BY EPASS

September 18, 2009

Mr. Robert A. Morin
Secretary General
Canadian Radio-television and
Telecommunications Commission
Ottawa, Ontario
K1A 0N2

Dear Secretary General,

Subject: TNC CRTC 2009-194-1 – Responses to Interrogatories – Nomadic VoIP E911 service

1. Please find attached the interrogatory responses of Execulink Telecom Inc. (Execulink) in the above referenced proceeding.

Respectfully submitted,

Keith Stevens

cc. Interested Parties to TNC 2009-194

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Question

Rogers’ submitted in its preferred Alternative Proposal – IP Tracker, dated 7 August 2009, that when a material change in the IP address is observed, the Tracker server will instruct the VoIP provider’s soft switch to change the translation tables such that the first call placed thereafter by the customer will be routed to the VoIP Operator’s nomadic 911 Call Centre to verify current address information. Given that nomadic VoIP service by its nature allows customers to move around as often as they like, explain the impact this would have on:

a) The customer’s experience using the nomadic VoIP service as a result of being automatically directed to customer service or a third party call centre whenever a material IP address change occurs.

b) How this feature would affect the competitiveness of the service in comparison to other telephone services that have an automated E9-1-1 service or the current interim solution for nomadic VoIP 9-1-1.

Answer

a) Being automatically directed to customer service or a third party call centre whenever a material IP address change occurs would be an inconvenience to the VoIP customer. However, VoIP customers may prefer the inconvenience to having to pay for the extra cost of a VoIP E911 system that automatically knows their location (if possible – doubtful for VPN calls).

b) Competitiveness is affected by service and price. Some customers are willing to pay a higher price for better service, others are not. Considering the number of users who have chosen free VoIP services with their quality limitations it is doubtful they are willing to pay for VoIP E911.
Question

Rogers considers that both its Second Alternative Real-time query proposal and the Canadian i2 are inferior to its Preferred Alternative “IP Tracker” proposal. Other than in terms of the cost and time to implement, provide your views with supporting rationale in regards to the above opinion. The comparison should include, but not be limited to, the ability to automatically provide location information to the PSAPs, accuracy of information provided, reliability, the continued use of a third party call centre, the resulting time delay due to this additional step and the human error element in collecting and verbally providing location information compared to an automated process.

Answer

Broadband access is provided using a number of different delivery methods (DSL, cable, wireless etc.) and even for each delivery method there are variations how individual ASPs manage their networks. There have been a number of proposals (and variations) put forward in this proceeding. Each proposal is tailored to the unique requirements of the proponent’s delivery method and network management technology. What is not provided is a description of how the proposals would work with other delivery methods and network management technologies. Subsequently Execulink is not able to respond to this question.
Question

With reference to Attachment 3 – Rogers’ Second Alternative Proposal – Real Time Query, dated 7 August 2009, Rogers submitted that a VoIP operator’s gateway can only detect a material change in the IP address. Rogers submitted that a material change is observed when the customer is assigned an IP address not within a fixed specific range of IP addresses that are assigned to a specific local CMTS (Cable Modem Terminating System)/DSLAM that serves a defined geographical area. In the case of Rogers, there are approximately 425 homes on average in the geographic segment served by a local CMTS.

a) Explain in detail, similar to what Rogers provided above, what would constitute a material IP address change in your network. In addition, provide a description of the network configuration or equipment that would determine when a material change is observed and the geographical area and number of homes covered where a material change in the IP address would not be detected.

b) Provide the length of time that a specific IP Address is assigned to a customer in your HSI network.

Answer

a) Execulink does not assign IPs to a defined geographical area. IPs are dynamically assigned from ‘pools’ of IP addresses. The ‘pools’ are not geographical defined. Please refer to AIP-Execulink (CRTC) 28Jul09-2 TNC 2009-194.

b) Every time the customer re-authenticates a new IP address is assigned. Some customers have their systems configured to disconnect when not in use so they may be re-authenticating several times an hour. On average Execulink’s customers have more than 200 sessions per month which results in 200 different IPs per month per customer.
Information Requested by
Canadian Radio-Television and Telecommunications Commission
of
All Access Service provides and Incumbent Local Exchange Carriers
(ASP&ILEC)

Question

The Cablecos supported an alternative proposal to the Canadian i2 architecture whose principal difference is that it eliminates the need for the ASP LDP to be continually populating an external LIS and instead does so on a query basis. Where not already provided in your submissions, explain in detail the impact of implementing this proposed functionality on the Canadian i2 architecture in terms of the overall functionality, reliability as well as network changes, costs, procedures and timelines.

Answer

Please refer to AIP-Execulink (CRTC) 28Jul09-2 TNC 2009-194.
Question

Shaw's other alternative proposal involves the Emergence Service Providers (ESPs) hosting a Location Information Server (LIS) containing a unique modem location key (MAC ID) and corresponding SAG validated civic address for each active modem on the ASP network. The ASPs will host their own LDP which will contain the public IP address and corresponding MAC address for each active modem provisioned within their respective DHCP servers. During a nomadic E9-1-1 call the LIS will query the ASP LDP using the public IP address of the caller. The ASP LDP will return the MAC address for the public IP address. The LIS will then correlate the MAC address with the MAC address and corresponding civic address found in the LIS. The civic address will be supplied to the PSAP. Explain in detail the impact of implementing this proposed functionality on the Canadian i2 architecture in terms of the overall functionality, reliability as well as network changes, costs, procedures and timelines.

Answer

Please refer to AIP-Execulink (CRTC) 28Jul09-2 TNC 2009-194. This is an example of different proposals supporting the unique architecture of the proponent but not addressing the larger picture. Cable modems have MAC addresses whereas DSL modems do not.
Question

The Commission has asked all parties to identify the costs of a Location Determination Platform capable of linking the nomadic VoIP 9-1-1 caller’s location on the Internet, with its Internet Protocol (IP) address and with its civic address of the high-speed Internet access used to obtain his nomadic VoIP service.

Please provide an example of the content of the computerized record in your proposed implementation of the LDP, for which you have provided implementation costs to the Commission, depicting each field, its format, while marking off private information with ###. CISP asks that particular emphasis be given to depicting whether your LDP database would contain unique identifiers corresponding to the Wiremap of your network architecture, such as a MAC address or an AAA record, or a PPPoE Intermediae-Agent record, or a Radius LLID record expressing the incoming DLSAM port utilized by the nomadic VoIP 9-1-1 caller.

Answer

Execulink did not present a proposed implementation of the LDP.
Question

The Commission has asked all Access Service Providers to identify the costs of a Location Information Server consisting of a database customers' location information (LDP, see Q1 above), which would constantly update the ILEC Hosted LIS with the location information of their subscribers, as well as provide this information to the public safety answering points (PSAPs) when a 9-1-1 call is made.

Refer to the last sentence of paragraph 6 of the TNC2009-194:

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.

Please identify how you have interpreted the last sentence of paragraph 6 of TNC 2009-294 and whether your ASP LIS implementation has the capability to directly interface with the PSAPs or actually relies or will rely on the ILEC HOSTED LIS to make sure that this information is provided to the PSAP.

Answer

Execulink did not present a proposed implementation.
Question

Please identify in the latter case, where you are envisioning LIS to LIS communications between the ASP LIS and the ILEC LIS, such as that it will be the ILEC HOSTED LIS which will convey the information to the PSAPs, identify which protocol implementation was costed in your cost study, and will be utilized to perform the upload of location information and identify whether there is a standardized implementation of this protocol developed by a recognized standardization body.

Answer

Execulink was also confused about the role of the ILEC LIS and asked a similar question.
Question

Please identify whether your LIS implementation has been costed based on a PUSH RELATIONSHIP between your ASP LIS and the ILEC HOSTED LIS or whether your ASP LIS will support a REALTIME PULL from the ILEC HOSTED LIS into your ASP LIS, and whether you consider that the latter case of a REALTIME PULL from the ILEC HOSTED LIS into your ASP LIS is required, and if so, where such requirement is can be found as a guideline of TNC 2009-294 or ESCO0283.

Answer

Execulink did not present a proposed implementation.
Question

In the latter case where you consider that in an ILEC HOSTED LIS to ASP LIS relationship, it is a responsibility of the ASP LIS to respond to realtime queries from the ILEC HOSTED LIS, identify the technical basis upon which you consider that the location would have to be resolved on a mandatory basis during the establishment of the emergency call, and if so, what you expect to happen in the circumstance such resolving fails to perform in real time during the establishment of the emergency call. Identify whether you consider that the ILEC HOSTED LIS should instead rely on the latest information pushed by your ASP LIS into the ILEC HOSTED LIS for purposes of such resolution and whether that would not instead eliminate any requirement for a realtime PULL from the ILEC HOSTED LIS into the ASP LIS.

Answer

Execulink did not present a proposed implementation.