18 September 2009

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

Dear Mr. Morin:

Subject: Telecom Notice of Consultation CRTC 2009-194, Call for comments – Nomadic VoIP E9-1-1 service (TNC 2009-194) – Interrogatory responses

Comwave Inc. is hereby filing Comwave(CRTC)28Aug09-1 TNC 2009-194 and Comwave(CRTC)28Aug09-1 TNC 2008-194 in response to the Commission’s Interrogatories posed to All Interested Parties.

Yours truly,

Yuval Barzakay
President
Q 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) The actual impact on the customer experience depends on how frequently calls will be re-routed to the 911 call centre on an individual subscriber basis. Comwave’s fundamental position is that call re-routing for address validation is an inconvenience to the customer and that the best interim solution is online customer input data with verbal validation during a 911 call.

In Attachment 2 of its submission, Rogers claims that the dynamically assigned IP addresses “are drawn from a small fixed pool of addresses. A fixed specific range of IP addresses is 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.”

We do not doubt the veracity of the Rogers claims with respect to its own network. We are concerned, however, that the company may have oversimplified the situation by assuming that DSL providers assign IP addresses in the same way. We suspect otherwise.

IP address blocks are a scarce and expensive resource and most DSL providers and resellers therefore do not map a pool of addresses to a
single geographic area. These providers assign IP addresses on an ad-hoc basis from a pool of available IPs without geographical delimiters.

For customers of many DSL providers, in particular small ones, the solution proposed by Rogers ceases to be useful since there is no easy way to identify a “material change of location”. If implemented, the impact on the experience of DSL-based VoIP subscribers would be extremely negative, with calls potentially re-routed on a regular basis, as IP address leases expire on regular intervals and modem reboot. In these cases the original IP is not always reassigned; moreover that expired IP may now be reassigned to someone in another city who too is a VoIP customer thereby compounding the effects. In other words a single IP change may affect two VoIP customers. The subscriber, for his part, may never have moved, and forcing calls to the third party call centre on such a regular basis would become a giant nuisance and irritant.

In addition, customers would experience a considerable delay each time a material change is detected and new routing is required. For Comwave an operator of a large domestic and international network and for other national VoIP companies, propagating a routing change through the network can take anywhere from two to ten minutes. During this time, the customer may not be able to make or receive calls or in the alternative route the calls based on outdated routing. On many DSL platforms, as noted above, this would occur regularly, further inconveniencing customers.

b) As described in a) above, implementation of IP Tracker would cause a downgrade in the experience of many VoIP customers. As a direct result of this, the competitiveness of VoIP service providers would also suffer vis-à-vis other telecommunications options. Phone customers of the cable operators, the ILECs and TDM-based resellers such as Primus would have an additional competitive advantage over VoIP providers, since none of these operators would need to contend with the periodic (and, in some cases, frequent) annoyance of having a call, which may in itself be of an urgent nature, routed to an operator to verify the caller’s current address. In the perhaps frequent event that in fact no address change had occurred, the customer would be even more irate since the inconvenience will have been of little or no value. It would almost definitely lead the customer to re-evaluate his decision to purchase phone service from a VoIP provider.

Q 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

Comwave does not agree with Rogers’ opinion.

Both the Canadian i2 solution (Ci2) and the Real-time query proposal (RTQ), collectively “the long term solutions”, are technology neutral approaches that provide 9-1-1 service equivalent to that of wireline in the following ways:

- Database updates occur automatically, with accurate, machine-generated location information stored in the ILEC LIS (in the case of Ci2) and in the ASP LDP (in the case of RTQ);
- Human error is minimized in the transmission of the information as it does not rely on human intervention, but rather the automatic mapping of IP address with location.

The long term solutions are just that – long term. Once the system is established and working, it should continue to operate into the foreseeable future. IP Tracker, however, continues to rely on third party call centres, which the Commission has decided do not comprise a long term solution. The main disadvantage of these call centres is reliance on human interaction. The potential is high for errors to occur in the verbal transmission of information from the caller to the call taker and in the transcription of said information by the call taker into the system. While the current interim model does rely on verbal verification most VoIP providers require 9-1-1 online address input data from customers. IP Tracker would render customer input data useless and rely only on verbal input data from potentially unauthorized people with potentially inaccurate information.

IP Tracker, for its part, relies on the knowledge and capabilities of the first caller after a material change has occurred. Rogers makes no mention of safeguards to ensure that the caller is authorized to give the location information nor does it make contingencies in case the first caller is a child.

Implementation of IP Tracker, reliant as it is on automatically generated calls to the call centre, could result in the disabling of a call centre due to very high levels of traffic, both through abuse and inadvertently. Additionally call-rerouting would create havoc for enterprise and campuses where a single IP serves hundreds of users that would be inconvenienced and more importantly would trigger a flood of traffic to the call centre even though no location change has taken place. IP Tracker may also expose the system to abuse. For example, malicious SIP registrations could overwhelm a validation department and bring 911 service down for thousands of subscribers.
Finally, the IP Tracker proposal, in paragraph 16, states that the third party operator would initiate a database update. Comwave would not be open to having a third party call centre affecting critical network routing elements that could have an impact on the service as a whole.

For all of the above reasons, the Commission has already concluded that Ci2 would be the go forward solution. For these same reasons, either Ci2 or RTQ would be preferable to IP Tracker.

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