	CRTC INTERCONNECTION STEERING COMMITTEE
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RELATED TIF#:	TIF48
TITLE:	Elements of non-consensus and proposed solutions

ISSUES ADDRESSED: This contribution represents the elements of non-consensus of the 11 largest independent Internet Service Providers of the Province of Quebec related to the development of a functional architecture for a Canadian NENA i2 implementation (Ci2). In this updated contribution, QCISP is providing its proposed solution as requested by Commission staff in the procedures set forth in Serial 8th of the TIF 48 minutes.

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This contribution is collectively submitted by Xittel telecommunications on its behalf as well as on behalf of the Quebec Coalition of Internet Service Providers. This contribution does not constitute a binding proposal and can be withdrawn or revised at any time.

Executive Summary: The QCISP's solution put first

1. While the ESWG CISC activities have evolved in such a fashion as to demonize the concept of user self-input, the QCISP submits that the Commission as yet to hold a formal proceeding and rule with evidence on the public record that user self-input would not be, in Canada, as good a substitute for automatic IP location reporting, as currently in use today in the USA.

2. The QCISP submits that until such time automatic IP location reporting is found to be practical to implement by a carrier, it should not be mandated without the opportunity for parties to make their views know to the Commission for a first time, which would in this case be the due process required by law.

3. The QCISP submits that the ILEC Ci2 implementation is restrictive in that it does not allow for self-input, nor does it identify how location-enabled devices would be supported. The ILEC Ci2 proposal is based on the implementation of proprietary non-standard mechanisms for automatic IP location reporting that are designed in such a fashion as for ILECs and incumbent cable carriers (ICC's) not to have to modify anything in the deficient architecture of their wholesale services.

4. Despite the many proposals of the QCISP in the CISC for ILECs to switch to Ethernet-based DSL Forum TR-101 unbundling for their DSL wholesale services and proposals to the ICCs to implement MPLS-based interconnection for TPIA, ILECs and ICCs do continue to deliberately hide geographical network topologies of their wholesale services with DSL tunnel switching for GAS & Source-based routing instead of MPLS for TPIA.

5. The QCISP submit that the Ci2 proposed mechanisms for IP-location reporting are short term deficient patches and thus poor substitutes for proper unbundling of essential services which will require the unbundling of QoS-unbundling as well as layer 2 network-to-network interfaces which will allow ISPs to compute their own wiremaps.

6. Once these services are properly unbundled, ISPs will be able to implement automatic IP location capabilities in ISP non-real-time provisioning servers, thus pushing all of the real-time performance requirements into stable and mature hardware and software in voice end-points and in routers, switches, SIP proxies, SIP B2BUAs, which today are known to work 24/7.

7. The QCISP submits that the Ci2 proposal is deficient in that it has yet to be modified by ILECs to implement the proposals of the QCISP to support location capable devices and to define wiremap update protocols that ILECs would be implement as part of ILEC-Hosted Centralized LISes with standards-based wiremap update protocols (such as the Flexible LIS-ALE Protocol).

8. The QCISP submits that without ILEC-Hosted Centralized LISes, its members will not be able to assume the prohibitive costs and take on the civil liabilities for implementing distributed LISes that would remain in the call path as envisioned in Ci2 in order to assure the level of service that E-9-1-1 requires.

9. It is for these reasons that the QCISP submit that in absence of PSAP-support for user self-input, the immediate support for location-capable devices in Ci2 as advanced by the QCISP in ESCO0269, is the right solution. The Commission should not give weight to the ILECs arguments that this solution has not been properly advanced by the QCISP in compliance with the CISC processes in ESWG.

10. The QCISP requests the ESWG to report the proposed solution advanced by the QCISP which is that the Commission makes E-9-1-1 mandatory for nomadic VoIP services, according to the following conditions;

    - for voice-end-points devices that are non-location capable, for service providers to update the firmware in the devices to make them location-capable as proposed by the QCISP in ESCO0269.

    - for voice-end-points devices that have firmware that cannot be updated to support location reporting capabilities, that existing mechanisms, such as 0-ECRS or user self-input, continue to be used until such time as carriers are able to update their underlying infrastructures and end-points to support IP automatic location reporting capabilities.

    - for CISC to undertake the necessary work in NTWG to identify the mechanisms that Canadian carriers are to implement to support IP automatic location reporting capabilities and to report to the Commission on this matter, such as by defining adequate network-to-network interfaces for the unbundling of wholesale DSL and Cable TPIA services, such as through the use of the DSL Forum TR-101[1] and the Cablelabs SP-L2VPN[2] specifications.

[1] http://www.dslforum.org/techwork/tr/TR-101.pdf
[2] http://www.cablemodem.com/downloads/specs/CM-SP-L2VPN-I04-070518.pdf

ESWG procedural matters that need be addressed prior to the non-consensus report being submitted to the Commission

11. The QCISP would like to note that the present contribution was originally filed on April 5th 2007 and is being portrayed in the ILEC contribution filed on May 25th 2007 as being of no relevance to the present process. Furthermore, the QCISP would like to note that TIF48 contribution log does not list the April 5th contribution of the QCISP. Finally, the QCISP would like to note that in their May 25th 2007 contribution, the ILECs allude to procedural deficiencies in the April 5th version of the QCISP contribution.

12. The QCISP respectfully submits that the April 5th version of the present contribution was explicit in the last paragraph about the fact that the QCISP had then decided to wait to see the outcome of the process initiated by the Cable Carriers before taking further position within CISC ESWG.

13. The present contribution updates and replaces the QCISP April 5th contribution and includes the elements of the proposed solution advanced by the QCISP in ESCO0269 as further justification for the disagreements of the QCISP with the proposed ILEC Ci2 implementation.

14. The QCISP notes that the ILEC proposed I2 architecture document dated March 27th 2007 embedded into the non-consensus report does not reflect any of the proposed changes submitted by the QCISP to structure the document in such a fashion as to include support for location-enabled devices and to allow for the non-mandatory implementation of IP automatic location reporting. The QCISP submits that the included proposed Ci2 architecture should be moved from section 5 into section 4, which is to include the present contribution as well as the non-consensus ILEC proposed I2 architecture.

15. The QCISP strongly object the proposal of the ILECs to use the procedures set forth in the March 28th Commission Staff letter to ESWG, as a way to procedurally dismiss the April 5th version of the present contribution of the QCISP as well as May 26th contribution of the cable carriers, on the basis of both lacking the element of a proposed solution[3]. In any event, the present contribution replaces the April 5th version and highlights the proposed solution envisioned by the QCISP and is thus compliant with the process set forth in the Commission staff procedure letter dated March 28th 2007.

[3] i.e. the Commission staff has advanced the view that the position of ESWG participants who disagree will not be considered as meaningful unless accompanied with a proposed solution.

The QCISP motivations for filing the report as non-consensus

16. In CRTC Telecom Decision 2006-60, the ESWG has been requested to file a report with the Commission identifying a functional architecture for the implementation of VoIP E9-1-1 service in Canada which achieves industry consensus.

17. The QCISP has been a diligent participant in ESWG and has made a number of key contributions such as ESCO0269A detailing its final position on the Ci2 proposal.

18. The QCISP supported an extension of up to 3 months in order for the establishment of consensus. However, ESWG has not been able to achieve a consensus on the issue of whether any additional time would enable parties to establish consensus.

19. The QCISP submits that the reasons why ESWG has been unable to achieve consensus are the result of the Decision of the Canadian Government to deregulate VoIP prematurely without ensuring that the CRTC be required to implement an IP-based interconnection framework as a pre-condition for allowing VoIP to be deregulated. While it is clear that interconnection to the E-9-1-1 network is an element of IP-based interconnection framework, the Government of Canada has proceeded to deregulate VoIP without any consideration to the urgent necessity of technological neutrality in interconnection being implemented as a pre-condition for forbearance.

20. The QCISP submits that the modifications to the NENA i2 standard proposed by the ILECs in their Ci2 proposal do not make NENA i2 it practical for implementation in Canada for the following reasons:

    i) As it stands, the initial implementation of Ci2 will not support location-capable devices as soon as they become available on the market. Rather, ILECs seem to argue that location-capable devices should only be supported at which point in time all end-points are capable of relaying their locations when used to place an emergency call to a PSAP.

    ii) Several service providers do not make use of public Internet Protocol addresses assigned by an internet registry (such as ARIN in Canada and the USA) in order to provide their VoIP services, which would result in the proposed Ci2 infrastructure failing to resolve to which location information server(s) to track end-point location.

iii) The means proposed in Ci2 to impose IP automatic location do not identify how users, in order to protect their privacy, would be able to directly control the transmittal of his or her location information, rather than having to rely on (and trust) whatever transient access network the user might be utilizing at the time, while also ensuring that location information is delivered to the 9-1-1 PSAP in an emergency context. The QCISP submits that the Commission should undertake a thorough analysis on the subject of privacy protection of IP location prior to mandating service providers to implement such technologies in order to support E-9-1-1. For the same reasons than stated by the Center for Democracy and Technology to the FCC on May 17th 2007[4] in the WC Docket #05-196, the QCISP finds it impractical that IP automatic location reporting be mandated without means existing to allow end-users to protect their privacy by enabling users to directly control the transmittal of his or her location information.

iv) The means proposed by the ILECs in their Ci2 proposal, to mandatorily implement IP automatic location reporting, do not identify how the mandatory implementation of IP automatic location reporting will not unduly hamper innovation in the telecommunications markets in Canada. For the same reasons than stated by the Center for Democracy and Technology to the FCC on May 17th 2007[5] in FCC WC Docket #05-196, the QCISP submits that mandating IP automatic location across all ISP networks in Canada, will unduly hamper innovation. This would then defeat the public interest given the limited amount of emergency calls made today with IP-based devices in comparison to wireless (cell) phones for instance.

v) The means proposed by the ILECs in their Ci2 proposal, to mandatorily implement IP automatic location reporting do not answer any Commission-imposed requirement that providers of the E-9-1-1 infrastructure route calls based upon location dynamically retrieved from new industry databases required to be inserted in the emergency call path. The QCISP wishes to be clear that its proposed solution to use location-capable devices would eliminate the necessity for such costly network elements and eliminate the requirement that the industry protects itself against the liabilities that could arise from the failure of these new databases to perform. Unlike ILECs or CLECs, VoIP service providers and ISPs are not afforded any limitation on their liabilities through a tariff approved by the Commission.

[4] http://www.cdt.org/digi_tele/20070517cdt.pdf
[5] http://www.cdt.org/digi_tele/20070517cdt.pdf

vi) The QCISP would like to note to the ESWG that the IETF SIP Working Group Charter stipulates that the SIP Location Conveyance IETF standard will be forwarded to the IESG as a Proposed Standard in July 2007. The QCISP reaffirms its position that this method for carrying a PIDF-LO in a SIP header is both stable, supported in the market by several vendors and thus must be implemented in Ci2 from the get go, in order for the QCISP to lend its support for a Commission mandated solution to provide E-9-1-1 for nomadic VoIP services in Canada. The QCISP submit that ILECs have to be clear as to whether their Ci2 proposal will support location-by-value passed across their Ci2 NENA i2 V6 interface in the format specified by the SIP SESSION LOCATION CONVEYANCE standard and that as a result, will steer/route emergency calls based upon the PIDF-LO received across the V6 interface rather than through a dynamic lookup in a LIS.

vii) The QCISP submits that the restrictions proposed by the ILECs in their Ci2 proposal, to disallow ISPs and VISPs who consider impractical to implement automatic IP location reporting (such as a result of the unavailability of such features in the layer 2 NNI of wholesale services), to continue to comply by way of providing basic 9-1-1 provided via the ILEC 0-ECRS services, are not supported by any Commission finding or order.

viii) The QCISP submits that the restrictions proposed by the ILECs in their Ci2 proposal, to limit the accessibility of Ci2 to providers of nomadic Voice over the Public Internet and to deny access to providers of Voice over private managed IP networks is clearly against the public interest as often, nomadicity of VoIP services often place devices in a position where they would need to make E-9-1-1 calls across private managed IP networks where a single connection to the Internet is shared by many buildings.

ix) The QCISP submits that the restrictions proposed by the ILECs in their Ci2 proposal to forego of digitally signing MSAG-validated location objects across the V7 interface, such as that in return, MSAG validity could be authenticated from the digital signature of a location object, all of which used by the ILECs as a justification for ILECs not trusting PIDF-LO's received across a V6 interface, is also clearly against the public interest.

Conclusion

21. In ESCO0269A, the QCISP clearly stated what it considered a proposed solution to the support for E-9-1-1 for nomadic VoIP services in Canada. The QCISP submits that ILECs find this proposal incapable of addressing their views that non-location capable devices should be given a particular status. The QCISP has clearly identified that the benefits of enabling E-9-1-1 support for non-location capable devices do not outweigh the harm that would be caused to ISPs should they be required to implement the solution envisioned by the ILECs. The QCISP requests the Commission to pose as a question as to why ISPs should be required to solve the problems of Vonage, Primus and Comwave whereas these parties, with the exception of Primus, are not ISPs. The QCISP submits that if Vonage and Comwave want to see their users which use ILEC retail DSL services get E-9-1-1, these parties can make the arrangements with the ILECs, but that hardly constitutes an industry solution practical for implementation in Canada. For these reasons, the QCISP requests ESWG to add ESCO0269A as a contribution to section 4 of the non-consensus report.

22. The QCISP further submits that the issue of IP-based interconnection to the ILEC E-9-1-1 infrastructures could be dealt more swiftly by the Commission within the context of PN 2007-6, as part of the urgency of mandating IP-based interconnection between LECs and VISPs, than by attempting to make sense of the ESWG non-consensus report.

23. The QCISP urges the Commission to focus its attention onto the conditions in which IP-automatic location reporting could be mandated across the NNI of properly unbundled wholesale services. The QCISP notes Commission has the ability to require the ILECs and ICCs to properly respond to the proposal of the QCISP that DSL GAS and Cable TPIA services be properly unbundled according to the DSL Forum TR-101[6] and the Cablelabs SP-L2VPN[7] specifications. The QCISP submits that it is paramount for support of E-9-1-1 for nomadic VoIP services that ISPs be allowed compute their own wiremaps and thus support location capable devices without being forced to subscribe to other parties LIS services as a result of the prohibitive costs and high liabilities for the failure of ISP LISes to perfom.

24. The QCISP submits that until such time as the Commission provides the industry an opportunity to make their views noted on the public record regarding the mandatory implementation of IP automatic location reporting, support for E-9-1-1 for nomadic VoIP can be addressed by the industry on a best effort basis without need for any further policy directive from the Commission. If ILECs truly want their Ci2 solution available without support of non-location capable devices, they could today simply file a tariff for it as much as it seems they could have done so more than one year ago. However, this would not require the industry to subscribe to such a tariff.

[6] http://www.dslforum.org/techwork/tr/TR-101.pdf
[7] http://www.cablemodem.com/downloads/specs/CM-SP-L2VPN-I04-070518.pdf

25. The QCISP has proposed that Ci2, upon implementation, permits the support of location capable devices across the V6 interface via the IETF SIP Location Conveyance standard. The QCISP submits that this is a reasonable solution and for these reasons, the objections stated in this contribution, should be duly considered by the Commission.

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