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CISC Emergency Services Working Group – Consensus report regarding a Next-Generation 9-1-1 network architecture standard for Canada

*The Commission **approves** the recommendations made by the CRTC Interconnection Steering Committee's (CISC) Emergency Services Working Group (ESWG) regarding the National Emergency Number Association (NENA) i3 architecture standard for Next-Generation 9-1-1 (NG9-1-1) services. Adoption of this standard will facilitate the transition from legacy 9-1-1 systems to Internet-Protocol-based NG 9-1-1 systems and provide a clear path forward for all 9-1-1 stakeholders and Canadians.*

The Commission requests that the ESWG and other CISC working groups submit to the Commission, as appropriate, their recommendations on the Canada-specific technical and operational aspects of the implementation of the NENA i3 architecture standard for NG9-1-1 services.

Background

1. Next-Generation 9-1-1 (NG9-1-1) services are expected to provide consumers with new ways to access emergency services from multiple devices and communications platforms. It is expected that through these services, Canadians will be able to interact with emergency service providers using voice, text messaging, and other means of communication. These services may also offer the possibility of providing additional information, such as pictures and videos, to 9-1-1 call takers or emergency responders.

2. In its *9-1-1 action plan*, Telecom Regulatory Policy CRTC 2014-342, 25 June 2014, the Commission identified key initiatives aimed at enhancing Canadians' access to 9-1-1 services, including the eventual transition to NG9-1-1. The Commission therefore indicated that it would initiate a proceeding in 2016 to review the regulatory framework for NG9-1-1 services regarding the role of telecommunications service providers and other telecommunications policy issues (the 2016 proceeding).

3. In preparation for the 2016 proceeding, the Commission requested that the CRTC Interconnection Steering Committee (CISC) Emergency Services Working Group (ESWG) submit two status reports on the progress of NG9-1-1 service implementation in Canada and abroad. The Commission requested that these reports include information on NG9-1-1 standards, equipment, deployment, and network readiness.

Canada

The Report

4. On 4 September 2015, the ESWG submitted the following consensus report (the Report) to the Commission for approval:

   - *NG9-1-1 Architecture for Canada – Assessment of the Usability of the NENA i3 Solution for Canada*, 13 August 2015 (ESRE0070)

5. The Report can be found under the "Reports" section of the ESWG page, which is available under the CISC section of the Commission's website at www.crtc.gc.ca.

6. In the Report, the ESWG concluded that now is the appropriate time to identify an NG9-1-1 architecture standard to enable the transition of current 9-1-1 networks to NG9-1-1 networks, since 9-1-1 call centres (known as public safety answering points [PSAPs]) and 9-1-1 service providers are starting to make the network changes and upgrades intended to support NG9-1-1 services. The ESWG also indicated that the selection of an agreed-upon NG9-1-1 architecture standard will provide all 9-1-1 stakeholders with a consistent roadmap to guide them in their planning, budgeting, and system design, as well as in their participation in the 2016 proceeding.

7. In 2015, the ESWG conducted an assessment of whether the National Emergency Number Association (NENA)[1] i3 architecture standard[2] is the appropriate standard for Canada. The ESWG unanimously agreed that this standard has all the network specifications and functional elements necessary to implement NG9-1-1 services in Canada, and that there are no alternative NG9-1-1 architecture standards in North America or abroad, nor are any expected. The ESWG therefore recommended the adoption of the NENA i3 architecture standard in Canada.

8. The ESWG indicated that it could assess the technical and operational aspects of how the NENA i3 architecture standard could be implemented in Canada following Commission approval of the standard. The ESWG set out a list of related sub-tasks that it recommended to be addressed by it and by other CISC working groups. The ESWG added that if any issues arise that have regulatory or policy implications, it would refer these issues to the Commission for analysis during the 2016 proceeding.

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[1] NENA is a 9-1-1 standards-making organization whose mission is to foster the technological advancement, availability, and implementation of the 9-1-1 emergency system. NENA is based in the United States and Canada, and its membership is composed mostly of PSAPs, equipment vendors, and telecommunications service providers.

[2] The NENA i3 architecture standard is an end-to-end Internet Protocol (IP)-based network architecture standard that enables the transition to IP-based networks by accommodating support for the existing legacy wireline and wireless origination networks and PSAP equipment that are not IP-based. This standard also introduces the concept of an Emergency Services IP network (ESInet), which is an IP-based network that connects telecommunications service providers with all public safety agencies that may be involved in an emergency.

Commission's analysis and determinations

9. The NENA i3 architecture standard is appropriate for Canada for the following reasons:

    - Since the standard is already being used worldwide, adoption in Canada will ensure moderated costs, as well as the interoperability of NG9-1-1 networks, equipment, systems, and devices across Canada and abroad;

    - Based on the Report, there are no documented alternatives to this standard, and no objections have been raised regarding its use in Canada by any 9-1-1 stakeholders;

    - 9-1-1 service providers and PSAPs have already assumed the implementation of the NENA i3 architecture standard and network specifications in their current 9-1-1 system upgrades and future plans, so an alternative solution could lead to stranded investment; and

    - This standard is able to, and will, evolve as new technologies are developed, with input from various NENA working groups to cover all aspects of the implementation of and transition to NG9-1-1 services.

10. Approval of an NG9-1-1 architecture standard at this time would enable the orderly development and transition to NG9-1-1 networks. This transition will provide a clear path forward for all 9-1-1 stakeholders and Canadians, as well as permit the introduction of NG9-1-1 services to Canadians more quickly following the 2016 proceeding.

11. In light of the above, the Commission **approves** the adoption of the NENA i3 architecture standard as the standard for NG9-1-1 services in Canada. The ESWG and other CISC working groups are requested to (i) undertake the sub-tasks set out in the Report regarding the Canada-specific technical and operational aspects of the implementation of the NENA i3 architecture standard, and (ii) submit, as appropriate, their recommendations to the Commission.

Secretary General