



April 4, 2012

Electronically Submitted

Marlene Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

Re: Facilitating the Deployment of Text-to-911 and Other Next Generation Applications, PS Docket No. 11-153 and Framework for Next Generation 911 Deployment, PS Docket No. 10-255

Dear Ms. Dortch,

Neustar would like to take this opportunity to respond to several issues with respect to its interim text-to-911 solution that were raised by parties in their reply comments in the above docketed proceedings. As you are aware, Neustar has developed a process that enables an SMS message address to 911 to be routed to a gateway where it is converted into a TTY call using a VoIP network. Because the TTY portion of the call is VoIP, the call can use the same location resources that are available today to VoIP providers.<sup>1</sup>

Neustar views this approach as an interim solution that can provide near universal text-to-911 capability in a short period of time and also can provide a natural transition to next gen 911 capability. Since almost all mobile phones are SMS capable but cannot do TTY and almost all PSAPs TTY capable but cannot handle SMS, Neustar's interim solution is an attempt to bridge the gap between the two before and during the transition to NG911. As Sprint noted, the rate at which carriers and PSAPs transition their facilities to NG911 will be "inconsistent."<sup>2</sup> The solution that Neustar proposes helps to smooth out the transition because, in addition to handling SMS to TTY conversions, the gateway is also capable of handling Real Time Text (RTT) to TTY or SMS to RTT.<sup>3</sup> Far from confusing consumer as suggested by Sprint, Neustar's solution

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<sup>1</sup> See Neustar Comments and *Letter to Marlene Dortch, Secretary, Federal Communications Commission, from Aaron Goldberger, Associate General Counsel, Neustar, Inc., Re: Notice of Ex Parte – Facilitating the Deployment of Text-to-911 and Other Next Generation Applications, PS Docket No. 11-153 and Framework for Next Generation 911 Deployment, PS Docket 10-255, February 3, 2012 (Neustar February 3, 2012 Ex Parte).*

<sup>2</sup> Sprint Reply Comments at 4.

<sup>3</sup> The gateway can have an opt-in option by the PSAP to provide an NG911 compatible interface instead of the TTY interface. This provides a smooth migration path to PSAP NG911. The gateway can also be implemented to allow

makes it much more likely that texting to 911 from their handset will work no matter where the consumer is in the country and no matter what technology deployed by the carrier or the PSAP.

Rather than diverting resources away from the deployment of NG911 as suggested by some,<sup>4</sup> the multi-protocol capability of Neustar’s solution actually promotes NG911 by providing the pathway to a smooth transition. As Verizon, citing Congress, rightly points out, “Any regulations [should] accommodate the ‘phase out of the use of current-generation TTY technology’ as it ‘is replaced with more effective and efficient technologies and methods,’ such as LTE-enabled RTT.<sup>5</sup> This is precisely what Neustar’s solution enables. As carrier networks evolve to LTE, the gateway will accept RTT 911 messages for delivery to the appropriate PSAP in the most advanced messaging format that the PSAP is equipped to receive. Conversely, if the carrier network is still using SMS for messaging, but the PSAP can now accept RTT, the gateway will accept the SMS from the carrier and deliver RTT to the PSAP. Most importantly, the user does not need to know what form of messaging the serving PSAP uses to know whether to send an SMS or an RTT message. The user just sends a message to 911 in whatever format works for his carrier and the gateway routes it to the PSAP in whatever format the PSAP can receive. As more and more PSAPs move to next-generation systems, the TTY systems can be phased out.

Some suggest that the TTY system is not sized for general public use and so should be avoided for any 911 solution.<sup>6</sup> However, many PSAPs have TTY capability built into every station so that each of their call takers can handle TTY calls; for those that do not have this capability, TTYs cost only a few hundred dollars. While most callers who are not deaf, hearing or speech impaired would understand that voice calls would be a better choice if the circumstance allowed, consumers cannot always make that choice, and may not behave rationally when stressed. The experience with the current trials shows that use is not particularly heavy.

Neustar acknowledges that IF the service became widely used, especially in a mass calling event, for example, the PSAP would experience higher average call times, which could negatively impact its staffing. However, the utility of the service far outweighs this cost, and being able to get through is much better than not being able to get through, even if it takes a while.

Unlike the relay solution proposed by some parties, the Neustar approach ensures that users will have a direct connection to the appropriate PSAP. Significantly, people who are deaf, hard of hearing and speech impaired already have the ability to use several relay systems – IP Relay, Video Relay Service and IP Captioning – to reach a PSAP, yet their advocates are asking for direct connection to the PSAPs “using their preferred mode of communication . . . and their

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other RTT and IM interfaces on the user side, which will further improve upgrade experiences for consumers by allowing newer services to be used with older, non upgraded PSAPs as well as allowing SMS to be used with NG911 upgraded PSAPs.

<sup>4</sup> T-Mobile Reply Comments at 2.

<sup>5</sup> Verizon Reply Comments at 11.

<sup>6</sup> T-Mobile Reply Comments at 3 and 11.

preferred devices in times of crisis.”<sup>7</sup> The Neustar solution will allow users to begin sending SMS to 911 on an interim basis and, as noted above, is flexible enough to support network and PSAP upgrades as they occur.

Several commenters raise questions about how the PSAP will obtain the location information necessary to dispatch assistance and speculate that significant changes will need to be made to the carrier and PSAP systems.<sup>8</sup> The solution proposed by Neustar, however, utilizes existing mechanisms to get the caller’s location to the appropriate PSAP. The gateways envisioned by Neustar would be in the carriers’ networks where they can query the HLRs of a carrier and its roaming partners for serving Cell ID. The gateway can also query the Position Determination Element (or equivalent) just as a voice call would. Some networks may need the 911 location mechanism triggered, but that can be done by the gateway. The gateway would receive exactly the same location information as the carriers use for a wireless voice call today.<sup>9</sup>

The cell id received by the gateway is used with the existing wireless traffic plan, which includes Phase I location, to route the message as a VoIP call to the proper PSAP. As a VoIP call, the VoIP emergency calling infrastructure is utilized. When the PSAP queries ALI, the query is routed to the VPC that is handling the TTY call. The VPC passes the query to the gateway. If this is the first query, the gateway responds with Phase I location. The gateway is also connected to the existing 911 location infrastructure, and a subsequent rebid to ALI by the PSAP, would also be routed to the VPC and then to the gateway, which queries the PDE for Phase II location.<sup>10</sup> As Neustar has previously noted, however, some wireless operators use network based location determination mechanisms that depend on the handset being in a voice call to receive enough measurement data to determine the location of the caller accurately. Such networks could not be expected to respond with high resolution location information for texters. This will be true for any SMS to 911 solution.

To address the issue of the asynchronous nature of TTY, Neustar’s gateway holds messages from the texter until the PSAP call taker sends “GA” (for Go Ahead). The gateway adds and strips GA from the TTY stream to carry on a normal TTY session with the call taker. Contrary to the suggestion of T-Mobile,<sup>11</sup> there is no additional delay beyond the two characters per message. The gateway is intelligent in how it holds message from the texter while the call taker is sending TTY to the gateway, and is intelligent in breaking up larger messages to the texter so the texter does not experience much delay. In trials to date, the user experiences what seems to be a normal text conversation and the call taker experiences a normal TTY conversation.

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<sup>7</sup> Consumer Groups Comments at 4.

<sup>8</sup> See Verizon Reply Comments at 4 and 11, and Sprint Reply Comments at 5.

<sup>9</sup> T-Mobile raised a question about Neustar’s use of commercial location services with its gateway. See T-Mobile Reply Comments at 12. Neustar used commercial location services solely for its demonstration with Chairman Genachowski and envisions the solution using carrier location information as described above.

<sup>10</sup> The alternative to obtaining location information in this manner would be to have the PSAP call taker (or in a relay solution, the relay operator) ask the caller for their location. Neustar believes that such an approach will produce unsatisfactory results.

<sup>11</sup> T-Mobile Reply Comments at 12.

T-Mobile also notes that “PSAP call takers can easily mistake a TTY call for a fax line call, and disconnect the TTY call.”<sup>12</sup> If true, that would also be true today with normal TTY calls relied upon by the deaf, hard of hearing and speech impaired. For most PSAPs, the TTY capability is built into the call taker workstation, which correctly recognizes TTY tones. The protocol used by all PSAPs dictates attempting a TTY conversation when tones are heard on a voice call. Neustar acknowledges that more training for PSAP call takers is necessary to ensure that TTY calls and gateway SMS to 911 calls are handled correctly. The greater volume of TTY calls that Neustar’s text to 911 solution might generate will also provide call takers with more experience in handling TTY calls.

Finally, as mentioned in a previous *ex parte* filing, Neustar plans to license its gateway technology to carriers and others for implementation in carriers’ networks. There will be no change required to the PSAP systems. As noted previously, Neustar plans for the licensing fee to be reasonable and non-discriminatory. Neustar reiterates its offer to conduct tests with any willing service provider.

Sincerely,

A handwritten signature in dark ink, reading "Richard L. Fruchterman, III". The signature is fluid and cursive, with a large, stylized initial "R" and "F".

Richard L. Fruchterman, III  
Associate General Counsel

cc: David Furth  
Jerry Stanshine  
Erika Olsen  
Patrick Donovan  
David Siehl  
Tom Beers  
Karen Strauss  
Cheryl King  
Henning Schulzrine  
Sean Lev

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<sup>12</sup> *Id.*