

# TELECOMMUNICATIONS UPDATE

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## CRTC and FCC Grapple with Regulation of Internet Protocol Telephony

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Canada's federal telecommunications regulator, the Canadian Radio-television and Telecommunications Commission (CRTC), has followed its American counterpart, the Federal Communications Commission (FCC), and is conducting a public proceeding to determine how to regulate an emerging telecommunications technology, known as Voice over Internet Protocol (VoIP) telephony, which allows telephone calls to be transmitted over the Internet. The two regulators' preliminary views of the issue diverge, as does the scope of their proceedings. This bulletin briefly describes VoIP technology and examines the differences between the CRTC's VoIP approach and that of the FCC.

### VoIP Technology

Two key differences between VoIP and traditional telephone technology are the network over which a call is transmitted and the transmission format. In traditional telephony, a call over the public switched telephone network (PSTN) generally results in the creation of an end-to-end circuit that establishes a physical connection between the caller and the called party through the wires, cables and switches of the telephone network. The circuit exists for the duration of the call until hang-up, and is typically dedicated to the voice signals flowing between the two parties participating in the call. In contrast, in a VoIP call there is no dedicated circuit. The contents of a VoIP call flow between the caller and the called party over various networks that comprise the Internet. This happens through a router or switch operated by the VoIP provider, which matches a telephone number with an IP address. Different portions of a VoIP call may be routed over different transmission paths, with the contents of the call moving over the Internet amidst other traffic, including other VoIP calls, e-mails, miscellaneous data and video traffic.

The call format is the second feature distinguishing VoIP from traditional telephony. Voice communications on a PSTN call begin as analog signals, or electronic sound waves, which are converted into digital format (*i.e.*, a series of ones and zeroes). The digits are transmitted in sequence over the circuit and converted back into analog format to be heard by the other party on the call. The digits move across the circuit in sequence,

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corresponding to the voice signals on the call. Spoken words on a VoIP call are converted from analog into digitized Internet Protocol (IP) packets. A packet is analogous to an envelope with data on the inside and sequence coding, as well as originating and destination addresses, on the outside. The VoIP user's telephone is connected to a router. These packets enter the Internet at the router and are sent individually, though not necessarily in sequence, over the Internet. At the router closest to their destination (*i.e.* the other party on the call), they are reassembled in original sequence and converted back into analog format for reception by the recipient. A key point associated with VoIP is the significantly lower transmission costs of this technology.

## The CRTC's and FCC's VoIP Proceedings

### ■ CRTC

The CRTC initiated its VoIP proceeding in early April 2004, with the issuance of Telecom Public Notice CRTC 2004-2 (PN 2004-2). This proceeding was prompted by four developments. The first is the CRTC's recognition that VoIP services have significantly evolved. Originally, this technology allowed users to make and receive calls with a computer over the Internet only when all parties on the call used the same peer-to-peer (P2P) software and the service did not connect to the telephone system. VoIP services are now available that provide subscribers with access to and from the PSTN and that use telephone numbers conforming with the North American Numbering Plan (*i.e.*, a three-digit area code, followed by a three-digit number corresponding to a local exchange, followed by a four-digit number). Second, the CRTC also recognizes that the modern forms of VoIP are currently available in Canada from service providers such as Primus Canada and Vonage. Finally, PN 2004-2 responds to two recent requests for rulings: a November 2003 Bell Canada application requesting the CRTC, among other things, address the rules that govern providers of VoIP services, and a January 2004, Call-Net Enterprises Inc. application requesting that the CRTC investigate the Canadian VoIP service of Primus Canada to ensure compliance with applicable regulatory requirements.

The CRTC expresses a number of preliminary views in PN 2004-2 about how it proposes to regulate VoIP services and seeks comments on these views. For example, in the Commission's preliminary view, VoIP services are functionally the same as traditional telephone service because it allows users to call and or receive calls from any telephone with access to the PSTN anywhere in the world. Citing its principle of "technical neutrality" (meaning that the same regulatory rules apply to like services, irrespective of their underlying technologies) the CRTC's preliminary view is that VoIP services (and service providers) should be regulated according to the CRTC's existing rules. In other words, the regulatory rules for VoIP-based services would depend on the category of service provider (*i.e.*, incumbent local exchange carrier (ILEC), competitive local exchange carrier (CLEC) or reseller), the nature of the telecom service and the geographic area in which the service is provided. For example, when an ILEC provides a local VoIP service in its traditional home territory, it would be required to do so under a CRTC-approved tariff, whereas a local VoIP service provided by a CLEC would not.

Among the other preliminary views about VoIP expressed by the CRTC are the following:

- Where VoIP technology is used to provide services forborne from CRTC regulation (*i.e.*, long distance) VoIP service would similarly be forborne.
- Revenues from VoIP services would be subject to "contribution" (the subsidy collected as a percentage from telecommunications service revenues that is used to subsidize the cost of local telephone service in high-cost serving territories).

## ■ FCC

The scope of the FCC's proceeding, known as IP-Enabled Services Rulemaking Proceeding (WC Docket No. 04-36), is considerably broader than PN 2004-2. For example, whereas the CRTC's proceeding is generally restricted to VoIP services (and largely excludes P2P services), the FCC's seeks comment on all services and applications making use of Internet Protocol technology, including P2P. Moreover, the FCC is also inviting comment on how to categorize IP-enabled services, whether it has jurisdiction over such services, and the nature of the regulations that should apply to such classes. In contrast with the CRTC's preliminary view, which seems to favour regulation of VoIP, the FCC appears ready to take a "hands-off" regulatory approach. In a statement announcing the IP-Enabled Services Notice of Proposed Rulemaking, FCC Chairman Michael Powell stated:

Our starting point – and our most important finding – is the recognition that all IP-enabled services exist in a dynamic, fast-changing environment that is peculiarly ill-suited to the century-old telephone model of regulation. Competitive market forces, rather than prescriptive rules, will respond to public need much more quickly and more effectively than even the best-intentioned responses of government regulators. Indeed, our best hope for continuing the investment, innovation, choice and competition that characterizes Internet services today lies in limiting to a minimum the labyrinth of regulation and fees that apply to the Internet. All too often, these edicts can thwart competition even among traditional telecommunications providers.

## ■ CRTC and FCC Procedures

Process is another key difference between the CRTC and FCC proceedings. The FCC format is a paper proceeding with written comments due on or before May 28, 2004 and reply comments due by June 28, 2004. Although narrower in focus, the CRTC's proceeding includes an oral public hearing phase and, as a result of requests from incumbent telephone companies and a public interest group, an interrogatory phase. The key dates in the PN 2004-2 proceeding are as follows:

<b>June 18, 2004</b>	Deadline for requests to participate in the oral public hearing
<b>July 16, 2004</b>	Deadline for filing and serving interrogatories
<b>August 6, 2004</b>	Interrogatory responses due
<b>August 13, 2004</b>	Deadline to request further and better interrogatory responses
<b>August 20, 2004</b>	Responses to requests for further interrogatory responses due
<b>September 15, 2004</b>	Further interrogatory responses due
<b>September 21-22, 2004</b>	Oral public hearing
<b>October 13, 2004</b>	Reply comments due

## Conclusion

Among the questions the CRTC can be expected to address in PN 2004-2 is whether regulating local VoIP service in the same manner as PSTN local telephony will contribute to the Canadian telecommunications policy objectives set out in the *Telecommunications Act*, particularly fostering increased reliance on markets, ensuring efficient and effective regulation, and stimulating innovation. It promises to be an interesting summer and fall as North America's two national telecom regulators grapple with these new communications technologies and potentially move in different regulatory directions.

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The **Telecommunications Law Group** at Stikeman Elliott LLP has in-depth experience with the principal regulatory forums, including the Canadian Radio-television and Telecommunications Commission (CRTC), the Departments of Industry and Canadian Heritage as well as the Federal Court and Supreme Court of Canada in judicial review activities.

With respect to telecommunications, we have been involved in major regulatory proceedings ranging from rate and service proceedings, through to applications for entry and the provision of competitive telecommunication services such as domestic and international resale and sharing, cellular telephone, PCS, global mobile satellite and the Internet.

With respect to broadcasting, we have acted in a wide variety of proceedings including licensing of radio, television and specialty undertakings, cable television, satellite and other wireless broadcasting distribution undertaking activities, authority for the transfer of licences as a result of acquisitions or mergers, licence renewals, and policy proceedings as well as CRTC jurisdiction with respect to conventional and new media services relative to Internet distribution.

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