



## Telecom Decision CRTC 2007-22

Ottawa, 12 April 2007

### IP-to-IP interconnection report – Follow-up to Decision 2006-13

Reference: 8621-C12-01/00 and 8663-C12-200402892

*The CRTC Interconnection Steering Committee (CISC) filed a report with the Commission in late November 2006 recommending the minimum guidelines for establishing an IP-to-IP interconnection, in order to facilitate the exchange of pertinent information for satisfying the requirements of the Minimum Message Set. In this Decision, the Commission approves the CISC report as submitted.*

#### Introduction

1. In *IP-to-IP interconnection – Follow-up to Decision 2005-28*, Telecom Decision CRTC 2006-13, 16 March 2006 (Decision 2006-13), the Commission approved the CRTC Interconnection Steering Committee (CISC) Network Working Group (NTWG) report titled *IP Interconnection Profile for Interconnection Between Service Providers Under the Jurisdiction of the CRTC*, 5 December 2005 (NTRE0035B). In that report, the NTWG recommended that Internet Protocol (IP)-to-IP interconnection should support the Minimum Message Set approved by the Commission for Common Channel Signalling 7 (CCS7) interconnection. The NTWG report also indicated that the NTWG planned further consideration of technical documentation on IP-to-IP interconnection guidelines produced by various standards writing bodies and other organizations, in order to provide additional guidelines for IP-to-IP interconnection.

#### The IP-to-IP interconnection report

2. On 24 November 2006, the CISC submitted, for Commission approval, a report from the NTWG titled *IP Interconnection Profile for Interconnection Between Service Providers Under the Jurisdiction of the CRTC*, 7 November 2006 (NTRE039C) [the Report]. On the same date, the CISC also submitted to the Commission concerns raised by Xittel telecommunications inc., filed on behalf of itself and the Quebec Coalition of Internet Service Providers (collectively, Xittel et al.), regarding certain aspects of the Report, as well as the response from the NTWG Chair on behalf of other NTWG members addressing Xittel et al.'s concerns. These comments are summarized later in this Decision.
3. In the Report, the NTWG determined that Session Initiation Protocol (SIP), with its various combinations of headers and extensions, was the primary protocol to facilitate IP interconnection under consideration by relevant standards bodies, including the Internet Engineering Task Force (IETF), the Alliance for Telecommunications Industry Solutions, and CableLabs, that provided sufficient means to support the CCS7 Minimum Message Set.

4. The NTWG maintained that service providers who wished to deliver and receive voice traffic in native (SIP-based) IP format could adopt the minimum guidelines set forth in the Report for establishing an IP-to-IP interconnection, to facilitate the exchange of pertinent information for satisfying the requirements of the Minimum Message Set, including local number portability (LNP).
5. The NTWG also acknowledged that new methods of carrying LNP in the SIP IP-to-IP interconnection had continued to emerge during deliberations. As a result, the NTWG submitted that it would continue to monitor industry developments and would present any relevant advancement in an amendment to the Report or in another report.

#### **Comments on the Report**

6. Xittel et al. submitted that the Report should be modified to reflect concerns related to the alternative methods that could be used to support LNP in SIP to enable IP-to-IP interconnection. The methods referred to by Xittel et al. were based on the IETF's Request for Comments (RFC)<sup>1</sup> and were *Number Portability Parameters for the "tel" Uniform Resource Identifier* (RFC 4694), *Session Initiation Protocol for Telephones (SIP-T): Context and Architectures* (RFC 3372), and *Integrated Services Digital Network (ISDN) User Part (ISUP) to SIP Mapping* (RFC 3398).
7. Xittel et al. submitted that, instead of using RFC 3372 or RFC 3398 as recommended in the Report, the use of RFC 4694 to carry LNP information in SIP should be mandated until such time as another technology displaced the need for the LNP system in use today. Xittel et al. also submitted that RFC 3398 should only be included in the Report on the condition that the implementation was carried out with proper public disclosures.
8. In addition, Xittel et al. submitted that RFC 3372 should be removed from the Report as an option to support LNP; in Xittel et al.'s view, RFC 3372 contradicted the consensus reached in Consensus Report NTRE0035B, which was approved by the Commission in Decision 2006-13.
9. The NTWG considered that Xittel et al.'s objections were not realistic since some carriers were currently using RFC 3372. NTWG noted that excluding RFC 3372 would leave the industry with no real option to implement IP-to-IP interconnection today. The NTWG also noted that none of the carriers were using RFC 4694 since it was a new standard and, as such, lacked vendor support.
10. The NTWG submitted that the Report was modified during its finalization to include Xittel et al.'s concerns, and noted the NTWG members' commitment to investigate emerging standards such as RFC 4694. NTWG also noted that all items in the Report received support from all other NTWG members except Xittel et al.

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<sup>1</sup> An RFC is a document used to describe Internet communications standards in order to enable industry players to comment on, and ultimately agree upon, the document as an industry standard.

## Commission's analysis and determinations

11. The Commission notes that, in the Report, the NTWG does acknowledge that new methods of IP-to-IP interconnection have continued to emerge during deliberations such as the newly approved RFC 4694. The NTWG also notes in the Report that it will continue to monitor industry developments and will present any relevant advancement in an amendment to the Report or in another report.
12. The Commission notes that RFC 4694 was approved by the IETF a few months ago and considers that the industry, through the NTWG, has not had the chance to investigate and reach agreement on whether it is an appropriate guideline for use by the industry. The Commission also considers that it will be some time before vendors offer support for this standard. Therefore, it is the Commission's view that mandating the use of RFC 4694 is premature. Accordingly, the Commission denies Xittel et al.'s request.
13. In regards to Xittel et al.'s conditional support for the inclusion of RFC 3398 in the Report, the Commission considers that it is sufficient to note that public disclosure is standard industry practice when establishing interconnection.
14. In respect of Xittel et al.'s request for the removal of RFC 3372 from the Report as a method to support LNP in SIP-T, the Commission notes that the removal of RFC 3372 would have adverse effects on the implementation of IP-to-IP interconnection since this standard is currently being used by some carriers and it is supported by vendors. The Commission also considers that the use of RFC 3372 is consistent with the Commission's determination in Decision 2006-13.
15. The Commission notes that the Report does not request that the Commission mandate the use of any single method of supporting LNP in SIP, but provides a number of options to service providers on how to do so. In light of all the above, the Commission considers that removing RFC 3372 from the Report would not be in the telecommunications industry's interest.
16. The Commission notes that, by approving the Report, service providers who wish to deliver and receive voice traffic in native (SIP-based) IP format can adopt the minimum guidelines set forth in the Report for establishing an IP-to-IP interconnection to facilitate the exchange of pertinent information for satisfying the requirements of the Minimum Message Set, including LNP.
17. In light of the above, the Commission **approves** the Report as submitted by the NTWG. The Commission also requests that the NTWG continue monitoring industry developments in IP-to-IP interconnection, and present to the Commission any relevant advancement in the future.

Secretary General

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