November 6, 2009

VIA EPASS

Mr. Robert Morin
CRTC
1 Promenade du Portage
Les Terrasses de la Chaudière
Central Building
Gatineau, QC
K1A 0N2

Dear Mr. Morin:

Subject: **Nomadic VoIP E9–1–1 service, Telecom Notice of Consultation CRTC 2009–194 – Comments**

1. The Canadian Cable Systems Alliance Inc. (“CCSA”) represents small and independent BDUs across Canada. CCSA speaks on regulatory matters for over 90 companies operating in all Canadian jurisdictions except New Brunswick and Prince Edward Island.

2. In accordance with paragraph 30 of Telecom Notice of Consultation CRTC 2009–194 (TNC 2009–194 as amended by TNC 2009–194–1), and the Commission’s letter of May 12, 2009, the Canadian Cable Systems Alliance (CCSA), on behalf of its Member Companies, hereby files its comments on the issues in this proceeding.

3. The key issues in this proceeding are:

   • the costs of implementing a solution for nomadic VoIP 9–1–1 service, including the proposal requiring facilities-based providers of Internet service, referred to as access service providers (ASPs), to implement a location determination platform (LDP);
the parties to be responsible for covering those costs;

whether small ASPs should be exempt from implementing an LDP; and

alternative solutions for nomadic VoIP 9–1–1 service.

4. As CCSA noted in the cover letter to its submission of August 7, 2009, its Member Companies would have to incur disproportionately high costs to implement a LDP. The economic evaluation study indicated that LDPs for the Member Companies would collectively cost at least $25 million. It would not be economically viable for the companies to recover these costs from among their relatively small customer base.

5. CCSA Member Companies’ high-speed Internet end-customers represent less than 1% of the total. An exemption from the responsibility of implementing an LDP would not have a material impact on the effectiveness of the proposed Canadian i2 solution, particularly in light of other deficiencies. Moreover, an exemption would minimize the regulatory and financial burden on the Member Companies, as well as reduce the administrative costs of a cost recovery mechanism. This would be consistent with the Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives, P.C. 2006–1534, 14 December 2006 (the Policy Direction) to “use measures that are efficient and proportionate to their purpose”.

6. CCSA submits that the record of this proceeding reinforces it submission in the Telecom Public Notice 2007–125 proceeding that its Member Companies should not be required to implement a LDP. However, if in the alternative the Commission mandates this requirement for all ASPs, the recovery of costs should not be the sole responsibility of the ASPs.

I. Background

7. In TNC 2009–194, the Commission sought additional estimates of the cost of implementing a LDP–based solution, having found those filed in response to Telecom Public Notice 2007–125 gave rise to concerns regarding the economic
viability and administrative feasibility of the proposals put forward. The Commission invited comments on alternative approaches that might overcome such shortcomings and otherwise improve on the current nomadic VoIP 9-1-1 service.

8. The Commission also noted in TNC 2009–194 the submission by CCSA seeking an exemption for small ASPs from the requirement to implement a LDP. It further noted that, although there are more than 230 ASPs in Canada, all but 10% of the high-speed Internet end-customers are served by the nine largest ASPs. The Commission raised concerns that an exemption could result in some uncertainty in the availability of nomadic VoIP E9-1-1 service.

9. The proposed solution that has been the focus of much of the analysis in this proceeding and in the Telecom Public Notice 2007–125 proceeding would require each ASP to implement a LDP. Each LDP would include location identification information for every one of that ASP’s high-speed Internet end-customers.

10. In the event that one of the ASP’s high-speed Internet end-customers used a nomadic VoIP service to place a 9-1-1 call, the LDP would provide the caller’s civic address by correlating it with the Internet Protocol (IP) address of the underlying high-speed Internet service of the customer.

11. The initial set-up and ongoing maintenance of a LDP requires a mapping between the location information elements, as formatted in compliance with the 911 Street Address Guide (SAG), and a logical representation of the physical locations of each high-speed Internet end-customer. In the case of the CCSA Member Companies’ high-speed Internet end-customers, the physical location is determined based on the modem Media Access Control (MAC) address.

12. The proposal of Bell Aliant Regional Communications, Limited Partnership; Bell Canada; Saskatchewan Telecommunications; and TELUS Communications Company (the Companies) required each ASP to update a centralized Location Information Server (LIS) with the data from its LDP. The LIS would be hosted by one of the incumbent local exchange carriers (ILECs), which would function as

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1 TNC 2009–194, para. 16.
2 Ibid., para. 14–15.
an Emergency Service Provider (ESP) that interfaced with the Public Safety Answering Point (PSAP).

13. The Companies’ proposal contemplated that the ASP would send the location information from the LDP to the LIS, and would deliver frequent updates as high-speed Internet end-customers were added, moved or there were changes in their IP address. This was also referred to as a Push model. Another model discussed by larger cable companies would result in a query being sent to the appropriate LDP whenever a nomadic VoIP user placed a 9-1-1 call. This variation was also referred to as a Pull model.

II. LDP Costs are Substantial

14. CCSA filed an economic evaluation study for a representative Member Company that showed a per company cost in excess of $427,000. This represents a substantial investment for small cable operators, many of whom serve only a few hundred to a few thousand high-speed Internet customers.

15. The implementation costs are expected to be higher still for those Member Companies that are not CLECs. There are a number of factors that would contribute to higher costs, as noted in the response to CCSA(CRTC to CCSA)28Aug09–3.

First, non-CLEC member companies tend to be those that have fewer resources and technical expertise to undertake and integrate the processes necessary to implement the Canadian i2 proposal. In addition, non-CLECs do not have interconnection facilities with ILECs that could be used and/or supplemented to support the transmission of LDP data. Furthermore, non-CLECs do not have access to SAG data which would be used to map customer location information to civic addresses in the required format. Overcoming these shortcomings would require contracting out for services and facilities. These activities would be very costly and would take considerable time and effort. Given the limited resources of CCSA member companies, fulfilling such requirements could impact their other lines of business.

16. In addition, the cost estimates provided assumed that each Member Company would be required to interface with only one ILEC LIS. However, the serving territories of cable companies do not necessarily correspond to those of the
ILECs. System interconnection costs are a major component of the overall cost estimates. Establishing interconnection with multiple ILEC LIS would exacerbate the cost burden associated with implementing a LDP.

17. CCSA further notes that, assuming the LDP was implemented by each Member Company offering high-speed Internet service, the total costs would likely exceed $25 million. This equates to approximately $328 for each high-speed Internet end-customer served by these companies.

18. The estimated costs for CCSA Member Companies are disproportionately high relative to other Access Service Providers. By comparison, Shaw estimated a LDP would equate to a per subscriber fee, if recovered up front, of about $8.\(^3\)

19. The larger cable companies proposed a query, or Pull model, and estimated costs for this variation of a LDP would be lower. CCSA did not consider a query, or Pull, model for the reasons noted in the response to CCSA(CRTC to all ASPs and ILECs)28Aug09–1:

   Unlike larger cable companies, CCSA member companies operate on a much smaller scale such that the capital and operating expenses associated with maintaining and updating information from the LDP to the LIS is unlikely to be reduced by adopting the alternative query model. Moreover, CCSA is of the view that its member companies could incur even greater costs to implement a query model than the “push” model because of the requirement to establish additional interconnecting trunks with each ESP for redundancy.

20. For all the reasons noted above, CCSA submits that it remains the case that it would not be economically viable for its Member Companies to implement a LDP, regardless of whether a push or pull model was chosen.

### III. Exemption for Small ASPs

21. CCSA submits that the Commission should permit small ASPs to opt out of implementing a LDP-based solution for nomadic VoIP 911. The record of this proceeding has served to further demonstrate that CCSA Member Companies do

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\(^3\) Shaw, Economic Evaluation, August 7, 2009, page 12.
not have the financial or other resources necessary to undertake the effort that would be required of them as ASPs.

22. One of the key risks for small ASPs is that some or all of the costs of implementation may have to be recovered from their own customer base. The nine largest competitors could recoup their costs over hundreds of thousands, or even millions, of high-speed Internet end-customers. This provides them with a competitive advantage relative to the small ASPs.

23. CCSA Member Companies serve only a few hundred to a few thousand high-speed Internet end-customers. Recovering the cost of a LDP from such a small base would be challenging, to say the least. Moreover, financing the up-front costs of a LDP would put undue strain on the limited financial resources available to these companies. This would be a serious concern regardless of whether the Commission adopted a cost recovery mechanism that encompassed a broader base.

24. In TNC 2009–194, the Commission raised a concern that exempting some ASPs could create uncertainty among nomadic VoIP users as to the availability of the proposed LDP-based solution for nomadic VoIP E9–1–1. However, CCSA submits that these concerns are not warranted with respect to exempting very small ASPs such as its Member Companies.

25. First, as CCSA stated in its response to CCSA(CRTC to CCSA)28Aug09–4, there are unlikely to be any significant number of nomadic VoIP users in the serving territories of its Member Companies.

CCSA estimates that the number of nomadic VoIP end users located in the territories of its member companies would be a very small fraction of the Canadian total. These companies account for less than 1% of the Canadian high-speed internet customer base. Assuming nomadic VoIP end-users were distributed proportionate to the high-speed internet customer base, this would equate to less than 2,000 nomadic VoIP end-users within the serving territories of CCSA member companies. However, even this is likely to be an overstatement because VoIP service providers generally do not offer telephone numbers that are local to the communities in which most CCSA member companies operate.
26. The number of nomadic VoIP end-users that could potentially be affected is so small, yet a LDP solution for the CCSA Member Companies would total more than $25 million. Even assuming the estimate of 2,000 potential nomadic VoIP end-users, this equates to a cost of $12,500 each. The cost is entirely out of proportion to any perceived benefit.

27. To provide further perspective on the relative impact, exempting the CCSA Member Companies would create less of a gap than what could occur due to other deficiencies in the proposed LDP. The total number of high-speed Internet end-customers served by these companies is far less than the 125,000 end-customers that MTS Allstream stated could not be served under this proposal.\(^4\) Most of the affected end-customers are located in Winnipeg, a larger urban community where the probability of nomadic VoIP end-users is greater than in the smaller communities and rural areas that mainly are served by CCSA Member Companies.

28. There are other potential gaps and deficiencies that could arise with the LDP proposal. As the larger cable companies noted in their interrogatory responses, “it would not function with certain network types (e.g. fixed wireless networks) and configurations (e.g. use of remote virtual private networks), and has not even been evaluated for use with other network types (e.g. MPLS).”\(^5\) These deficiencies, when considered in light of the significant costs, cast doubt on whether it would be an efficient use of resources to mandate a LDP for any ASP.

29. CCSA further submits that an exemption for small ASPs would minimize the regulatory and financial burden on the Member Companies, as well as reduce the administrative costs of a cost recovery mechanism. In light of the relative costs and benefits, an exemption for small ASPs would be appropriate and consistent with the Policy Direction to “use measures that are efficient and proportionate to their purpose”.

30. CCSA proposes that an exemption for small ASPs be based on the number of high-speed Internet end-customers and the threshold should be a maximum of 10,000 end-customers per company. CCSA notes that the Commission adopted

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\(^4\) MTS Allstream, Economic Evaluation, August 7, 2009, para. 3.

\(^5\) See for example, All Interested Parties–Rogers(CRTC)28Aug09–1.
the same threshold count of customers for the purposes of determining what constituted a small CLEC.\(^6\)

31. It would not be appropriate to base the exemption on other factors such as whether the ASP was also operating as a CLEC. While becoming a CLEC may require a company to take on activities that could lower the incremental cost of implementing a LDP, there is a strong policy reason for not linking this to an exemption. To do so would create a disincentive for companies to become a CLEC, thus undermining the objectives in section 7 of the *Telecommunications Act*, as well as the Policy Direction which directed the Commission “to rely on market forces to the maximum extent feasible as the means of achieving the telecommunications policy objectives”.\(^7\)

### IV. Cost Recovery

32. CCSA submits that its Member Companies could not recover from their high-speed Internet end-customers the costs associated with implementing a LDP. Therefore, CCSA requests that the Commission exempt small ASPs, such as its Member Companies. This would simplify any cost recovery mechanism by reducing the number of ASPs that would have to be involved.

33. However, if the Commission proceeds to mandate a LDP-based solution and there is no exemption for small ASPs or the threshold is set too low, then an effective cost recovery mechanism is critical to implementation. A cost recovery mechanism would need to address the financial challenges that would be faced by many ASPs, particularly the small ASPs.

34. Logically, it should be the VoIP service providers and their end-users that should bear the costs of any solution. It is only these providers and their end-customers that would derive any benefit from an enhancement to the nomadic VoIP 9–1–1 service. In the event that the Commission determines that the costs of a LDP solution should be distributed more broadly, the only reasonable

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\(^6\) Telecom Decision CRTC 2006–58, para. 84.

\(^7\) The relevant *Telecommunications Act* objectives include: (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; and (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.
alternative is to spread the recovery of costs over as broad a base as possible. This would correspond to all Canadian E9-1-1 users, including wireless.

CCSA does not agree that costs should be recovered solely from high-speed Internet end-customers. There is only the most tenuous of connections between these customers and the primary beneficiaries of a nomadic VoIP E9-1-1 solution. In the case of CCSA Member Companies, there is likely to be almost no correspondence between their high-speed Internet end-customers and nomadic VoIP end-users.

With respect to validating costs, the Commission has been able to validate costs in other circumstances where funding has been provided from a pool of revenues to specific companies and for specific projects. Examples include the existing local telephone service subsidy regime, the local number portability cost recovery regime, and more recently, ILEC deferral accounts. A reporting and payment scheme for ASPs seeking funding for LDP implementation could build on these examples.

V. Alternative Solutions

The LDP–based proposal, whether using a push or pull approach, would place the responsibility of the customer location tracking system on the ASP, along with the costs and liability of maintaining the completeness and accuracy of the customer location information.

An alternative put forward in this proceeding by Rogers was the IP Tracker proposal. Under this proposal, when a material change occurred in the IP address associated with the high-speed Internet service over which a nomadic VoIP service connected, the first call placed would be routed to the VoIP Operator’s nomadic 911 Call Centre. It would be up to the VoIP Operator to implement and manage this system.

The IP Tracker proposal would maintain a strong link between the responsibility for a customer location tracking system and the VoIP service provider whose service is being used to place the 911 call. The proposal would also be more cost–effective and faster to implement. It would avoid imposing a significant
financial burden on small ASPs, and there would be no need to implement a cost recovery mechanism.

40. There may be other mechanisms that VoIP service providers could implement to enhance the reliability of location information for their nomadic VoIP users. For example, in the response to Comwave (CRTC) 28 Aug 09–1, it described the company’s use of an online data entry system that provides users with a readily-accessible tool to proactively manage their profile, including location information.

41. Other solutions that could be explored would leverage the system monitoring capabilities inherent in some VoIP devices to send an alert to the VoIP service provider in the event that a device was disconnected and then reconnected using a different IP address. The VoIP service provider could then notify the end-user via email or phone to verify or update the location information for 911 purposes.

42. The development of the next generation of nomadic VoIP E9–1–1 may also offer a solution that can be implemented by the VoIP service provider, rather than involving all ASPs. Under the “i3 model” the end-user devices are location aware and would have the capability to provide alerts to the VoIP service provider if any material change in location occurs.

43. Under these alternatives, it is the VoIP service provider and end-user that would be responsible for, and directly engaged in ensuring that the location information used for E9–1–1 is accurate and up-to-date.

VI. Conclusion

44. CCSA submits that it would not be economically viable for its Member Companies to implement a LDP. The costs of doing so would be disproportionately higher relative to the potential benefits such an initiative could provide to their high-speed Internet end-customers.

45. CCSA further submits that it would be appropriate to grant an exemption for small ASPs, defined as those serving no more than 10,000 high-speed Internet
end-customers. An exemption would not materially impact the effectiveness of the proposed Canadian i2 solution, particularly in light of other deficiencies.

46. However, if the Commission proceeds to mandate a LDP-based solution and there is no exemption for small ASPs or the threshold is set too low, then an effective cost recovery mechanism is critical to implementation. While it would be logical for the VoIP service providers and their end-users to be responsible for the costs, if the Commission determines that a broader base is necessary, then the costs should be recovered from all Canadian E9–1–1 users, including wireless. A cost recovery mechanism should not require ASPs to be solely responsible for recovering the cost.

47. CCSA appreciates the opportunity to provide comments on this matter.

Sincerely,

Christopher J. Edwards
Vice-President, Corporate & Regulatory Affairs

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