



## Telecom Notice of Consultation CRTC 2009-194

Route reference: Telecom Decision 2006-60, Telecom Decision 2007-125

Ottawa, 15 April 2009

### Call for comments – Nomadic VoIP E9-1-1 service

File number: 8663-C12-200905995, 8621-C12-01/00, 8663-C12-200402892,  
8663-B2-200316101, and 8663-C12-200717738

### Introduction

1. In Telecom Decision 2006-60, the Commission approved the consensus recommendation of the CRTC Interconnection Steering Committee (CISC) Emergency Services Working Group (ESWG) to adopt the National Emergency Number Association i2 standard, adjusted as necessary for implementation in Canada, as the solution for the delivery of nomadic Voice over Internet Protocol (VoIP) enhanced 9-1-1 (E9-1-1) service.
2. The Commission further requested the ESWG to file a report, within six months of the date of Telecom Decision 2006-60, on a functional architecture for the implementation of nomadic VoIP E9-1-1 service in Canada. The Commission considered that the ESWG's report should specify the roles and responsibilities of all emergency services industry participants, particularly those who will supply the new operating elements.
3. Finally, in that decision the Commission determined that, if necessary, it would provide guidance to the industry on how and when the issue of cost recovery would be dealt with upon the disposition of the ESWG's report.
4. The ESWG subsequently filed with the Commission ESWG Non-Consensus Report ESRE044, *Report on a Functional Architecture for the Implementation of VoIP E9-1-1 Service in Canada* (the Report). The Report is available on the Commission's website at [www.crtc.gc.ca](http://www.crtc.gc.ca) under "CRTC Interconnection Steering Committee."
5. The Report includes a functional architecture of a Canadian version of the i2 standard (referred to in this notice as nomadic VoIP E9-1-1 service) as proposed by Bell Aliant Regional Communications, Limited Partnership; Bell Canada; Saskatchewan Telecommunications; and TELUS Communications Company (the Companies).
6. Under the Companies' proposal, each of the service providers that own the distribution facilities used to provide high-speed Internet access, known as access service providers (ASPs), would be required to (i) build a location determination platform (LDP), which identifies a nomadic VoIP 9-1-1 caller's location by linking the caller's Internet Protocol (IP) address with the civic address of the high-speed Internet access used to obtain VoIP service, and (ii) maintain a database of its customers' location information, known as the location information server (LIS). The ASPs would constantly update the LIS with the location information generated by the LDP and provide this information to the public safety answering points (PSAPs) when a 9-1-1 call is made.

7. Cogeco Cable Inc., Rogers Cable Inc., Shaw Communications Inc., and Videotron Ltd. (the Cablecos) did not support this approach in the architecture, preferring a centralized LIS that would be hosted by the incumbent local exchange carrier (ILEC) and to which the ASPs could provide updates of their customers' location information.
8. In Telecom Decision 2007-125, the Commission noted that, in principle, nomadic VoIP E9-1-1 service met the requirements set out in Telecom Decision 2006-60. However, the Commission considered it necessary to undertake an economic evaluation of the Companies' proposed nomadic VoIP E9-1-1 service before requiring the industry to proceed with its implementation. Therefore, the Commission directed the Companies to file economic evaluations for their proposal.
9. In order to determine the most cost-effective approach to implementing nomadic VoIP E9-1-1 service, the Commission also directed the Cablecos and MTS Allstream Inc. to file economic evaluations of the costs they would incur if each ASP were required to host its own LIS. In addition, the Commission directed the Companies to file economic evaluations with respect to the scenario proposed by the Cablecos.

### **Issues**

10. From an implementation perspective, the main area of non-consensus of the proposed architecture is primarily with respect to two key components: the LIS and the LDP. During the course of the proceeding initiated by Telecom Decision 2007-125, the Companies submitted that a centralized LIS hosted by the ILEC would be the most cost-efficient approach.
11. The ASPs supported this approach, but argued that even though they would no longer be hosting the LIS, they would still each be required to incur significant costs to implement LDP functionality in their networks. Estimates provided by the Cablecos, which include little or no supporting detail and cover a very broad range, indicate the LDP costs at over \$250 million, representing about 90 percent of the total cost of implementation.
12. The Companies submitted that, because the ASPs' subscribers would benefit from using nomadic VoIP E9-1-1 service, each ASP should be responsible for its own LDP costs. The Companies submitted further that each ASP should decide whether to pass on these costs to its high-speed Internet users.
13. The Cablecos submitted that, given the variance in the number of customers and associated revenues among ASPs, the capacity to recover LDP costs differs among Canadian ASPs. The Cablecos proposed that LDP costs be recovered entirely from nomadic VoIP subscribers, since they are the ones who would benefit from using the nomadic VoIP E9-1-1 service.
14. The Canadian Cable Systems Alliance (CCSA) submitted that its members should not be required to implement the ASP components of the nomadic VoIP E9-1-1 service, since the majority of its 80 members have fewer than 2,000 cable subscribers each, the up-front costs are too high for smaller ASPs relative to the size of their subscriber base, and it is technically beyond the members' capability to implement such a solution.

15. The Commission estimates that there are 230 ASPs in Canada, all of which would have to implement LDP for the nomadic VoIP E9-1-1 service to be available with every broadband connection. Based on available information, the Commission estimates that the nine largest ASPs have over 90 percent of the subscribers, and the remaining 221 ASPs have the remaining 10 percent. The Commission notes, however, that if some ASPs were exempt from implementing LDP in their networks, nomadic VoIP users in Canada could not be certain of the availability of nomadic VoIP E9-1-1 service in all locations.
16. Having reviewed the LDP cost estimates submitted to date, the Commission finds them unsatisfactory as a basis upon which to support even a rough estimate of the LDP costs. Moreover, to the extent that they do represent the actual LDP costs, the LDP cost estimates may call into question the economic viability and administrative feasibility of the Companies' proposal. In these circumstances, it is appropriate to also consider other approaches to the provision of nomadic VoIP E9-1-1 service that may have emerged since the development of the Companies' proposed solution.
17. In light of the above, the Commission finds it necessary to conduct a further proceeding to elicit better LDP cost estimates and to provide an adequate public record on a number of important policy issues that have come to light during the course of the proceeding initiated by Telecom Decision 2007-125. To this end, the Commission has identified the following specific issues with respect to which it seeks further submissions:
  - I. What are the LDP costs?
  - II. Who should pay for the various costs of implementing nomadic VoIP E9-1-1 service?
  - III. Should small ASPs be exempt from implementing an LDP?
  - IV. Are there alternative solutions that would improve on the current nomadic VoIP 9-1-1 service ?

## **Procedure**

18. The full record of the proceeding initiated by Telecom Decision 2007-125 is made part of the record of this proceeding.
19. All local exchange carriers, the Cablecos, other ASPs, wireless carriers, and nomadic VoIP service providers, as well as the CCSA and the Coalition of Internet Service Providers (CISP), are made parties to this proceeding.
20. All other parties interested in participating in this proceeding (including receiving copies of all submissions) must notify the Commission of their intention to do so by filling out the online form; or by writing to the Secretary General, CRTC, Ottawa, Ontario, K1A 0N2; or by faxing to: 819-994-0218 by **15 May 2009** (the registration date). Parties are to provide their email address, where available. If parties do not have access to the Internet, they are to indicate in their notice whether they wish to receive disk versions of hard-copy filings.

21. The Commission will post on its website, as soon as possible after the registration date, a complete list of parties and their mailing addresses (including their email addresses, if available), identifying those parties who wish to receive disk versions.
22. Anyone wishing merely to file written comments in this proceeding, without receiving copies of the various submissions, may do so by writing to the Commission by **14 September 2009** at the address or fax number noted above, or by filling out the online form.
23. The Companies, MTS Allstream Inc., TBayTel, Télébec, Limited Partnership, the Cablecos, the CCSA, and the CISP, as well as any other ASP that would like to do so, are to file with the Commission, serving copies on all other parties, submissions providing the information set out in Appendix 1 regarding LDP costs by **15 June 2009**.
24. Parties proposing alternative solutions to the Companies' proposed nomadic VoIP E9-1-1 service are to file with the Commission, serving copies on all other parties, submissions providing the information set out in Appendix 2 by **15 June 2009**.
25. The Commission and the parties may address interrogatories to any party who filed submissions pursuant to paragraph 23 or 24. Any such interrogatories must be filed with the Commission and served on the relevant party or parties by **6 July 2009**.
26. Responses to interrogatories addressed pursuant to paragraph 25 are to be filed with the Commission and served on all other parties by **27 July 2009**.
27. Requests by parties for further responses to their interrogatories, specifying in each case why a further response is both relevant and necessary, and requests for public disclosure of information for which confidentiality has been claimed, setting out in each case the reasons for disclosure, must be filed with the Commission and served on the relevant party or parties by **3 August 2009**.
28. Written responses to requests for further responses to interrogatories and for public disclosure must be filed with the Commission and served on the party or parties making the request by **10 August 2009**.
29. Determinations will be issued with respect to requests for further information and public disclosure by **24 August 2009**. Any information to be provided pursuant to the Commission's determinations must be filed with the Commission and served on all interested parties by **31 August 2009**.
30. All parties may file written comments with the Commission on any matter within the scope of this proceeding, serving copies on all other parties, by **14 September 2009**. Parties addressing in their comments the issues of (a) who should pay for the various costs of implementing the nomadic VoIP E9-1-1 service or (b) whether small ASPs should be exempt from implementing LDP in their networks are to provide the information set out in Appendices 3 and 4, respectively.
31. All parties may file reply comments with the Commission, serving copies on all other parties, by **28 September 2009**.

32. The Commission expects to issue a decision on the issues raised in this notice within 120 days after the record closes.
33. The Commission will not formally acknowledge comments. It will, however, fully consider all comments and they will form part of the public record of the proceeding.
34. Where a document is to be filed or served by a specific date, the document must be actually received, not merely sent, by that date.
35. Parties may file their submissions electronically or on paper. Submissions longer than five pages should include a summary.
36. Electronic submissions should be in HTML format. As an alternative, those making submissions may use "Microsoft Word" for text and "Microsoft Excel" for spreadsheets.
37. Each paragraph of all submissions should be numbered. In addition, the line \*\*\*End of document\*\*\* should be entered following the last paragraph. This will help the Commission verify that the document has not been damaged during electronic transmission.
38. The Commission also encourages parties to monitor the record of this proceeding (and/or the Commission's website) for additional information that they may find useful when preparing their submissions.

### **Important notice**

39. Note that all information that you provide as part of this public process, except information granted confidentiality, whether sent by postal mail, facsimile, email or through the Commission's website at [www.crtc.gc.ca](http://www.crtc.gc.ca), becomes part of a publicly accessible file and will be posted on the Commission's website. This information includes your personal information, such as your full name, email address, postal/street address, telephone and facsimile number(s), and any other personal information you provide.
40. The personal information you provide will be used and may be disclosed for the purpose for which the information was obtained or compiled by the Commission, or for a use consistent with that purpose.
41. Documents received electronically or otherwise will be posted on the Commission's website in their entirety exactly as you send them, including any personal information contained therein, in the official language and format in which they are received. Documents not received electronically will be available in PDF format.
42. Please note that the information you provide to the Commission as part of this public process is entered into an unsearchable database dedicated to this specific public process. This database is accessible only from the web page of this particular public process. As a result, a general search of our website with the help of either our own search engine or a third-party search engine will not provide access to the information which was provided as part of this public process.

## **Location of CRTC offices**

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

Toll-free telephone: 1-877-249-2782

Toll-free TDD: 1-877-909-2782

### **Central Building**

Les Terrasses de la Chaudière

1 Promenade du Portage, Room 206

Gatineau, Quebec J8X 4B1

Tel.: 819-997-2429

Fax: 819-994-0218

### **Metropolitan Place**

99 Wyse Road, Suite 1410

Dartmouth, Nova Scotia B3A 4S5

Tel.: 902-426-7997

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205 Viger Avenue West, Suite 504

Montréal, Quebec H2Z 1G2

Tel.: 514-283-6607

55 St. Clair Avenue East, Suite 624

Toronto, Ontario M4T 1M2

Tel.: 416-952-9096

### **Kensington Building**

275 Portage Avenue, Suite 1810

Winnipeg, Manitoba R3B 2B3

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### **Cornwall Professional Building**

2125 – 11<sup>th</sup> Avenue, Suite 103

Regina, Saskatchewan S4P 3X3

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10405 Jasper Avenue, Suite 520

Edmonton, Alberta T5J 3N4

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Vancouver, British Columbia V6C 3B6  
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Secretary General

### **Related documents**

- *CRTC Interconnection Steering Committee – Non-consensus report on a functional architecture for the implementation of nomadic VoIP E9-1-1 service in Canada*, Telecom Decision CRTC 2007-125, 7 December 2007
- *CRTC Interconnection Steering Committee – Consensus report on E9-1-1 services provided to nomadic and fixed/non-native VoIP subscribers*, Telecom Decision CRTC 2006-60, 21 September 2006

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

## What are the LDP costs?

Each party required to file material pursuant to paragraph 23 of this notice is to provide a seven-year Phase II incremental cost study for the implementation of an LDP on its network in order to support the nomadic VoIP E9-1-1 service as proposed in the Canadian i2 architecture. The cost studies are to provide a detailed breakdown of the implementation costs and a summary of Phase II impacts, as well as the various assumptions and supporting rationale involved. In addition, the cost studies are to include the following information:

- a) a detailed description of LDP implementation, including a step-by-step description of the process involved in LDP functionality, a list of the major hardware and software components, and a diagram outlining how the LDP would be implemented in each entity's network;
- b) a breakdown of the costs of the major hardware and software components in terms of installed costs and present worth of annual costs;
- c) for each component identified in the response to b), an assessment of its scalability in relation to the size of the ASP, supported by an explanation of the rationale underlying the assessment; and
- d) the expected rate impact of a requirement that the LDP costs be recovered over (i) each ASP's respective high-speed Internet client base; (ii) all Canadian nomadic VoIP users; (iii) all Canadian E9-1-1 users; and (iv) all Canadian E9-1-1 users excluding wireless subscribers. Associated demand forecasts are also to be provided, as well as projections regarding future VoIP subscriber growth.

Submissions regarding LDP costs are also to include views on ways of sharing these costs among ASPs and, to the extent that such sharing is considered feasible, the impact it would have on LDP costs.

Regarding the CCSA and the CISP, the Commission suggests that each file one study on behalf of all its members, taking into account the various sizes of its members' client base. More specifically, the Commission suggests that the studies incorporate scenarios applicable to small, medium, and large ASPs, as is relative to the organizations they represent, providing the parameters, with supporting rationale, used to determine the small, medium, and large ASP sizes and identifying each ASP that fits into each category. If the information requested in a) above is different among the ASPs, a description of the different LDP configurations should be provided, including all the information referred to in a) above for each configuration.

**Who should pay for the various costs of implementing nomadic VoIP E9-1-1 service?**

The various cost elements involved in implementing the nomadic VoIP E9-1-1 service proposal are

- 1) **LDP:** This is the capability, to be implemented by the ASPs in their networks, that enables the association of IP addresses with the civic address of the broadband connection. This information is then updated in the ILEC-hosted LIS database.
- 2) **ILEC network elements:** These are the network elements, including the LIS, that the ILECs would have to build and maintain as 9-1-1 service providers, in order to implement the nomadic VoIP E9-1-1 service.
- 3) **Interconnection:** There are two types of interconnection:
  - between the ASPs and the ILECs, in order to update the LIS database with the most current IP and civic addresses; and
  - between the VoIP service providers and the ILEC, which is used to route nomadic VoIP E9-1-1 calls through the ILEC network to the appropriate PSAP.

Parties filing material with respect to issue (a) in paragraph 30 are to provide submissions regarding the policy implications of a requirement that implementation of each of the cost elements 1) to 3) listed above be recovered over (a) each ASP's respective high-speed Internet client base; (b) all Canadian nomadic VoIP users; (c) all Canadian E9-1-1 users; and (d) all Canadian E9-1-1 users excluding wireless subscribers.

Parties supporting an LDP cost recovery scenario other than that whereby ASPs are each responsible for their own LDP costs are to provide submissions addressing the following:

- a) how each ASP's LDP costs would be assessed and verified;
- b) the basis upon which revenues would be collected;
- c) the basis upon which revenues would be distributed; and
- d) how and by whom the collection and distribution of revenues would be administered.

**Should small ASPs be exempt from implementing an LDP?**

Parties filing material with respect to issue (b) in paragraph 30 are to provide submissions regarding the following:

- a) support and rationale for views on whether or not small ASPs should be exempt from implementing LDP and, if so,
- b) what the criteria and proposed "cut-off" should be for exemption, such as
  - i) number of subscribers the ASP has,
  - ii) total annual revenue of the ASP, or
  - iii) other proposed criteria.

**Are there alternative nomadic VoIP 9-1-1 solutions?**

Parties filing material pursuant to paragraph 24 of this notice are to provide submissions regarding the availability of any viable alternatives to the proposed nomadic VoIP E9-1-1 service that would improve on the current nomadic VoIP 9-1-1 service. Such submissions are to include the following information:

- a) a step-by-step description, with diagrams, of how the suggested alternative would function;
- b) an explanation as to why it would provide a superior nomadic VoIP 9-1-1 solution;
- c) a detailed analysis of the expected cost of implementation, along with all assumptions and supporting rationale;
- d) a description of the capabilities that would be provided to the PSAPs; and
- e) a description of any changes that would be required to PSAP equipment, processes, or procedures, and a proposal for how such changes would be funded.

