay operator by dialling 711.

274. In *British Columbia Telephone Company – voice relay service centre*, Telecom Decision CRTC 85-29, 23 December 1985 (Decision 85-29), the Commission determined that B.C. Tel should provide MRS in its operating areas. The Commission determined that since hearing-impaired subscribers paid full rates for PES, they should be provided with the same ability as any other subscriber to communicate with other subscribers. The Commission stated that this was not a question of ordering a telephone company to provide a service enhancement or discount, at its own cost, due to the disability of a particular class of customer. Rather, it was the provision by a telephone company, to rate-paying subscribers, of the means to use the telephone on a basis that attempted to provide access comparable to that of other subscribers. The Commission also considered that the cost of the service should be supported by the general body of subscribers.

275. Subsequent decisions considered that the determinations made with respect to MRS in British Columbia were applicable in all of the ILEC operating territories. Decision 97-8 extended MRS obligations to CLECs and resellers by virtue of underlying LEC obligations.

Positions of parties

276. Call-Net, Primus and QMI submitted that the technology neutral social obligations imposed on circuit-switched voice communications service providers in Decision 97-8 should apply to all providers of residential voice communications services where provisioning involved the traditional PSTN. Call-Net noted that it currently offered MRS over VoIP for hearing-impaired subscribers and that original development and implementation costs were substantial.

277. TELUS, the CCTP, Nortel, Microcell, and MTS Allstream were of the view that it should be mandatory for all VoIP service providers to provide MRS as soon as it is practicable to do so, although some parties submitted that the development of VoIP services should not be delayed or limited while MRS issues are resolved. The TWU submitted that VoIP service providers should be required to cease selling their services until their customers have these protections.

278. Cogeco and the CCTA were of the view that MRS should only become mandatory to the extent that workable and practical solutions were found in the context of the VoIP technology. In their view, the technology neutral principle did not mean that identical solutions were applicable to similar services provided by different technologies without consideration of constraints or limitations related to the particular technology used.

279. The Companies requested that the Commission determine that service providers shall not be required to provide MRS as defined in the ILECs' tariffs, but may instead provide access to services by hearing-impaired customers in accordance with minimum service standards established by the Commission. The Companies submitted that they were currently testing TTY technology for compatibility with IP phones. They stated that if these tests were successful they would open up the existing MRS to consumer VoIP subscribers. The Companies also noted that the marketplace was currently providing functionally superior IP-based alternatives to mandated services such as MRS. They noted that there were sophisticated text-to-voice and voice-to-text applications which showed promise in providing access to disabled consumers. In the Companies' view, requiring VoIP service providers to offer MRS as it was currently offered by LECs may only hamper the development and roll-out of superior IP-based alternatives.

280. TELUS submitted that it would seek to meet or exceed PES-related standards related to MRS when it entered the access-independent VoIP services world.

281. ARCH submitted that all service providers offering services that use VoIP technology must provide MRS from the outset. ARCH submitted that, at present, there was a problem with the transformation of a TTY signal into a VoIP signal, in that an excessive number of packets were lost, resulting in garbling of the TTY message. In ARCH's view, the key point was that service providers be given the proper incentive to resolve this technical issue in an expedited manner.

282. The Consumer Groups noted that while the promise of enhanced access facilities for disabled users was a positive thing, some disabled users might be slow to adopt new technologies for telephone access. In their view, any promised increased functionality with VoIP for those with disabilities should overlap with a requirement to provide traditional access technologies, such as TTY and MRS, until they have been proven reliable and are generally accepted.

283. Vonage submitted that one of the benefits of the open architecture of IP technology was that it allowed participants other than service providers, who had expertise in programming software for the disabled, to create solutions which might be superior to those which are currently mandated.

Commission's analysis and determinations

284. Since Decision 85-29, the Commission has consistently determined that hearing-impaired subscribers must have access to a telephone service that is comparable to the telephone service provided to hearing-abled subscribers. Further, the Commission has determined that this obligation is met by the provision of MRS to hearing-impaired subscribers.

285. The Commission considers that the requirement to provide hearing-impaired subscribers telephone services that meet their needs applies regardless of the technology being used to provide the service.

286. The Commission notes that some parties argued it would be preferable for service providers to offer hearing-impaired consumers services that were technically different from MRS but similar in function. An example is text-to-voice and voice-to-text technology that would perform the same function as a voice relay system, but would be implemented in a different manner.

287. The Commission considers that these alternatives to MRS could provide the hearing-impaired with some communications choices and that it might be possible to replace traditional MRS with a service that performs the same function using different methods. However, many hearing-impaired Canadians are familiar with the current MRS system and already own equipment that is compatible with this system. The Commission therefore concludes that in the interest of these consumers, any VoIP solution must be compatible with the current MRS system and related TTY equipment and further, that any new service must provide, at a minimum, quality of service comparable to that currently provided by the MRS system.

288. However, because these alternatives are not yet fully developed and it is not yet known how well they will function or what their cost will be to consumers, the Commission considers that these alternatives cannot be considered replacements for MRS at the present time.

289. Accordingly, the Commission concludes that local VoIP service offerings must function with the existing MRS system and the related TTY equipment.

290. The Commission appreciates, however, that there may still be some technical issues which prevent MRS from being offered initially. The Commission considers that it would not be in the public interest to prevent VoIP service providers from entering the market or to require existing VoIP service providers to cease providing service until the provision of MRS is technically feasible. Rather, the Commission considers that it would be a reasonable balancing of interests involved to allow VoIP service providers to provide service and to focus on ensuring that MRS is provided as soon as it is technically feasible, allowing some time for parties to resolve technical problems. The Commission therefore requests that CISC investigate these issues, to ensure that VoIP service providers do not delay in resolving these technical problems and that industry solutions are found.

291. In light of the foregoing, the Commission concludes that existing obligations to provide MRS apply with respect to local VoIP service offerings, to the extent technically feasible. The Commission directs all LECs to provide access to MRS throughout its operating territory, to the extent technically feasible, and as a condition of providing telecommunications services to local VoIP service providers, to include in their contracts or other arrangements with the service provider, the requirement that the latter provide access to MRS throughout its operating territory.

292. In addition, the Commission requests that CISC provide a report to the Commission within three months, addressing the circumstances under which MRS can currently be provided over VoIP, any problems which prevent MRS from being provided over VoIP, possible solutions for the provision of MRS functionality over VoIP where it is not currently technically feasible and the time required for existing VoIP service providers to implement those solutions.

Privacy safeguards

Background

293. In Decision 97-8, specific regulatory requirements regarding privacy were imposed on LECs, and were subsequently extended to local service resellers. By letter dated 1 February 2000, the Commission required all LECs, as a condition of providing services to resellers of local services, to include in their service contracts with resellers of local services the requirement that such resellers provide the consumer safeguards described in a consensus report entitled *Application of Consumer Safeguards to Resellers*, filed on 2 September 1997, with the Commission.

294. The privacy safeguards that were the subject of specific comments by parties in this proceeding, and that are dealt with in this section, include the following: (1) delivery of the privacy indicator when invoked by an end-customer; (2) provision of automated universal per-call blocking of calling line identification; (3) provision of per-line call display blocking to qualified end-customers; (4) disallowance of Call Return to a blocked number; (5) enforcement of the Commission's restrictions on Automatic Dialling-Announcing Devices, Automatic Dialling Devices, and unsolicited facsimiles applicable in the ILEC territory where they operate; and (6) provision of universal Call Trace.

Positions of parties

295. Call-Net submitted that it already provides the privacy safeguards outlined in Decision 97-8 as part of its VoIP offering. In Call-Net's view, the social regulations which were imposed on circuit-switched voice communications service providers in Decision 97-8 should apply to all providers of residential voice communications where provisioning of the service involved the PSTN.

296. Several parties submitted that VoIP service providers should be subject to the same privacy standards as regulated telecommunications service providers. The TWU submitted that VoIP service providers should be required to cease selling their services until their customers have these privacy safeguards in place.

297. Several parties submitted that while there are some technical challenges associated with implementing privacy safeguards in a VoIP environment, these safeguards should be mandatory as soon as practicable. However, the Companies, Cybersurf, and Yak submitted that the deployment of VoIP services should not be delayed or limited until privacy safeguards were available. The Companies submitted that they expected that their VoIP services would meet the privacy safeguards outlined in Decision 97-8, either at launch or as soon as possible after launch, based on the availability of required underlying technologies. TELUS submitted that it would seek, to the best of its ability, to meet or exceed the PES-related standards relating to privacy protections when it entered the VoIP services world.

298. Vonage stated that while it was likely to be technically possible to deliver privacy features such as those described in Decision 97-8 via VoIP, it did not consider it wise for the Commission to require VoIP service providers to deliver such services. Vonage submitted that competitive market forces would deliver new technological solutions that would improve the level of privacy for customers, potentially beyond that which was currently available on circuit-switched systems.

299. The Consumer Groups submitted that VoIP opened new threats to consumer privacy including voicemail spam and the potential abuse of the Automatic Location Information (ALI) system required for E9-1-1, including the possibility that such information might be requisitioned under lawful access rules. They noted that voicemail boxes attached to VoIP telephones relied on IP addressing, using CNA/NANP numbers as "identifiers" or "aliases" and that each VoIP subscriber would have a discrete IP address. They stated that voicemail spam, or Spam over Information Technology (SPIT), would become more obtrusive in a VoIP system than it had been on the circuit-switched network, as spammers using IP-based software could deliver messages instantly to millions of voicemail boxes at their specific addresses. It was the Consumer Groups' position that the Commission ought to ban the delivery of unsolicited voicemail messages to VoIP subscribers and make VoIP service providers follow regulations to intercept and filter out such messages. They also submitted that there was a risk to privacy from VoIP and wireless E9-1-1, in that consumers could unwittingly broadcast their location information where it could be picked up and used as a part of covert surveillance or for location-based marketing. They submitted that the Commission should mandate that the location information generated by eventual E9-1-1 solutions for VoIP be used only for E9-1-1 purposes and not be available for secondary uses such as marketing.

300. The Companies, Cybersurf, the CCTP and TELUS agreed that CISC was the appropriate forum for addressing technical and operational issues associated with the provision of privacy safeguards.

Commission's analysis and determinations

301. The Commission considers that, in order to meet the objective set out in section 7(i) of the Act, telecommunications services must be provided in a manner that "contribute[s] to the protection of the privacy of persons." The Commission notes that, with the exception of Vonage, all parties were in favour of requiring VoIP service providers to provide some privacy safeguards. In addition, several parties suggested that the privacy standards that apply to circuit-switched network service providers should apply equally to VoIP service providers.

302. The Commission notes that Vonage submitted that privacy standards should be determined by the market which, in its view, could provide privacy protections superior to those now offered on the circuit-switched network. The Commission considers that it is possible that VoIP developers may create new technologies which provide a level of privacy protection which exceeds the standards established in Decision 97-8. However, the Commission notes that there is no information on the record of this proceeding indicating that such technologies are currently available or are even under development.

303. The Commission is of the view that the market, while having great potential for innovation, offers no assurances to consumers with respect to this issue. In the Commission's view, concerns relating to the privacy of users of telecommunications services are the same, regardless of the underlying technology of the service. In the Commission's view, users of VoIP services should, at a minimum, be afforded the same level of privacy protection as is extended to users of circuit-switched services.

304. However, the Commission considers that there may be technical reasons why certain VoIP service providers may not be able to meet the requirements for privacy safeguards as of the date of this Decision. Therefore, requiring all VoIP service providers to meet the privacy safeguards immediately could mean that some may not be able to enter the market and others may be required to cease offering services. In the Commission's view, it would be a reasonable balancing of interests involved to allow VoIP service providers to provide service even if full implementation of the privacy safeguards is currently not technically feasible. The Commission considers it necessary, however, to ensure that technical solutions are developed without delay.

305. In addition, the Commission considers it appropriate that during the interim period, until all privacy safeguards are made available to end-users, VoIP services providers must obtain, prior to service commencement, the customer's express acknowledgement of any service limitations with regard to mandated privacy safeguards.

306. The Commission concludes that the existing regulatory requirements designed to protect customer privacy apply to all local VoIP service providers, to the extent technically feasible. The Commission directs all LECs to comply with these requirements, to the extent feasible, and as a condition of providing telecommunications services to local VoIP service providers, to include in their contracts or other arrangements with the service provider, the requirement that the latter make the privacy safeguards in question available to consumers, to the extend technically feasible.

307. The Commission requests that CISC assess technical issues associated with implementing those privacy safeguards that cannot be implemented immediately, and that CISC report to the Commission within three months. CISC should identify and report on solutions for these technical issues, and provide a timeframe for the implementation of these safeguards.

308. The Commission directs all LECs, as a condition of providing local VoIP services, to obtain, prior to the commencement of service, the customer's express acknowledgement of the extent to which the privacy safeguards are not available with their local VoIP services. In addition, the Commission requires LECs, as a condition of providing telecommunications services to a local VoIP service provider, to include in their service contracts or other arrangements with these service providers the requirement that the latter obtain the customer's express acknowledgement of the extent to which privacy safeguards are not available with their local VoIP services.

309. For the purpose of fulfilling the requirement set out in the paragraph above, express acknowledgement may be taken to be given by a customer where the customer provides:

- written acknowledgement;
- oral confirmation verified by an independent third party;
- electronic confirmation through the use of a toll-free number;
- electronic confirmation via the Internet;

- oral acknowledgement, where an audio recording of the acknowledgement is retained by the carrier; or,

- acknowledgement through other methods, as long as an objective documented record of customer acknowledgement is created by the customer or by an independent third party.

310. The Commission notes that the Consumer Groups have identified several potential privacy issues, including SPIT and abuse of the 9-1-1 ALI system, which may require further attention. There is no information on the record indicating that these abuses of consumer privacy are likely to occur or even if they are technically possible. Nonetheless, the Commission considers that privacy concerns are likely to become increasingly important in an IP world. The Commission expects that such privacy issues could be presented to CISC for review and resolution on an ongoing basis.

Tariff filing requirements for in-territory local VoIP service

Background

311. In accordance with the requirements of the regulatory framework for local competition and the determinations noted above, when ILECs provide local VoIP services in their incumbent territories, they are required to adhere to their existing tariffs or to file proposed tariffs as appropriate, in conformity with applicable regulatory rules.

312. This section addresses tariff filing requirements, including the issue of the circumstances under which an ILEC is considered to be providing local VoIP services in-territory.

Positions of parties

313. TELUS submitted that there appeared to be no reliable and reasonable criteria for making an in/out-of-territory distinction. It suggested that possible criteria could include: (i) the subscriber's home address, (ii) the subscriber's billing address, (iii) the subscriber's area code and telephone number, or (iv) the location where the retail box for the service was purchased. However, in each case, TELUS saw no logical connection between the location and the provision of the service. TELUS noted that many VoIP service providers allowed customers to choose their area code from a range of exchanges in which the service provider has access to numbers. TELUS further noted that some VoIP service providers might offer telephone numbers from other countries or subscribers themselves might move and bring their VoIP service and associated number(s) with them. Ontera agreed with TELUS' position. Northwestel, the CCTP, and Cybersurf also submitted that none of the four criteria were appropriate or useful.

314. The Companies also argued that there were no reliable criteria for deciding whether a local VoIP service subscription was in- or out-of-territory. They submitted that the imposition of regulatory rules based on geographic considerations would undermine the delivery of innovations made possible by IP technology and that there was no place for the establishment of differentiated regulatory treatment based on geographic considerations. Furthermore, any attempt to do so would likely create an administrative nightmare for the Commission and the Companies themselves and would disadvantage the Companies' VoIP services customers.

315. FCI Broadband and MCI Canada submitted that all four criteria were relevant in determining whether a service was provided in-territory or not.

316. MTS Allstream submitted that the main consideration related to whether the local VoIP service provided by the ILEC to the subscriber should be considered in- or out-of-territory was the local telephone number associated with each individual VoIP service. In the company's view, the exchange associated with the area code and telephone number was where the local connectivity to the PSTN must be provided by the ILEC. MTS Allstream also suggested that the Commission's existing bundling rules would apply in cases where an ILEC bundled in-territory tariffed services and out-of-territory retail VoIP services. The company argued that an ILEC discounted out-of-territory retail VoIP services together with in-territory local exchange services (including conventional circuit-switched local telephony and/or VoIP services) would be subject to existing tariff requirements and associated regulations.

317. QMI submitted that the area code and telephone number would be the appropriate indicia because the vast majority of local telephony end-users would continue to request a telephone number associated with the locale in which they lived.

318. Alcatel also submitted that the area code and telephone number was the most reliable method for determining whether an ILEC VoIP service was being provided in-territory or out-of-territory (only where the ILEC also provided the broadband DSL line).

319. Call-Net considered that for the purposes of determining the distinction between in-territory and out-of-territory service provision, both the service address and the location of the NPA-NXX were determinative. It stated that if either the service address and/or the NPA-NXX were located within an ILEC serving territory, then the ILEC VoIP service should be considered in-territory: in this case, the service address would be the subscriber's normal place of residence.

320. The CCTA, Cogeco, Shaw, EastLink and Rogers submitted that the subscriber's billing address and telephone number would indicate in many cases where the service was being provided. In their view, another possible indicator would be the 9-1-1 subscriber location information provided to the ILEC by the subscriber.

321. BCOAPO et al. submitted that local VoIP service was in-territory if the access transmission facility which provided connectivity to the fixed or nomadic VoIP end-point was located in territory – irrespective of the end-customer making use of the VoIP end-point at any point in time. In UTC's view, the location of the customer's high-speed access facility used to access the VoIP service should be determinative of where the VoIP service was provisioned as that was the primary location where calls would be placed or received by the customer as well as the location where the access facility was located for contribution purposes.

322. Some parties submitted that the home and/or billing address could serve as the indicia. Other parties suggested that the IP address of the local VoIP service could be used.

Commission's analysis and determinations

323. The Commission notes that in Decision 97-8 an exchange was defined as the basic unit for the administration and provision of telephone service by an ILEC. The Commission further notes that the boundaries of the ILECs' exchanges have traditionally been used to determine whether an ILEC's services are in- or out-of-territory. Local VoIP services, by definition, utilize NANP-conforming telephone numbers, which include an area code and telephone number that correlate to an ILEC's exchange within a geographic area. The Commission therefore does not agree with the proposition that local VoIP service is not tied to a geographic location.

324. Some parties submitted that the determination as to whether an ILEC's local VoIP service is in- or out-of-territory should be based on the geographic location of the subscriber's home address, billing address and/or IP address, while other parties asserted that it should be based on the location of the user on a per-call basis. The Commission considers that the geographic location of the user on a per-call basis would be neither appropriate nor practical for determining whether or not local VoIP service is being offered in-territory. The Commission considers further that since a subscriber's home address, billing address or IP address may not be associated with the geographic area where local calling is available, these indicia would not be appropriate to make an in- or out-of territory distinction.

325. Instead, the Commission finds that the relevant criterion for determining whether the provision of local VoIP service is within an ILEC's traditional geographic operating territory, or outside the territory, is the area code and telephone number provided to the customer, because that telephone number indicates in which exchange local calling is available. Accordingly, where an ILEC provides a customer with a telephone number associated with an exchange within that ILEC's territory, it must do so in accordance with an approved tariff. Where an ILEC provides local VoIP service with an out-of-territory telephone number, the service would not require a tariff, unless it is provided as part of a tariffable bundle (e.g. in combination with in-territory local VoIP service).

326. With respect to local VoIP service tariff filing requirements, ILEC tariffs must be filed in accordance with all existing regulatory requirements applicable to local exchange services, including the pricing safeguards set out in *Review of price floor safeguards for retail tariffed services and related issues*, Telecom Decision CRTC 2005-27, 29 April 2005. ILECs will be permitted to offer promotions involving local VoIP service, subject to the rules set out in *Promotions of local wireline services*, Telecom Decision CRTC 2005-25, 27 April 2005,

327. The Commission notes that local VoIP tariffs will be treated in accordance with the new procedures described in Circular 2005-6. In that Circular, the Commission announced a number of recently implemented initiatives, which will help streamline the tariff filing process.

Regulation of non-dominant carriers that provide local VoIP service

Background

328. As set out above the Commission has found that local VoIP services are to be regulated as local exchange services and therefore subject to the regulatory framework established in Decision 97-8. In that Decision, the Commission set out the rights and obligations of ILECs

and CLECs, and exercised its powers to forbear, to the extent set out in that Decision, from regulation of retail telecommunications services provided by CLECs. In addition, the Commission noted that resellers providing local exchange services would meet certain of the service requirements that the Commission imposed on LECs, such as 9-1-1 and MRS, by virtue of the underlying LECs' obligations.

329. In *Forbearance – Services provided by non-dominant Canadian carriers*, Telecom Decision CRTC 95-19, 8 September 1995 (Decision 95-19), the Commission forbore, to the extent set out in that Decision, from regulating telecommunications services provided by non-dominant Canadian carriers, with the exception of (1) public switched local voice services, (2) operator services, (3) video dial tone (VDT) service provided by Canadian carriers that are also cable television undertakings, and (4) services that were the subject of the proceeding established by *Provision of Non-programming Services by Broadcast Distribution Undertakings*, Telecom Public Notice CRTC 95-22, 9 May 1995, as revised in *Provision of Non-programming Services by Broadcast Distribution Undertakings - Changes to the Proceeding*, Telecom Public Notice CRTC 95-34, 5 July 1995.

Positions of parties

330. The CCTA did not consider it necessary or appropriate to mandate that cable carriers register as CLECs and suggested that some cable carriers may consider offering local VoIP service as resellers. The CCTA further stated that the Commission should permit those cable carriers that operated as CLECs in part of their territory to fulfill the CLEC obligations only where they chose to operate as CLECs. They argued that, consistent with the Commission's findings in Telecom Order CRTC 98-1, 7 January 1998 (Order 98-1), cable carriers should not be required to fulfill CLEC obligations in areas where they did not operate as CLECs.

331. The CCTA argued that matters concerning ownership and operation of transmission facilities were relevant to a provider's entitlement to status as a Canadian carrier but were not determinative of that provider's decision to participate in the local market as a reseller or a CLEC. The CCTA argued that it was the resale of a LEC's PSTN services that made a cable carrier a reseller in the local exchange services market.

332. In the CCTA's view, Decision 97-8 did not contemplate a regime whereby a Canadian carrier engaged in resale would be obliged to assume CLEC status as a consequence of using its facilities. The CCTA argued that consistent with that regime, the Commission should continue to permit entry in the local exchange services market on a resale basis by service providers that commit to fulfilling the obligations of resellers.

333. The CCTA argued that it would be consistent with fostering increased competition to permit these service providers to operate using a resale/partnership model which could expand the benefits of competition to smaller centres, encourage the expansion of broadband IS and provide smaller cable carriers with another revenue stream that would help to offset the high costs of transport necessary to provide broadband Internet in more rural and remote areas.

334. The CCTA further stated that cable carriers were, for the most part, treated as non-dominant carriers and were forborne from regulation pursuant to Decision 95-19.

335. QMI stated that the regulatory requirements imposed on local VoIP service providers should depend on the class of service provider and the type of service being offered. Accordingly, QMI submitted that cable carriers using their own infrastructure should have the option of becoming CLECs themselves, or of becoming resellers of LEC services. Yak stated that cable companies should not be required to become CLECs in order to provide VoIP services.

336. The Consumer Groups and FCI Broadband submitted that cable carriers should be required to adhere to regulatory requirements of CLECs in all territories where they operate. The Consumer Groups argued that this blanket safeguard was required as cable carriers, like ILECs, were one of only two truly established broadband service providers. The Consumer Groups stated that since broadband is a prerequisite for many VoIP services and all of the new competitive VoIP services, the Commission must be vigilant to ensure cable carriers did not exploit the bottleneck of broadband access.

337. UTC considered that cable carriers that used their networks to provide local VoIP services should have to register as CLECs, but agreed that the regulatory treatment of cable carriers' local VoIP services should be the same as for other new entrants, since the cable carriers did not have market power in the local exchange services market.

Commission's analysis and determinations

338. The Commission notes that Decision 97-8 established a regulatory framework setting out the rights and obligations that applied to ILECs, CLECs and resellers in the provision of local exchange services. The Commission notes that the regulatory framework set out in that Decision does not contemplate the provision of local exchange services by a Canadian carrier that is operating neither as an ILEC or a CLEC.

339. With respect to the CCTA's comments that cable carriers operate as non-dominant providers subject to Decision 95-19, the Commission notes that its forbearance determinations in Decision 95-19 do not apply to the provision of public switched local voice services. Rather, the forbearance determinations contained in Decision 97-8 apply to the provision of local exchange services by new entrants. Those forbearance determinations apply only to CLECs.

340. The Commission notes that the term "reseller" has consistently been used in contradistinction to "Canadian carrier", throughout its regulatory framework. In *Exemption of resellers from regulation*, Telecom Public Notice CRTC 93-62, 4 October 1993, the Commission found that resellers are telecommunications service providers that do not own or operate their own (non-exempt) transmission facilities. The Commission therefore stated that "resellers would not be subject to the provisions of the Act applicable to Canadian carriers, including the requirement to file tariffs for prior Commission approval."

341. The Commission considers that the fact that a Canadian carrier may resell certain services and functionalities of other carriers in the provision of their local VoIP services does not transform them into resellers. All of the telecommunications services provided by a Canadian carrier are subject to the provisions of the Act, including the obligation to file tariffs in the absence of an applicable forbearance order.

342. In light of the foregoing, the Commission does not accept the argument made by cable carriers that they can choose whether or not to become CLECs when they provide local exchange services in Canada. The Commission notes that cable carriers are only required to fulfill CLEC obligations in areas where they provide local exchange service. With respect to the CCTA's argument regarding Order 98-1, the Commission notes that its determinations in that Order focused on the issue of service requirements of wireless service providers. The Commission considers that this Order does not constitute a precedent for the cable carriers in this situation. The Commission considers that cable carriers, like all CLECs, can define their own local serving areas and are only required to fulfill CLEC obligations in areas where they provide local exchange service.

343. With respect to the CCTA's argument that it would be consistent with fostering increased competition to permit cable carriers to operate using a resale partnership model, the Commission notes that the regulatory framework set out in Decision 97-8 does not preclude CLECs from relying on the facilities of third parties to provide services and to meet their obligations pursuant to that Decision. For example, in *Transiting and points of interconnection*, Telecom Order CRTC 98-486, 19 May 1998, the Commission accepted the argument that the facilities of a third party can be considered as being the CLEC's designated facility for the purposes of meeting certain obligations in Decision 97-8.

344. The Commission concludes that the rights and obligations of Canadian carriers providing local exchange services are set out in Decision 97-8 and that it would not be appropriate to modify those rights and obligations in respect of the provision of local VoIP services. Accordingly, the Commission determines that, in order to provide local exchange services in Canada, non-dominant Canadian carriers must fulfill the requirements of a CLEC and conform to the entry procedures set out in Decision 97-8.

Regulation of ILECs providing local VoIP services in territories where local competition is not yet permitted

Background

345. Local competition is not yet permitted in the territories served by Northwestel and the small ILECs.

346. In *Long-distance competition and improved service for Northwestel customers*, Decision CRTC 2000-746, 30 November 2000 (Decision 2000-746), the Commission set out its determinations to improve telecommunications services in Canada's Far North, the territory served by Northwestel. However, Decision 2000-746 did not address the issue of local competition for Northwestel. Instead, the Commission determined that competition in local access services in Canada's Far North remained a matter for future consideration.

Positions of parties

347. Northwestel stated that the introduction of VoIP would likely have a significant effect on its revenue streams. It submitted that VoIP applications originating in, terminating in and transiting the North would in many cases avoid contribution to the underlying networks that these services would continue to use. The company further stated that because these services

were Internet applications in most cases, it would not incur carrier access or settlement costs. Northwestel also stated that to the extent carrier access and settlement costs could be bypassed, further market distortions and unfair distribution of the contribution burden among the contribution payers would result.

348. Northwestel also submitted that as the company had not yet entered the VoIP market, it would be appropriate to forbear from the economic regulation, of VoIP services.

349. Yukon submitted that the competitive framework for Northwestel must be adapted to the new reality of VoIP service competition. However, Yukon also noted that the existing regulatory framework had effectively shielded Northwestel's long distance revenues from the full brunt of market-based prices. Yukon further submitted that Northwestel's concern of further revenue erosion through the introduction of VoIP competition would be better addressed by making those services subject to the current framework, instead of excluding them from regulation as Northwestel had proposed.

350. Yukon also stated that it was concerned at the prospect of Northwestel offering VoIP services, especially on an unregulated basis, in competition with small independent ISPs. Yukon submitted that there must be rules developed to ensure that when VoIP competition was allowed, small operators had an equivalent opportunity to compete with the incumbent.

351. Ontera requested that the Commission specifically address the circumstances of the small ILECs by extending, in principle, those aspects of the Decision 97-8 regime necessary for the competitive roll-out of VoIP services to the territories in question. In Ontera's submission, this could be accomplished through the initiation of expedited processes, on a request basis, where any service provider, including the ILEC, indicated an intention to provide local VoIP services in the territory.

352. Ontera noted that it would likely be sufficient if the Commission made provisions for the competitive offering of Category 2 VoIP services by new entrants in the territories of small ILECs. It also submitted that, except where special considerations were present with respect to 9-1-1 services, small ILECs should be subject to the same terms and conditions as other ILECs in this proceeding.

Commission's analysis and determinations

353. The Commission notes that Northwestel requested that the Commission forbear from economic regulation of its local VoIP services. It also notes Ontera's submission that it should deal with competitive roll-out of local VoIP services by initiating an expedited process, on a request basis.

354. The Commission considers that dealing with the above requests specific to the provision of VoIP services in the local exchange services market, before addressing and evaluating the local competition framework in relation to ILECs not yet subject to local competition, would be inappropriate and would have significant future impact on the regulatory framework associated with these companies.

355. Accordingly, the Commission **denies** the above requests by Northwestel and Ontera.

356. The Commission therefore determines that Northwestel and the small ILECs are required to file, for Commission approval, proposed tariffs for any local VoIP service they wish to provide.

357. The Commission defers its determination on the regulatory framework for competition in the provision of local VoIP services in territories of ILECs not yet subject to local competition, until the issue of local competition in these territories is addressed.

IP interconnection

Background

358. In Decision 97-8, the Commission encouraged efficient, technologically neutral interconnection arrangements of competing networks to the benefit of all subscribers.

Positions of parties

359. The Companies and Northwestel submitted that, prior to being able to define applicable IP-based arrangements and to develop tariffs that would be used for IP traffic interchange, an interface standard for use in Canada should be developed. The Companies stated that this task should be undertaken at CISC. TELUS argued that IP interconnection was outside the scope of this proceeding, but agreed that CISC was the best forum for standards and practices to be collaboratively developed. The CCTA submitted that the Commission should mandate CISC to address this issue.

360. MTS Allstream stated that under the existing LEC interconnection regime, entrants were forced to convert IP traffic to TDM traffic and this would result in growing inefficiencies and potential voice service quality concerns. MTS Allstream submitted that the Commission should immediately initiate a proceeding to address the need for mandated IP-based interconnection arrangements, since the existing interconnection regime dealt solely with the exchange of circuit-switched or TDM-based traffic. The company also stated that the issue of IP interconnection should not simply be delegated to CISC, but that the Commission should be directly involved in the process and that it should establish clear timelines for its conclusion. The CCTA, Cogeco and QMI agreed that the current interconnection regime did not provide for the efficient and cost-effective solutions that an IP interconnection regime would offer new entrants.

361. MTS Allstream further submitted that the Commission should provide clear direction to CISC that such interconnection was mandatory for all incumbent carriers, including both the ILECs and the cable carriers, to the extent that these latter companies operate as "broadcast carriers." MTS Allstream also submitted that the Commission must ensure that all incumbent service providers adopt open network standards which would support the interoperability of IP-based networks and services, in order to prevent the incumbents from designing their services in a proprietary manner.

362. Call-Net submitted the Commission should mandate interconnection if the industry failed to develop the appropriate interconnection arrangements. Call-Net also submitted that various tariffed services were available for interconnection to the ILEC PSTN, including Bell Canada's tariff filing for VoIP service provider interconnection.

363. Microcell submitted that the Commission might want to establish explicit trigger criteria (e.g. related to internal ILEC deployment of VoIP equipment) at which ILECs were required to begin offering direct IP-to-IP interconnection arrangements as an option to interconnecting CLECs and resellers. Microcell also stated that the Commission should set clear policy direction and timeframes to CISC for this task to be successful.

364. Yak submitted that it was not necessary at this time to extend the LEC interconnection arrangements to non-LEC VoIP service providers. According to Yak, service providers could either implement arrangements with LECs, through which the interconnection to other LECs could be obtained or they could become CLECs directly.

Commission's analysis and determinations

365. The Commission notes that resellers offering local VoIP service obtain access to the PSTN using services from LECs.

366. Given that the ILECs and other service providers are already deploying VoIP technology and that this trend is expected to continue, the Commission considers that, for reasons including improved network efficiency, standardized IP-to-IP interconnection is an important issue that needs to be resolved as IP becomes more prevalent in the market.

367. The Commission considers that CISC is the appropriate forum to deal with IP-to-IP interconnection issues. In this regard, the Commission notes that CISC has already undertaken the task of developing IP-to-IP interconnection interface guidelines.

368. While MTS Allstream has requested that instead of delegating this issue to CISC, the Commission be directly involved in matters related to IP interconnection, the Commission is of the view that it should first review the guidelines issued by CISC and then determine any further course of action, as required.

369. Accordingly, the Commission requests CISC to file, by November 2005, IP-to-IP interconnection interface guidelines, along with a report detailing its progress as well as any outstanding issues. The Commission will determine what, if any, further course of action may be required at that time.

Contribution

Background

370. In Decision 2000-745, the Commission established a revenue-based contribution regime to subsidize residential telephone service in rural and remote parts of Canada. Under this contribution regime, all TSPs are required to report annually based upon their previous year's financial year-end. TSPs, or groups of related TSPs, with $10 million or more in Canadian telecommunications service revenues are required to contribute based upon their contribution-eligible revenues. Contribution-eligible revenues are calculated by subtracting the Commission-approved deductions, including retail Internet revenues and retail paging revenues, from the company's Canadian telecommunications service revenues.

371. With respect to the deduction for retail Internet revenues, the Commission determined that, while retail Internet and retail paging service revenues were not contribution-eligible, any revenues generated by such service providers from the provision of any other telecommunications services would be contribution-eligible. In addition, any revenue generated by another telecommunications service provider supplying underlying telecommunications facilities to retail Internet and paging service providers (for example, interconnecting circuits used by Internet and paging service providers) would be contribution-eligible.

372. As noted above, in Order 2001-220, the Commission approved the following definition for retail IS:

> Retail Internet service includes all Internet Services (IS), independent of speed and the facilities over which the services are carried. For greater certainty, retail IS includes, but is not limited to, all IS that permit the users of those services to upload and/or download information from the Internet and to use applications such as electronic mail, but it does not include Public Switched Telephone Network (PSTN) Voice services or other contribution-eligible telecommunications services, nor does it include goods or services the revenues from which fall within the definition of Canadian Non-Telecommunications Revenues.
>
> For the purposes of this definition, "PSTN Voice" services refers to "real-time" voice communication via the Internet to or from a telephone set or other equipment where the conversion for carriage on the Internet is performed at the service provider's (i.e., the ISP's) equipment as defined in Telecom Order CRTC 98-929.

Contribution-eligibility of VoIP services

Positions of parties

373. Parties generally agreed that VoIP services should be contribution-eligible. Parties also generally agreed with the Commission's preliminary view that P2P services were retail IS and should not be contribution-eligible.

374. With respect to the contribution treatment of P2P services when they were offered as part of a VoIP service, parties either proposed that the possibility of accessing the PSTN should make all calls contribution-eligible or that call-by-call analysis should be done to ensure that only calls that originated or terminated on the PSTN (i.e., not P2P calls) were contribution-eligible.

375. The CCTP was concerned that if a service capable of accessing the PSTN (i.e., a VoIP service), including 'on-net' traffic, was contribution-eligible, this would lead to widespread contribution evasion and abuse. Ontera submitted that all VoIP services should be contribution-eligible, because doing a call-by-call analysis would be onerous.

Commission's analysis and determinations

376. In Decision 2000-745, the Commission determined that retail IS revenues would not be contribution-eligible. The Commission notes that almost all parties agreed that VoIP services should be contribution-eligible. Consistent with its determinations above to the effect that VoIP is not retail IS, the Commission determines that revenues associated with VoIP services are contribution-eligible.

377. Further, all parties agreed that P2P services are retail IS and are not contribution-eligible. The Commission notes that P2P services do not connect to the PSTN and do not generally use telephone numbers that conform to the NANP. End-users make P2P calls using their computer or other terminal equipment and the call is generally treated similarly, by an ISP, as other forms of Internet traffic, such as e-mail.

378. The Commission determines that revenues associated with P2P services, as defined in this Decision, can be deducted on the retail Internet revenue line of the annual revenue report required to be filed pursuant to Decision 2000-745.

379. The Commission considers that the objective of an easily understood contribution regime contemplated in Decision 2000-745 would be undermined by requiring service providers to perform a call-by-call analysis in order to differentiate between P2P and VoIP calls. In the case of calls being handed off between service providers, all service providers involved in the call would have to take part in the analysis.

380. Accordingly, the Commission determines that if the service allows for access to and/or from the PSTN, the service is to be considered contribution-eligible, even if the customer also uses the service to make P2P calls.

Retail Internet deduction

Positions of parties

381. In their initial comments, the Companies submitted that the definition of retail IS required refinement to reflect current and, to the extent possible, future market conditions. The Companies proposed the following definition for PSTN Voice:

> 'PSTN Voice' services refers to 'real-time' voice communication via the Internet to or from a telephone set or other equipment where the conversion for carriage between the Internet and the PSTN is performed in Canada, under the direction of the VoIP service provider (changes from the current definition are underlined).

382. With respect to the proposed "in Canada" change, the Companies submitted that the change would ensure that service providers are under the Commission's jurisdiction and would make the regime more manageable. They also submitted that service providers that use Canadian telephone numbers typically use gateways and associated facilities in Canada to minimize costs, so the conversion would be done in Canada.

383. With respect to the proposed "under the direction of the VoIP service provider" change, the Companies submitted that the change would ensure that, regardless of who did the actual conversion, the VoIP service provider would be required to contribute.

384. Several parties made submissions that addressed the two proposed changes and their potential implications. Primus and Yak submitted that the Commission should consider eliminating the retail Internet deduction altogether.

385. TELUS submitted that it would be easier to replace the term "PSTN Voice" with the term "VoIP services." The CCTA and MTS Allstream shared this view, arguing that this would clarify that VoIP services are contribution-eligible.

Commission's analysis and determinations

386. The Commission considers that if the definition of PSTN Voice is based on the manner in which the service is provided, as opposed to the service being provided, TSPs could devise ways to provide their service in a different manner, to exclude them from the definition. The Commission also notes that the definition of PSTN Voice was developed prior to the use of the term VoIP services.

387. The Commission considers that, without a change to the current definition of retail Internet revenue, parties could become confused by the mixing of the old term (PSTN Voice) and the new term (VoIP services). Therefore, to avoid confusion, the Commission considers that it would be preferable to use only one term, VoIP services.

388. Modifying the definition for the retail Internet deduction to refer only to VoIP services would mean that contribution-eligibility would be based on whether the service allows for access to and/or from the PSTN and uses NANP numbering resources and would no longer refer to any requirement for conversion for carriage over the Internet. In addition, the issues of modifying the definition of PSTN Voice to specify "in Canada" and/or "under the direction of the service provider" would become moot. This would also ensure that all VoIP services provided in Canada would be contribution-eligible, regardless of whether the conversion occurred inside or outside Canada, and/or whether it occurred on the customer's premises, on the service provider's premises or on the premises of a contracted third party.

389. Accordingly, the Commission changes the retail Internet deduction definition contained in Order 2001-220 by replacing the term 'PSTN Voice' with the term 'VoIP services'. The retail Internet deduction will then read as follows:

> Retail Internet service includes all Internet Services (IS), independent of speed and the facilities over which the services are carried. For greater certainty, retail IS includes, but is not limited to, all IS that permit the users of those services to upload and/or download information from the Internet and to use applications such as electronic mail, but it does not include VoIP services or other contribution-eligible telecommunications services, nor does it include goods or services the revenues from which fall within the definition of Canadian Non-Telecommunications Revenues.

For the purposes of this definition, VoIP services are defined as voice communication services using IP that use NANP-conforming numbers and provide access to and/or from the PSTN.

Bundled services

Positions of parties

390. Comwave submitted that the cable carriers and telephone companies could bundle a low-priced VoIP service, with high-speed Internet, in order to minimize contribution payments.

Commission's analysis and determinations

391. In Attachment B to Order 2001-220, the Commission established the rules for treating a bundle of contribution-eligible and non-contribution-eligible services.

392. The Commission considers that Order 2001-220 covers a bundle containing a VoIP service with a high-speed IS, and that no change to the rules is required.

Eligibility of VoIP services to receive subsidy from National Contribution Fund

Background

393. In Decision 97-8, the Commission determined that all LECs would be entitled to receive a contribution, or subsidy, based upon the number of residential network access service (NAS) served in each ILEC band.

394. In Decision 2000-745, the Commission determined that subsidy would be specific to residential NAS in the high-cost bands and that the subsidy amount would be paid on a subsidy per residential NAS basis, effective 1 January 2002.

395. In *Restructured bands, revised loop rates and related issues*, Decision CRTC 2001-238, 27 April 2001, as amended by Decision CRTC 2001-238-1, dated 28 May 2001 and Decision CRTC 2001-238-2, dated 7 August 2001 (Decision 2001-238), the Commission determined, that:

- the residential PES costs used to calculate the subsidy requirement were appropriate to ensure that the national subsidy fund would operate in a manner consistent with the objectives of the Act; and

- subsidies would not be extended to single-line business service provided in high-cost service areas.

Positions of parties

396. Parties generally agreed that the rules for eligibility established in Decision 97-8 should be followed for the provision of local VoIP services. In addition, most parties supported local VoIP service providers being eligible to receive subsidy, from the National Contribution Fund, subject to one or more of the following conditions:

- provision of the underlying access;
- compliance with Decision 97-8 rules for local competition; and
- meeting the basic service objective.

397. Northwestel was opposed to providing subsidies to LECs providing local VoIP services; it submitted that as local competition was not allowed in its territory, the issue should be dealt with during a local competition proceeding.

398. Most parties generally agreed that the service provider must supply both the local VoIP service and the underlying access, to be eligible to receive a subsidy.

399. The CCTA submitted that those parties that argued that subsidies should not be available to service providers that did not provide the access portion of the service were taking an overly narrow interpretation of the Commission's previous determinations with respect to services eligible to receive subsidy. The CCTA also submitted that, if an access-independent VoIP service provider could successfully implement all of the necessary obligations to become a registered CLEC and provide residential local service in a subsidy-eligible band, then it would be appropriate to permit the service provider to seek a subsidy.

400. The CCTA referenced Order 98-1, and submitted that VoIP services were functionally equivalent to exchange service and, therefore, should be eligible for a subsidy.

401. FCI Broadband submitted that local VoIP service providers should not be entitled to receive a subsidy because the customer was supplying the loop, not the service provider.

402. Yak submitted that local VoIP service providers that met the basic service objective would have a strong case for access to subsidy. The Companies submitted that only local VoIP services that met the basic service objective should be eligible to receive subsidy.

Commission's analysis and determinations

403. In Order 98-1, the Commission defined the residential NAS, in respect of which a LEC is eligible to receive contribution, as the NAS used by the LEC to offer residential switched two-way local voice services in the exchanges within which it operates as a LEC.

404. The Commission notes that when a customer is provided PES using circuit-switched technology, the customer receives both access to the network and the local service. Consistent with Order 98-1, the Commission concludes that in order for a residential NAS, whether associated with PES or local VoIP service, to be eligible for subsidy, the customer must be provided with both the underlying access and the local service components.

405. In *Telephone service to high-cost serving areas*, Telecom Decision CRTC 99-16, 19 October 1999 (Decision 99-16), the Commission established the following basic service objective for LECs:

- individual line local service with touch-tone dialling, provided by a digital switch with capability to connect via low-speed data transmission to the Internet at local rates;

- enhanced calling features, including access to emergency services, Voice Message Relay service, and privacy protection features;

- access to operator and directory assistance services;

- access to the long distance network; and

- a copy of a current local telephone directory.

406. The Commission went on to note that the basic service objective was independent of the technology used to provide service.

407. In Decision 99-16, the Commission also determined that, after 1 January 2002, a subsidy would be made available to ILECs with an approved service improvement plan indicating how they would achieve the basic service objective, and CLECs would be eligible to receive a subsidy for those customers receiving a level of service which met the basic service objective.

408. Accordingly, the Commission determines that local residential VoIP service providers are eligible to receive the existing subsidy per residential NAS from the National Contribution Fund, in those circumstances in which the service provider provides both the underlying access and the local services components, and meets all of the criteria established by the Commission in Decision 97-8 and subsequent related determinations for receiving subsidy. Such criteria include, among others, the requirement that the service provider comply with all LEC obligations and that it meet or exceed the basic service objective.

Amount of subsidy to be paid from the National Contribution Fund

Background

409. In Decision 2000-745, the Commission determined the components of each ILEC's subsidy per residential NAS calculations. In *Regulatory framework for second price cap period*, Telecom Decision CRTC 2002-34, 30 May 2002, the Commission determined that the large ILECs would be required to file annual subsidy calculations. The Commission established a similar process for Télébec and the former TELUS Communications (Québec) Inc. (TCQ) in *Implementation of price regulation for Télébec and TELUS Québec*, Telecom Decision CRTC 2002-43, 31 July 2002, although the subsidy per residential NAS approval process only began in 2005, after the release of *Implementation of competition in the local exchange and local payphone markets in the territories of Société en commandite Télébec and the former TELUS Communications (Québec) Inc.*, Telecom Decision CRTC 2005-4, 31 January 2005 (Decision 2005-4).

Commission's analysis and determinations

410. The Commission notes that the same per residential NAS per ILEC band subsidy is paid to all LECs that provide service to residential customers in that ILEC band in high-cost serving areas, regardless of their individual revenue/cost structure and the technology used to provide their service.

411. To the extent that a LEC can increase its revenues or reduce its costs, the LEC is allowed to retain the benefits of its efforts. While the introduction of IP technology in the provision of residential PES may result in a different cost structure from the existing circuit-switched technology, the Commission does not consider that this justifies departing from the existing subsidy calculation process.

412. Accordingly, the Commission determines that the existing subsidy per residential NAS amounts are to be paid to a LEC providing residential local VoIP services in high-cost areas, as long as the LEC meets all of the conditions required to receive subsidy, including provision of both the access and service components, meeting the requirements of Decision 97-8 and subsequent related determinations and providing a service which meets or exceeds the basic service objective.

Access

413. A number of parties made the following requests, submitting that they were necessary to facilitate competitive entry for VoIP services providers:

- removal of the restriction in Third-Party Internet Access (TPIA) service offered by the incumbent cable carriers, which prohibits the use of TPIA service for the provision of IP-based telephony service;

- removal of the restriction on the use of unbundled loops/co-location for the provision of switched local voice services by DSLSPs that are not CLECs; and

- imposition of a VoIP access condition on broadband services provided by ILECs and cable carriers.

414. The Commission addresses these specific requests by the parties in the following sections of this Decision.

Removal of VoIP restriction on third-party Internet access

Background

415. In *Terms and rates approved for large cable carriers' higher speed access service,* Order CRTC 2000-789, 21 August 2000 (Order 2000-789), the Commission approved terms and rates for the provision of higher-speed access services to ISPs by the cable carriers. In that Order, the Commission also confirmed that *Regulation under the Telecommunications Act of certain telecommunications services offered by "broadcast carriers",* Telecom Decision CRTC 98-9,

9 July 1998 (Decision 98-9) and *Regulation under the Telecommunications Act of cable carriers' access services*, Telecom Decision CRTC 99-8, 6 July 1999, required a cable carrier to make higher-speed access service available to ISPs to permit them to offer high-speed retail IS. For this purpose, the Commission stated that high-speed retail IS did not include IP-based voice telephony service, multi-casting, virtual private networks or local area networks.

416. In Decision 98-9, the Commission determined that it would approve the rates and terms under which incumbent cable carriers provided higher-speed access to their telecommunications facilities to competitive providers of retail IS. The proceeding associated with Decision 98-9 excluded from consideration issues related to local telecommunications services, including local public switched voice services.

417. In Order 2000-789, the Commission stated that the terms on which access is provided to ISPs and on which the cable carrier uses its facilities to provide its own high-speed retail IS must not result in a preference or discrimination that is contrary to subsection 27(2) of the Act.

Positions of parties

418. Several parties opposed the removal of the existing TPIA restriction. The CCTA argued that removal would force the cable carriers to provide mandated access for the provision of voice services, contrary to the Commission's policy framework established in Decision 97-8 and confirmed in its rulings regarding TPIA service. The CCTA submitted that this could result in demands on cable carriers to support an access-dependent or managed telephony service. According to the CCTA, this requirement was beyond the intent and purpose of the TPIA service. The CCTA also submitted that mandating cable carriers to provide access to their facilities would have the effect of stifling the development of facilities-based competition.

419. The CCTA further argued that the TPIA restriction may not limit the ability of TPIA customers to offer their end-users access-independent VoIP service, which allows voice calls to be transmitted over the public Internet, since the VoIP service was independent of the access obtained under the TPIA tariff. The CCTA also submitted that the lack of access to cable facilities did not represent a barrier to entry, as a number of VoIP service providers including Primus, Vonage, and Navigata, had launched VoIP services in a number of markets without mandated access to cable carriers' facilities. QMI, Cogeco, EastLink, Rogers, and Shaw adopted similar positions.

420. TELUS strongly opposed the removal of the restriction on the TPIA tariff if it resulted in ISPs being permitted to provide local voice services over unbundled facilities on an access-dependent basis. TELUS submitted that the existing participants in the Canadian telecommunications market had made significant investments in the industry and the removal of the TPIA restriction would amount to a repudiation of the Commission's local competition model which was designed to promote self-sustaining, facilities-based competition. However, TELUS also stated that it would be inequitable and unfair to prevent ISPs from offering an access-independent VoIP service, like the many other service providers today who are offering those same services over the high-speed IS of ISPs.

421. A number of parties supported the removal of the existing TPIA restriction. These parties generally submitted that the current TPIA restriction was an anti-competitive practice that would impede emerging VoIP competition. The Companies submitted that a prohibition on the use of the cable carriers' TPIA service to provide VoIP services would be an obstacle to the development of VoIP services that utilized cable carriers' underlying facilities. MTS Allstream expressed similar views.

422. Call-Net submitted that in the proceeding leading to Order 2000-789, the Commission was dealing with the narrow issue of mandatory third-party ISP access to the cable carriers' infrastructure to provide competitive retail high-speed Internet access service. Call-Net did not interpret the TPIA restriction as permitting cable carriers to prevent or otherwise restrict or disadvantage VoIP service providers from serving their high-speed Internet customers with VoIP service and stated that the Commission might wish to confirm this understanding.

423. Primus submitted that the prohibition on the provision of VoIP services via the cable carriers' TPIA services was a key obstacle currently facing competitors. Primus noted that while its TalkBroadband customers were able to use the service on any high-speed IS connection, competitors were currently not permitted to use the cable carriers' networks via the TPIA service to provide their own bundle of high-speed Internet and VoIP services. Primus also submitted that the cable carriers should not be permitted to enter the local telephony market unless or until this restriction was eliminated from the agreements/tariffs.

424. Cybersurf submitted that there was no public interest in preventing an ISP or other competitor dependent on underlying services obtained from a cable carrier from using those services to provide access-independent VoIP services, when other parties that were not dependent on the cable carrier could access the network of the cable carrier for that purpose without the party's consent.

Commission's analysis and determinations

425. The Commission notes that parties were in general agreement that ISPs that use TPIA to provide their Internet access service should be permitted to offer their customers access-independent VoIP services. While the CCTA submitted that the TPIA restriction may not prohibit ISPs who use TPIA to provide their Internet access service from also offering VoIP services on an access-independent basis, the Commission considers that the wording of the restriction is not clear, and could be interpreted as restricting this type of service offering.

426. Further, while the Commission notes the CCTA's submission that the removal of the existing restriction could result in demands on cable carriers to support an access-dependent or managed telephony service, the Commission does not consider that removal of the restriction would have such a result. In the Commission's view, removing the restriction would ensure that TPIA customers are not prevented from offering VoIP service bundles to their customers merely because they use TPIA to provide Internet access services. This would enhance competitive equity and reduce the likelihood of cable carriers' TPIA customers wishing to offer VoIP services to their customers from being subject to an undue competitive disadvantage, compared with other VoIP service providers. By promoting competition, it would thereby encourage further innovation by service providers and increase choice for consumers.

427. With regard to the CCTA's and TELUS' submission that removing the restriction would undermine facilities-based competition, the Commission considers that allowing service providers to offer voice services over cable would further facilitate competition in the local exchange services market. In this respect, the Commission notes that in Decision 97-8, it expressed the view that resale of telecommunication services could promote the development of a competitive market while allowing competitors time to construct their own facilities. The Commission considers that allowing ISPs to use the services in question to provide voice services would also allow these service providers to establish a customer base, which in turn would make it viable for them to gradually invest in related equipment, consistent with the Commission's objectives.

428. The Commission notes TELUS' position that the restriction should be retained in order to prevent the offering of VoIP service on an access-dependent basis, but that it should not prevent the provisioning of VoIP service over cable facilities on an access-independent basis. In the Commission's view, however, not only would any such restriction be difficult to enforce, but forcing local VoIP service providers who are TPIA customers to offer access-independent services only would constitute an artificial and inappropriate constraint in the market.

429. Accordingly, the Commission determines that the TPIA restriction should be removed, and directs Rogers, Vidéotron ltée, Shaw and Cogeco to issue, within 20 days of this Decision, revised TPIA tariffs to remove the existing restriction in order to allow TPIA customers to provide VoIP services, in addition to retail IS.

Removal of VoIP restrictions on DSLSPs

Background

430. In *Digital subscriber line service providers' access approved for unbundled loops and co-location*, Order CRTC 2000-983, 27 October 2000 (Order 2000-983), the Commission determined that DSLSPs that are not CLECs should have access to ILEC tariffs for unbundled loops and connecting links and for co-location, provided they do not use these services to provide switched local voice services. The Commission also directed all ILECs, and any CLECs providing such services to DSLSPs, to ensure that DSLSPs did not use them for the provision of switched local voice services.

Positions of parties

431. A number of parties requested that the Commission continue to require the ILECs to provide co-location services and access to unbundled loops to DSLSPs, but without any restrictions relating to the provision of local VoIP services over the same loops. Certain parties also submitted that this restriction should be removed only if the DSLSPs complied with the obligations imposed upon CLECs.

432. The Companies and Bell West submitted that VoIP service offerings were not switched local voice services, but rather IS provided in a competitive environment and, in their submission, therefore the above restriction did not apply to VoIP service providers, and thus there was no reason to modify or remove it.

433. TELUS strongly opposed DSLSPs being permitted to provide local voice services over unbundled facilities on an access-dependent basis. In TELUS' view, removing the restriction would severely undermine the Commission's local competition model which was designed to promote self-sustaining, facilities-based competition. However, TELUS submitted that the Commission should make the restrictions symmetrical as between TPIA services taken by ISPs and the unbundled loop and co-location service provided to DSLSPs. According to TELUS, the restriction should relate to the provision of voice telephony services that are either circuit-switched or access-dependent VoIP. TELUS also stated that it would be inequitable and unfair to prevent the competitive service providers from offering an access-independent VoIP service.

434. Several parties supported removal of the restrictions. MTS Allstream submitted that the existing VoIP restrictions on ILEC unbundled loops provided to DSLSPs be eliminated. MTS Allstream stated that the restriction would only serve to artificially limit competition in the provision of local voice telephony services. AT&T and Microcell supported this view.

435. The CCTA, Cogeco, EastLink, Rogers, and Shaw submitted that it would be appropriate to remove the restriction relating to the provision of local VoIP services over leased unbundled loops. These parties generally submitted that the DSLSPs that wished to offer VoIP service should commit to the obligations of local service resellers.

436. Cybersurf supported the removal of the restriction and submitted that there was no public interest in preventing an ISP or other competitor dependent on underlying services obtained from an ILEC or cable carrier from using those services in order to provide access-independent VoIP services, when other parties that were not dependent on the ILEC could access the network of the ILEC for that purpose without that party's consent.

437. Primus noted that VoIP was not a switched service, as it did not use the analogue base-band portion of the copper loop. Primus therefore supported removing the restriction on the provision of voice services over loops leased by DSLSPs on the analogue base-band portion of the loop or on the digital stream which travels over the same loop at a higher frequency. According to Primus, this would enhance the competitive opportunities for new and innovative non-LEC suppliers of VoIP services to enter the market with their own services and new service bundles.

438. Call-Net, MCI Canada, and the TWU submitted that the restriction on DSLSPs could be removed, provided that they complied with all of the obligations which the Commission enforces on CLECs.

439. Most of the remaining participants, including FCI Broadband, Pulver, Vonage, Yak, UTC, RipNet, ARCH, the CCTP, Ontario and the Consumer Groups, submitted that there should be no restriction on VoIP service delivery via unbundled DSL loops. In general, these parties stated that removing the restriction would increase local competition and choice for consumers. The Consumer Groups submitted that since a great percentage of consumers accessed broadband IS via DSL connections, any restrictions on VoIP traffic via DSL loops perversely would have the effect of lessening competition in the VoIP market.

Commission's analysis and determinations

440. As was made clear earlier in this Decision, the Commission does not agree with the position of the Companies and Bell West that VoIP service offerings are not switched local voice services. The Commission notes that the term "switched" is not limited to "circuit-switched" and therefore can be read to include both circuit-switched and packet-switched. In the Commission's view, therefore, the restriction in Order 2000-983 would preclude the offering of any local VoIP services over the facilities in question.

441. The Commission notes TELUS' position that the restriction should be retained to prevent the offering of VoIP service on an access-dependent basis, but that it should not prevent the provisioning of VoIP service over DSL on an access-independent basis.

442. The Commission considers, however, that a rule preventing a local VoIP service provider from providing access-dependent services would not only be difficult to enforce, but would constitute an artificial and inappropriate constraint in the market.

443. With regard to TELUS' submission that removing the restriction would undermine facilities-based competition, the Commission considers that allowing resellers to offer voice services over DSL would further facilitate competition in the local exchange services market. In this respect, the Commission notes that in Decision 97-8 it expressed the view that resale of telecommunication services could promote the development of a competitive market while allowing competitors time to construct their own facilities. The Commission considers that allowing DSLSPs to use the services in question to provide voice services would also allow these service providers to establish a customer base, which in turn would make it viable for them to gradually invest in related equipment, consistent with the Commission's objective of increasing competitiveness.

444. The Commission considers that the removal of this restriction would remove the market distortions caused by not allowing DSLSPs to offer VoIP services over DSL as well as service bundles. The Commission considers that the resulting competitive market would encourage further innovation, investment and would provide an increased choice of local service suppliers to consumers.

445. The Commission does not agree with the submissions of Call-Net, MCI Canada and the TWU that DSLSPs wishing to offer VoIP service should be subjected to CLEC obligations. The Commission considers that, while removal of the restriction would allow DSLSPs access to tariffs for unbundled loops and connecting links and for co-location to offer VoIP service, it would not grant them access to other benefits, such as access to numbers or subsidy, that are currently available to CLECs. Therefore, the Commission considers that it is not necessary to impose additional CLEC obligations on DSLSPs offering VoIP services.

446. Accordingly, the Commission modifies the restriction in Order 2000-983 in order to now allow DSLSPs that are not CLECs and that obtain unbundled loops, connecting links and co-location from the ILECs, to provide VoIP services, in addition to retail IS. ILECs are directed to issue, within 20 days of this Decision, revised tariffs to remove the existing restriction in order to allow DSLSPs that are not CLECs and that obtain unbundled loops, connecting links and co-location to provide VoIP services, in addition to retail IS.

447. With respect to Primus' proposal to remove the restriction on the provision of voice services on the analogue base-band portion of the loops leased by DSLSPs, the Commission considers this issue to be outside the scope of this proceeding. In the Commission's view, it is only the IP transmission of voice service over the higher frequency portion of the loop and transmitted on a digital basis that is subject to review in this proceeding.

Access providers' condition

Background

448. Yak submitted that the Commission should take specific measures to guard against anti-competitive activity by the ILECs and cable carriers, in their capacity as the underlying Internet access providers, by imposing a VoIP access condition pursuant to section 24 of the Act. According to Yak, the objective of the VoIP access condition would be to ensure that consumers can have access to the VoIP services provider of their choice on reasonable and non-discriminatory terms and conditions.

449. Yak submitted that its VoIP access condition would prohibit the following:

- a contract of a broadband service provider or an affiliate which restricted a customer from dealing with any VoIP service provider [referred to below as "contract restrictions"];

- the intentional impairment of broadband service used by a VoIP service provider, or its customer [referred to below as "service impairment"]; and

- the failure, except with prior Commission approval, to make available to a VoIP service provider, or its customer, broadband service of a quality which is equivalent to that which the broadband service provider makes available with its own VoIP service, or charging an extra amount for any service, without prior Commission approval [referred to below as "equivalent quality of service"].

Positions of parties

450. The Companies, Bell West and Xit submitted that it was not necessary or appropriate for the Commission to impose an access condition on ILECs and cable carriers or any other service providers providing broadband access. According to the Companies, since VoIP services and the underlying access services were provided in a competitive environment, market conditions and competition law would ensure against anti-competitive conduct on the part of broadband service providers. TELUS and the CCTA expressed similar views.

451. The competitive service providers and most of the remaining parties supported the access condition proposed by Yak.

Contract restrictions

452. Yak submitted that there was ample evidence to demonstrate the value of a condition, which prohibited ILECs and cable carriers from misusing their broadband access to prevent a customer from using its preferred VoIP service provider. Yak noted the example of TELUS imposing a contract provision on a long distance customer prohibiting the customer from using a dial-around service and enforcing this prohibition by blocking calls to the dial-around operators.

453. Most parties generally submitted that a broadband service provider should not restrict a broadband customer from dealing with an alternative service provider of the customer's choice.

454. AT&T supported Yak's proposal and stated that the Commission should forbid any network owner providing broadband access from impeding access to the Internet content of another application provider, except where such access would threaten the integrity of the network or where required by law.

455. Call-Net submitted that it would be inappropriate for any underlying service provider to restrict access to a VoIP service provider of the subscriber's choice where that access was provided over the public Internet.

456. The CCTP submitted that in those geographic markets where there were two or fewer high-speed access providers, the Commission should prohibit such access providers from blocking, by contract or technical means, customer access to an independent VoIP service provider.

457. While the CCTA agreed that neither LECs nor ISPs should interfere with a broadband user's choice of VoIP service providers and with a consumer's fair use of broadband service, any concerns that might arise could be addressed under the Commission's existing rules.

Service impairment

458. Yak submitted that although no party could point to examples of intentional degradation having occurred to date, the technology was available to accomplish service degradation. In its submission, given the incentives and history of incumbent anti-competitive behaviour, the Commission should curtail such conduct through the VoIP access condition.

459. Primus requested that the Commission impose a new section 24 condition of service on all Canadian carriers expressly prohibiting them from engaging in the intentional degradation of a competitor's service via packet dropping. Primus submitted that, as a reseller which has to rely heavily on the underlying networks of its carrier service providers, it had concerns about packet prioritization and the potential for packet loss, intentional or otherwise, in the context of wholesale services available from the ILECs. Primus submitted that while it did not have direct evidence of intentional packet dropping by carriers at the present time, changes in telecommunications technology would make it simple for carriers to identify voice packets and, through a process called "deep packet inspection" effectively impair the voice quality of competitors' service offerings.

460. Primus noted that subsection 27(2) of the Act provided the company with the ability to present any evidence it had against a carrier and to seek relief from the Commission. However, the company submitted that the most significant drawback to this approach was that the competitive damage would already have been done and would continue through the course of the application process.

461. The Companies stated that they would only block voice IP packets upon receipt of an order from a competent court or legal authority or in instances in which the traffic interfered with the use of the service by subscribers in cases, for example, of spam, dissemination of viruses and other harmful traffic. The CCTA, Cogeco, EastLink, and Shaw expressed similar views.

462. TELUS submitted three reasons as to why there was no need for the Commission to impose this access condition. First, TELUS submitted that the Commission, in its retail Internet forbearance orders, retained the subsection 27(2) prohibition on unjust discrimination. According to TELUS, this prohibition included the deliberate degradation of the quality of a given access-independent VoIP service. Second, TELUS submitted that no party had offered any evidence that the potential problems referred to had ever happened in North America. According to TELUS, any such issues could be dealt with in the future, should they arise. Third, TELUS submitted that it had committed not to do anything to deliberately degrade the service experienced by an end-user of any access-independent VoIP service.

463. The CCTA submitted that its members did not, nor did they intend to impede, alter or otherwise restrict the ability of a VoIP service provider to provide services to a cable carrier's retail high-speed IS customers. The CCTA observed that neither Yak nor any other access-independent VoIP provider had alleged or offered evidence of cable carrier interference with its VoIP services or with the broadband service used by its customers.

464. QMI and Xit also submitted that it was not necessary for the Commission to impose an access condition on any service providers providing broadband access.

465. Nortel submitted that it was technically possible for any access provider to degrade a competitor's traffic. However, the company also added that this approach could also degrade the traffic from the access provider's own customers and thus the broadband access providers would have no incentive to use a technology solution to degrade packet flows.

Equivalent quality of service

466. Yak suggested that any quality of service enhancements introduced by the ILECs and cable carriers in their capacity as the underlying Internet access provider, such as packet prioritization, should be made equally available to all VoIP service providers, on an unbundled basis. Yak submitted that the Commission could not expect a competitive outcome if the dominant broadband suppliers were able to grant themselves preferential treatment via their managed networks. Yak also submitted that there was no technical reason why a competitive VoIP provider's voice packets could not be sent over the same route that was used by the ILEC or cable carrier.

467. The Companies argued that other VoIP service providers would be able to offer the same quality of service as the Companies provided the VoIP service providers followed the same standards as the Companies. TELUS stated that, with respect to access-independent VoIP service traffic, it did not believe it was technically possible to implement packet carriage priority for its own VoIP service, but not for a competitor's service.

468. The CCTA submitted that its members offered the same quality of service to all customers that subscribe to a given level of retail high-speed IS, but argued that there was no policy basis for mandating cable carriers to make third-party access available to the additional functionality of managed network service. It also stated that mandating access to the cable carriers' managed network services would be inconsistent with the Commission's regulatory framework, that did not require the mandated unbundling of CLEC facilities. The CCTA added that the technological improvements and innovations associated with cable carriers' deployment of IP-based phone services would be discouraged if such access were mandated, contrary to the objectives of the Act.

469. The CCTP did not agree with Yak with regard to this element of Yak's proposal. In its view, features such as packet prioritization were software-defined and it was this very form of dynamic innovation that the Commission should be striving to encourage and protect in any regulatory framework developed for VoIP services. The CCTP also stated that such an access condition would undermine service innovations that would be a benefit to customers.

470. Rogers submitted that Internet telephony services might not be able to provide the same quality of service as an IP-based service over a managed network. Rogers stated that if quality of service was provided for the voice packets running on the cable network, but not while they were on the public Internet, the overall voice communication might not be greatly improved. Accordingly, Rogers opposed Yak's proposal to the extent it would prevent cable carriers from providing managed telephone services, which had higher quality of service than Internet telephony services.

471. MTS Allstream submitted that the Commission should mandate the unbundling of the voice quality of service capability. MTS Allstream also stated that the Commission should treat cable companies and ILECs in an equal manner with respect to unbundling requirements.

472. Primus submitted that if the cable carriers or ILECs offered their own customers a service feature that ensured any level of quality treatment of VoIP traffic they should be required to unbundle that functionality at reasonable cost for use by competitors. With respect to service quality issues, Primus submitted that if the underlying network service provider implemented incremental functionality that enhanced the carriage of voice packets over either a managed network or a non-managed network, this "positive treatment" functionality should be made available to those competitors that might offer those services over these networks.

473. Microcell submitted that the ILECs must be required to provide services necessary for the offering of competitive VoIP services to others on an unbundled and non-discriminatory basis. As an example, if an ILEC made available its own broadband facilities with prioritization of voice packets, the same capabilities should be offered to all other service providers.

However, Microcell was also of the view that cable carriers (and anyone other than the ILECs) did not currently hold a dominant position in the local exchange services market and hence the same degree of regulatory oversight as was required for the ILECs was not necessary.

Commission's analysis and determinations

474. The Commission notes that none of the parties objected to customers having access to the VoIP service providers of their choice, independent of their underlying access service provider.

475. The Commission considers that it is unnecessary to impose the proposed contract restrictions on broadband service providers. The Commission considers that it can rely on subsection 27(2) of the Act, where appropriate, to prohibit a Canadian carrier from restricting its broadband customers from dealing with an alternative service provider of the customer's choice. This issue can therefore be addressed by the Commission on a case-by-case basis, should it arise. Such competitive disputes are likely to be resolved by the Commission in a timely manner, using its expedited procedures.

476. With respect to the proposed service impairment prohibition, the Commission notes the submissions of Primus and Yak that the current technology would allow providers of broadband access to degrade the VoIP services of competitors, but observes that no party, including Primus and Yak, filed any evidence regarding the impairment of broadband services or of intentional packet dropping by the service providers.

477. The Commission has also considered the submissions of Nortel that, while it is theoretically possible to degrade the VoIP services of competitors, an attempt to do so could also degrade the traffic from the access providers' own customers. In addition, the Commission considers that given that alternative sources of supply for broadband access exist, market forces can be relied upon in this regard.

478. Furthermore, even if such an issue were to arise, the Commission considers that it can rely on subsection 27(2) of the Act, where appropriate, to prohibit Canadian carriers from intentionally degrading traffic. In the Commission's view, the existing regulatory framework is sufficient for dealing with such anti-competitive behaviour by a broadband service provider. As in the case above, such competitive disputes would likely be resolved by the Commission, in a timely manner, using its expedited procedures.

479. With respect to the proposed equivalent quality of service requirement, the Commission notes that the broadband providers submitted that they offer the same quality of service, in terms of packet carriage priority, to all VoIP service providers subscribing to the same high-speed service. The request was concerned with ensuring that any quality of service improvements provided by broadband providers for their own VoIP service offerings are made available to competitors as unbundled capabilities at a reasonable cost.

480. The Commission considers that VoIP service providers should be encouraged to develop their own quality of service improvements and capabilities, which can best be provided through facilities-based competition or through a service provider subscribing to TPIA or an unbundled loop. The Commission considers that mandated unbundling of quality of service improvements available from broadband providers would result in competitors having less incentive to

invest in order to provide their own managed VoIP service. The Commission further considers that ISPs, DSLSPs and CLECs have the ability to offer their own forms of managed VoIP service through TPIA, DSL over unbundled loops, wholesale high-speed IS or through facilities-based competition.

481. In this regard, the Commission also concurs with the CCTP that enhanced quality of service and features should be developed by the service providers themselves to encourage innovation, competition and consumer choice.

482. In light of the foregoing, the Commission concludes that it would not be appropriate to impose a general obligation on all broadband access providers to unbundle quality of service capabilities that these providers offer to their own customers at this time.

483. Accordingly, the Commission **denies** the request for the imposition of an access condition.

Applicability of existing forbearance determinations

484. As noted above, in Public Notice 2004-2, the Commission set out its preliminary view that VoIP service providers should be subject to the existing regulatory framework, including the Commission's forbearance determinations. ILECs, CLECs, non-dominant Canadian carriers, and mobile wireless service providers would not be required to file tariffs for VoIP services that fall within the scope of applicable existing forbearance determinations. Under this preliminary view, ILECs would not be required to file tariffs in relation to, for example, their long distance VoIP services.

485. While many parties supported the Commission's preliminary views in general, they did not specifically comment on the above view.

486. The Commission accordingly determines that the provision of VoIP services is subject to applicable existing forbearance determinations.

487. The dissenting opinions of Commissioners Wylie and Noël are attached.

Secretary General

Dissenting Opinion of Commissioner and Vice-Chair, Broadcasting, Andrée Wylie

The legislative criteria for forbearance by the Commission from the exercise of some of its powers or the performance of some of its duties under the *Telecommunications Act* (the Act) in relation to the provision of a telecommunications service are set out expressly and solely in section 34. They are:

(a) consistency with the telecommunications policy objectives set out in section 7 (subsection 34(1));
(b) the development of competition in the provision of voice over Internet protocol (VoIP) service sufficient to protect the interests of users of VoIP service (subsection 34(2)); and
(c) compliance with the requirement that the establishment or continuance of a competitive market for the provision of VoIP service is not likely to be impaired unduly (subsection 34(3)).

I cannot agree with the majority that their application to the provision of VoIP service requires that any VoIP service provided by incumbent local exchange carriers (ILECs) in the territory where they provide traditional local wireline telephone service be subject, whether offered on a stand-alone basis or in a bundle of services, to the prior approval of tariffs, while VoIP service provided by competitors is not.

I would have exercised the discretion inherent in the language of section 34, on balance, in favour of forbearance from the requirement of prior approval of tariffs for any VoIP service for any provider. I would have opted for market forces, as encouraged by paragraph 7(f) of the Act, rather than for static tariff constraints imposed on some providers of VoIP service and not on others, to create a dynamic climate in which, consistent with many of the other policy objectives of section 7, reliable and affordable VoIP and related services of high quality are accessible to as many Canadians as possible in all regions of Canada (paragraph 7(b)), the efficiency and competitiveness of Canadian telecommunications are enhanced (paragraph 7(c)), regulation, where required, is efficient and effective (paragraph 7(f)), research and development in Canada in the field of telecommunications are stimulated and innovation in the provision of telecommunications services is encouraged (paragraph 7(g)), and there is a response to the economic and social requirements of the users of telecommunications services (paragraph 7(h)).

In my view, the public interest would be better served in Canada, and the policy objectives of section 7 of the Act more likely attained, if the Canadian regulator fostered, for the provision of VoIP service, a truly competitive environment conducive to the timely investment and innovation needed from all VoIP service providers to develop further applications based on the use of Internet protocol and to mitigate and resolve any inadequacy or limitation remaining in the provision of emerging VoIP service. There are powers other than the complex and resource-intensive imposition of retail tariffs available to the Commission under the Act to prevent abusive behaviour by any provider of VoIP service, to require basic consumer safeguards in the provision of VoIP service and to ensure equitable access to numbering, to the infrastructure required to provide VoIP service and to interconnection to the public switched telephone network (PSTN).

The decision of the majority not to forbear from the requirement of prior tariff approval for local VoIP service provided by the ILECs is informed by the fact that there is, as yet, little competition in Canada in the provision of traditional local wireline circuit-switched telephone service, often referred to as primary exchange service (PES), despite the regulatory framework for facilities-based competition established by the Commission eight years ago in *Local Competition*, Telecom Decision CRTC 97-8, 1 May 1997, while the Commission maintained pricing constraints on the provision of PES by the ILECs.

The decision of the majority is then based, in large part, on the conclusion that, for facilities-based competition to be established in the provision of local telephony, VoIP service utilizing numbers that conform to the North American Numbering Plan and providing universal access to and/or from the PSTN, as PES does, must be regulated like PES when offered by the ILECs in the territory where they provide PES. It is also based on a principle of technological neutrality which would require that, to the extent that VoIP service exhibits certain functional attributes of PES, its provision by the ILECs should be subject to the prior approval of tariffs, as is the provision of PES by them, even though the technology used to deliver VoIP service lacks some of the service attributes of PES on one hand and, on the other, has some functional characteristics and some innovative capabilities to expand consumer choice that the technology used to deliver PES does not.

I note that the application of the criteria relied upon by the majority in both pillars of its analysis would have resulted in the requirement of tariffs for the provision of wireless telephone service by affiliates of the ILECs when it was first offered by them. Wireless telephony met all of them. The Commission nevertheless avoided that conclusion at the time, in reliance on the specific service attributes of wireless telephony compared to those of PES, and on the particular circumstances surrounding the introduction of wireless telephony in Canada. It wisely considered that the prior approval of tariffs was not necessary to protect consumers and to stimulate the development of a competitive market.

I do not suggest that the functional and service attributes of VoIP service are the same as the functional and service attributes of wireless telephony, or that the circumstances in which VoIP service is introduced are comparable to the circumstances in which wireless telephony was introduced. It is my view however that, in this case, the Commission failed, in its decision not to forbear from imposing tariffs for the provision of local VoIP service by the ILECs, to give sufficient consideration, in light of the policy objectives of the Act and the discretion conferred by section 34, to the specific functional and service attributes of VoIP service, compared to those of PES, and to the particular circumstances and the competitive dynamic surrounding the introduction of VoIP service in Canada.

They include:

1) uncertainty with regard to the ease and rapidity with which VoIP service will be a widespread substitute for PES in Canada rather than, as wireless telephony largely remains, an adjunct to PES providing, in a truly competitive environment, the evolutionary expansion of innovative and affordable digital applications for the benefit of consumers;

2) the relative ease of entry of competitors for the VoIP and related services market, since entry does not require the provision of facilities;

3) the fact that VoIP service and other related applications can be configured and priced separately from the use of the infrastructure over which they are offered, and offered by one provider over the infrastructure of another;

4) whether VoIP service is a substitute for PES or an adjunct to it, the contestation of the VoIP market already by an increasing number of competitors; and

5) the vigorous competition for the VoIP service and related applications market expected from cable companies that can take advantage of

    a) a legacy broadband infrastructure available to well over 90% of Canadians,
    b) a widespread penetration of their broadband infrastructure for the provision of television and/or Internet access services, at unregulated rates, in fact, in a number of Canada's major centres, in more than 80% of the homes it passes,
    c) long-established relationships with consumers that can be drawn upon to provide VoIP services, and
    d) the ability, in an increasing number of cases, to offer, for one unregulated price, competitive packages of television, Internet access, wireless telephony and VoIP services.

Dissenting opinion of Commissioner Andrée Noël

With all due respect for the opinion of my colleagues of the majority, I do not believe that voice over Internet Protocol (voice over IP) service is a substitute for primary exchange service currently provided by telecommunications companies. It is instead, in my view, a service that is independent of the underlying access, meaning that it can be provided independently of the broadband Internet access on which it piggybacks.

Furthermore, the fact that, for cultural reasons, voice over IP uses the North American Numbering Plan rather than e-mail addresses, for example, to transmit bytes from point A to point B does not make this service a telephone service. It is still an Internet service, and one of its functionalities makes it possible to digitize and transmit synthetized voice via data packets. In my opinion, this constitutes a retail Internet service, and it should not be regulated pursuant to Telecom Order CRTC 99-592.

Moreover, given that voice over IP service can be offered via any high-speed Internet access, whether that access is provided by the service provider itself or by a competing provider, it is, in my opinion, erroneous to conclude that it is a substitute for primary exchange service, particularly given that although voice over IP shares certain similarities with primary exchange service, for example voice transmission, it is different in many respects. Despite the steadily increasing penetration rate for high-speed Internet access, the fact remains that only a minority of Canadians have access to high-speed Internet. And if we subtract the Canadians who can access it only at work, the potential number of residential customers is even lower. High-speed Internet access would have to be accessible across the board to reasonably consider voice over IP as a substitute for primary exchange service. This, however, is not the case. Indeed, high-speed Internet service is not even included in the basic service objectives as defined by the Commission in Telecom Decision CRTC 99-16 relating to high-cost serving areas.

To benefit from voice over IP service at a cost lower than the rates currently charged by the ILECs, subscribers will first have to subscribe to an unregulated high-speed Internet service, the current cost of which is far from being cheaper than regulated telephone service. As a result, for the majority of potential residential customers who do not have high-speed Internet service, it would be more expensive to convert their existing regulated telephone service to voice over IP than maintain the status quo. Some substitute!

Both at the hearing and in their written interventions, several interveners raised other deficiencies with voice over IP, particularly in terms of security and emergency services. Although in Telecom Decision 2005-21, the Commission required voice over IP service providers to implement interim solutions for offering services comparable to 9-1-1 and E9-1-1 within 90 days of the Decision, I think it is an illusion to believe, particularly in the case of nomadic service, that valid solutions can be found in such a short time. In this respect as well, voice over IP is not a substitute for primary exchange service. It is like comparing a bicycle with a car: both have wheels and can take us from point A to point B, but the comparison ends there.

And what about electrical power supply? The companies offering voice over IP services have absolutely no control over power supply. In the event of a power failure, can a six-hour backup battery provide secure power supply on an ongoing basis? For Quebec and Eastern Ontario residents who lived through the January 1998 ice storm, it is precarious security indeed given that some regions were without electricity for up to 36 days. Can this really be qualified as a substitutable service? I think not.

Because voice over IP is not a substitute for primary exchange service, and given that there is no dominant company in this new sector, I believe that the Commission should forebear from regulating voice over IP services in the residential market.

In terms of business service, competition between the ILECs and the CLECs in the territories where local competition is permitted is increasingly intense. At this time, no telecommunications company has a dominant position in the supply of voice over IP services in the business market because these are new services in the initial stages of development. As a result, I believe that the Commission should also forebear from regulating in this area.

If, however, we could reasonably conclude that voice over IP is a partial substitute for primary exchange service and is not a retail Internet service, before regulating this service only when it is provided by ILECs, we would have to examine the criteria developed by the legislator and set out in the *Telecommunications Act* (the Act) authorizing the Commission to forebear from regulating. Those criteria are expressly stated in section 34 of the Act, and only in the Act. In this respect, I include by reference and agree wholeheartedly with the minority opinion of Vice-Chair of Broadcasting, Andrée Wylie.

For all these reasons, I believe that the Commission should not follow up on its preliminary views and should forbear from regulating voice over IP services for all providers, including ILECs.