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February 19, 2008

Via Electronic Filing

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

RE: ***In the Matter of The Commercial Mobile Alert System***
PS Docket No. 07-287

Dear Ms. Dortch:

Attached please find a revised version of the Reply Comments of the NTI Group, Inc. filed earlier today in the above-captioned docket, confirmation number 2008219460094. The prior version had extraneous materials inadvertently attached to it. By this letter, we request that this filing replace the prior filing for NTI in this matter.

Please contact me at 202-939-7965 should you have any questions or comments regarding this filing.

Sincerely,

James N. Moskowitz

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Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
The Commercial Mobile Alert System	)	PS Docket No. 07-287
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To: The Commission	)	

REPLY COMMENTS OF THE NTI GROUP, INC.

The NTI Group, Inc. ("NTI"), a wholly-owned subsidiary of Blackboard, Inc., hereby submits its reply comments in the above-referenced rulemaking proceeding. The Notice of Proposed Rulemaking ("NPRM") in this proceeding proposes the establishment of a Commercial Mobile Alert System ("CMAS") in compliance with the Warning Alert and Response Network ("WARN") Act and in furtherance of the recommendations of the Commercial Mobile Service Alert Advisory Committee ("CMSAAC"). Per the NPRM, the Commission also seeks in this proceeding to continue to address its obligation to "adopt rules to ensure that communications systems have the capacity to transmit alerts and warnings to the public as part of the public alert and warning system."[1]

I. INTRODUCTION

As the NPRM acknowledges, one of the Commission's "highest priorities" is to "ensure that all Americans have the capability to receive timely and accurate alerts, warnings and critical information regarding impending disasters and other emergencies, irrespective of what

[1] NPRM at ¶ 1 citing Public Alert and Warning System, Exec. Order No. 13,407, 71 Fed. Reg. 36975 (2006) at § 3(b)(iii).

communications technologies they use."[2] Promoting such capability not only is "essential to enable Americans to take appropriate action to protect their families and themselves from loss of life or serious injury" as a result of acts of terror, weather disasters, or other emergency situations, it is one of the central purposes of the Commission as identified in Section 1 of the Communications Act.[3]

NTI's interest in the instant proceeding arises from the fact that it is one of the nation's leading providers of one-to-many, time-sensitive notification ("TSN") services. TSN systems are advanced, intelligent "one-to-many" telephonic and text systems that can be used by governments and other first responders to send urgent messages to members of the public. Such systems primarily send notifications to people's landline and cell phones, taking advantage of the near ubiquity of such services. In addition, users of advanced TSN systems such as that offered by NTI can send text and/or e-mail messages to PDAs, mobile devices, and computers. Thus, urgent messages transmitted via TSN services are far more likely to reach the people who need to receive them than they would if only one communication path is pursued (such as a cell phone).[4]

TSN systems are increasingly being deployed throughout the country as an integral part of local alerting efforts. TSN systems are more advanced, reliable, faster and "user-friendly" than earlier forms of one-to-many voice notification technologies and are performance-tested through the delivery of tens of millions of time-sensitive calls per month, providing a proven, reliable means of transmitting vital time-sensitive communications.[5] In recognition of the important role that TSN services play in the national network of alerting systems, NTI was

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[2] NPRM at ¶ 3.

[3] *Id. citing* 47 U.S.C. § 151.

[4] More information regarding both TSN in general and NTI in particular can be found at www.ntigroup.com.

[5] In 2007, NTI's TSN services were used to deliver over 240 million voice messages from over 20,500 active sites across the United States.

represented on both the CMSAAC and, prior to that, the Commission's Independent Panel on Hurricane Katrina.[6] NTI also testified before Congress as it considered the WARN Act.[7]

The underlying rationale for the WARN Act and the creation of CMAS is that the nation's approach to emergency notification and warning must be "comprehensive" – that only through the use of a diverse array of communications platforms can the public be assured of the redundancy, reliability and security that is necessary for an effective warning system. While the principal focus of the instant proceeding is on the role that commercial mobile services can play in providing emergency information to members of the public who might not be reached by other sources of alerts, such as broadcast radio or television, the Commission also should give careful consideration to the experience of alerting services such as those provided by NTI that have proven themselves capable of addressing many of the concerns raised in the NPRM.[8]

II. DISCUSSION

A. TSN Systems Have the Proven Capability to Play an Integral Role in the Accomplishment of the Commission's Goals.

This proceeding raises a variety of issues relating to the technical transmission of emergency alerts by commercial mobile service providers, particularly with respect to the goal of ensuring "a robust, reliable and effective CMAS that could, in conjunction with other alerting systems and technologies, be used to transmit emergency alerts to all Americans, including those with special needs and those who do not speak English."[9] NTI is heartened by the Commission's

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[6] NTI's President, Government Affairs, Billy Pitts, served on both the CMSAAC and the Independent Panel. Mr. Pitts' testimony before the Independent Panel can be accessed at http://www.fcc.gov/eb/hkip/presenters060130/p20.pdf.

[7] A copy of Mr. Pitts' testimony on the WARN Act, delivered before the Telecommunications and Internet Subcommittee of the House Committee on Energy and Commerce on July 20, 2006, can be accessed at http://energycommerce.house.gov/reparchives/108/Hearings/07202006hearing1998/Pitts.pdf

[8] NPRM at ¶ 4.

[9] *Id.* at ¶ 6.

recognition that CMAS is not an end in itself and rather is one element of what must be a multimodal approach towards meeting the nation's emergency alerting needs.[10]

NTI has described the capabilities of TSN services and the important role that they can play in assisting the Commission in fulfilling its public safety duties in other proceedings, including the Emergency Alert System ("EAS") rulemaking concluded last year.[11] NTI is attaching hereto, and incorporating by reference, its comments in the EAS proceeding. Those comments addressed many of the same issues raised here by the Commission with respect to CMAS. As discussed in the sections that follow, NTI's comments on the following issues can and should guide the Commission as it develops best practices for CMAS:

- The importance of having a system that is reliable and capable of minimizing local phone congestion.
- The advantages of being able to deliver emergency messages using a "credible spokesperson."
- The benefits of geographic targeting and call delivery reporting.
- The need for multi-lingual and special needs capabilities.

B. Best Practices for CMAS as Informed by the Experience and Capabilities of TSN Services Such as Those Provided by NTI.

1. The need for a reliable transport technology.

The CMSAAC's report raised concerns regarding the use of point-to-point solutions for national alerting system and, in particular, on whether point-to-point services such as short message service ("SMS") can be used efficiently to alert large populations within a short time

[10] The Commission has likewise recognized the need for a multi-modal approach in other proceedings related to the issue of emergency alerts. *See, e.g., Review of the Emergency Alert System,* EB Docket No. 04-296, First Report and Order and Further Notice of Proposed Rulemaking, 20 FCC Rcd 18625 (2005) at ¶ 62 (emphasizing the need for a national alerting system that "use[s] a variety of communications media so that officials can reach large numbers of people simultaneously"); *see also id.* (Statement of Chairman Kevin J. Martin).

[11] *See* Appendix A.

frame without compromising the telephone network.[12] NTI recognizes that, with respect to the development of CMAS, compromises were the inevitable result of the limited timeframe mandated by Congress. The resulting "lowest common denominator" approach is not necessarily inappropriate, but it should be considered a starting point, not the final goal.

The preference expressed by the CMSAAC for a cell broadcast, point-to-multipoint approach over a point-to-point system reflects concerns that the latter could overwhelm cell networks. However, TSN systems such as those operated by NTI have intelligent delivery capability, utilizing mathematical algorithms to analyze network congestion and to automatically adjust to the point-of-presence capacity. Where call congestion is detected, TSN systems can throttle down how frequently voice calls are sent while simultaneously looking for less congested paths. Thus, when NTI's advanced TSN technology detects a certain level of congestion, it can redirect calls so that a local telephone network is less likely to be "exhausted" by outbound urgent calls.

The fact that it is possible to deliver a large volume of messages over the telephone network in the voice of a credible and recognizable spokesperson without causing network outages is illustrated by NTI's experience during the California wildfires in October 2007. On October 22, 2007 alone, NTI's TSN systems were used to send 1.3 million voice messages to some 393,000 unique recipients in San Diego County, reaching over 95% of these recipients with either a live call or via an answering machine. For the entire week (October 21-28), NTI sent over 2.7 voice messages and 1.15 million e-mail and SMS messages to recipients in San Diego County and over 12.4 voice messages, nearly 2 million e-mail and SMS messages nationwide.

[12] NPRM at ¶ 8.

At no point during this period, did NTI experience any delay in initiating or delivering messages.[13]

Thus, while avoiding network congestion and failure is a valid issue of concern, the Commission must keep in mind that each emergency situation has its own specific characteristics and needs. Experience demonstrates that point-to-point delivery mechanisms can be used – and are now being used – without triggering network outages. Any chosen path may be impacted and that impact is not predictable from incident to incident; therefore, multimodal communications systems should be recommended.

Finally, having an alerting system with built-in redundancies goes hand-in-hand with the capability of that system to reliably deliver time-sensitive messages. With respect to its TSN systems, NTI has implemented multiple levels of redundancy. In particular, NTI uses multiple power grids and multiple telecommunications carriers to ensure that a user's ability to send messages will not be cut-off if an outage occurs at a single point in the network. The Commission must be vigilant in pushing for the development of the necessary redundancies to avoid potential "single point of failure" problems.

2. Text messaging limits and the "power of the voice."

The CMSAAC also recommended that the technical limit on any CMAS alert should be 90 characters of text.[14] This recommendation is an illustration of one of the compromises that the CMSAAC deemed necessary to meet the CMAS deployment schedule mandated by Congress; similar compromises are reflected in the recommendations of the CMSAAC regarding the circumstances in which the transmission of free form text messages will be permitted and suggesting restrictions on the inclusion of website addresses (URLs) and phone numbers in the

[13] NTI recently testified before the California Public Utilities Commission at a hearing investigating emergency communications during the wildfire emergency. A copy of NTI's presentation is attached hereto as Appendix B.

[14] *Id.* at ¶¶ 8, 14.

message. As NENA noted in its comments, "90 characters might not allow enough text for an effective warning that explains what the emergency is and what to do about it."[15] NTI submits that it should be top priority of the Commission to encourage the development and deployment of technologies capable delivering longer-form, more coherent messages.[16]

Ultimately, the Commission's goal should be to harness the "power of the voice" for emergency messages to the greatest extent feasible, including direct recorded messages as well as the transmission of embedded audio in a standard format, such as WAV or MP3. NTI acknowledges that text-based messages can, and often must, complement voice-based systems. Consequently, NTI utilizes not only voice-based messages, but also SMS messaging and e-mail; in addition, its TSN services are compatible with other alerting standards, such as Common Alerting Protocol ("CAP") and RSS feeds. Nonetheless, NTI's experience has been that emergency alerts are most effective when they are delivered audibly by a "credible spokesperson."

The advantages of a voice message from a figure of authority are well recognized in the emergency notification field. For example, a study conducted following the erroneous activation of Connecticut's emergency broadcast system in 2005 indicated that the public is much more likely to believe an emergency notification if it comes from the governor or some other high level state or local official, as opposed to from an automated message.[17] As Dr. Julie Gerberding, the Director for the Centers for Disease Control and Prevention, said in the context of communicating to the public about a smallpox threat, "Now, people really look toward the most credible spokesperson, especially when there is a lot of uncertainty on an issue, and that's

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[15] NENA Comments at 2-3.

[16] CMSAAC did propose the addition of an "Avoid Hazard" field to the CAP protocol, an action that NTI strongly endorses. See CMSAAC Report at note 8.

[17] *See* CERA, Connecticut Emergency Broadcast System Survey: Public Reaction to the Erroneous Statewide Broadcast of February 1st, 2005 (March/April 2005) at page 14, available online at http://www.gwu.edu/~icdrm/publications/CT%20Emergency%20Broadcast%20Final%20Report.pdf ("*Connecticut Survey*").

going to be very important and helpful to us to have people at the local level that are trusted and credible come out and be able to educate people about this. We're really counting on that."[18]

Other studies bear out the benefits of voice-based messaging. For example, a CDW-G study aimed at showing how alerting systems are not keeping up with the changing ways that people communicate still shows that while three-quarters of Americans have text messaging capability on their cell phones, only one-third use these texting capabilities on a regular basis.[19] In addition, the Federal Highway Administration has found that the most typical action people take upon receiving a message that recommends evacuation is to check multiple sources for accurate, timely, consistent, and specific information about what authorities are recommending as the safest course of action.[20]

Under the circumstances, it is incumbent on the Commission to ensure that the public is provided emergency information in a form that is most apt to maintain calm, reduce confusion, and minimize the impact on 911 centers and first responders. A voice message from a trusted individual, such as the mayor, police chief, or governor would give people confidence in the reliability of the message and allow them to quickly act on the recommendations rather than seeking out validation from additional sources.

In this regard, NTI notes that state and local evacuation plans increasingly anticipate that the public will rely on 511 (or equivalent) services and websites as sources of information along with radio, television and telephone-based alerts.[21] Under the circumstances, the fact that the

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[18] Interview with Dr. Julie Gerberding, Online NewsHour, http://www.pbs.org/newshour/bb/health/july-dec02/gerberding_smallpox.html.

[19] CDW-G, "This is a Test – This is Only a Test" (Jan. 8, 2008), available online at http://www.cdwg.com/shop/tools/surveys/survey.asp?SurveyKey=5674C4ABA78A425BA36958DCAC1EF0CC.

[20] U.S. Department of Transportation, Research and Innovative Technology Administration, Federal Highway Administration, "Communicating with the Public Using ATIS During Disasters," April 2007 at page 3, available online at http://www.ops.fhwa.dot.gov/publications/atis/atis_guidance.pdf ("*FHA Study*"). *See also Connecticut Survey* at page 6.

[21] *FHA Study* at page 6.

CMSAAC's recommendations do not provide for the inclusion of URLs or emergency phone numbers in CMAS text messages is something that that the Commission should revisit as soon as technologically feasible.[22]

3. Targeting messages by geographic area and the role of federal, state, and local authorities

NTI's experience in deploying and operating TSN alerting services also can provide the Commission with useful guidance as it considers what level of geographical targeting should be required for CMAS alerts[23] and the related issue of whether all alerts should be funneled through an aggregator at the federal level or whether there are benefits to a less centralized system of alerting.[24]

With respect to geo-targeting, NTI's experience has shown that it is critical that an alerting system be capable of identifying and reaching the appropriate recipients with emergency information. An inherent problem with broadcast notification systems is that they run the risk of being over-inclusive. This is the case with CMSAAC's recommendation that CMAS not be required to deliver messages "at a level more granular than the county."[25] As NTI knows from first-hand experience, in some circumstances, a county-wide message will be overbroad, reaching people for whom the message is not intended and causing confusion and unnecessary concern.[26] This is true both for messages directed to urban areas and rural areas.[27]

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[22] Another potential problem in relying heavily on text messages is that while persons evacuating via automobile can receive voice messages through hands-free devices, they cannot safely drive and read text messages that may be relevant to their evacuation efforts. In fact, a number of states are considering bans on texting while driving. See Anita Kumar, "*Virginia Considers Ban on Driving While Texting*," Washington Post, Jan. 12, 2008, page B1, available online at http://www.washingtonpost.com/wp-dyn/content/article/2008/01/11/AR2008011103419_pf.html.

[23] NPRM at ¶¶ 21-22.

[24] *Id.* at ¶¶ 12-13.

[25] *Id.* at ¶ 21.

[26] The California wildfire emergency is a good illustration of how targeted messaging is essential. San Diego County experienced multiple wildfires in different areas of the county, which created a need to inform residents in these different areas of specific evacuation routes and relocation centers. NTI's TSN services were able to meet this need.

[27] *See also* NENA Comments at 2 ("Warning originators need to be able to target precisely and flexibly").

One of the benefits of TSN systems is that they can target as large or small a universe of recipients as is called for by the situation. Thus, for example, in the event of a health crisis, times and instructions for the receipt of medical treatment could be delivered on a neighborhood-by-neighborhood basis, minimizing the risk of institutions being overwhelmed by panic-stricken citizens. Some TSN systems even offer a geographic mapping function that gives users the ability to send messages to all telephones in a particular area. Examples of the use of such targeted alerting capacity include a school system alerting a group of parents waiting at a bus stop that their children's transportation has been delayed or re-routed due to an accident or weather conditions; a municipality contacting all of the residents of a five-block area impacted by a gas leak; or a university notifying the occupants of a specific college dormitory regarding reports of an intruder in the vicinity.

In addition to targeting emergency messages to as many or as few recipients as is appropriate given the circumstances, NTI has found that, in managing the flow of emergency information, it is important that alerting systems have "bottom-up" as well as "top-down" capability. While top-down systems can ensure a consistent message when an alert is sent out over a broad area, the best sources of information in a situation requiring a more narrowly geo-targeted alert often are local officials. Moreover, a "bottom-up" tiered response plan that engages officials at the state and local as well as federal levels has been incorporated into the Department of Homeland Security's National Response Framework.[28] Furthermore, during the early stages of an incident response, the alerting often is limited to selected groups, with the calls expanding to the broader public as necessary. Our experience strongly suggests that it is important to avoid a system that is inflexibly centralized.

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[28] *See* FEMA, National Response Framework, Emergency Security Function #2 (Communications) at ESF#2-4, available online at http://www.fema.gov/pdf/emergency/nrf/nrf-esf-02.pdf ("Communications management occurs on a bottom-up basis: decisions are made at the lowest level possible; only issues requiring adjudication or additional resources are referred to the next higher management level").

Finally, NTI urges that the Commission consider the importance of interactivity and reporting capabilities in alerting systems. Interactive capability allows the government entities that manage the alerts not only to create and send messages, but also to receive information in response. For example, NTI's TSN systems allow the "sending" party to deliver a message that requests the receiving party's location or that inquires whether the receiving party needs assistance; the receiving party, by using his or her phone's touch-tone capability, can provide an appropriate response, thereby providing first responders with information that allows them to best target urgent relief efforts to those in the greatest need of assistance.

This interactive capacity allows those officials that are engaged in emergency management to determine whether their messages have been received – an important advantage over anonymous, one-way broadcast technologies. Similarly, NTI's advanced TSN technology allows officials to receive a report of successful and unsuccessful message deliveries – distinguishing between "live" reception, voice-mail reception, non-reception and non-working numbers – shortly after sending the message. The incorporation of two-way functionality not only allows officials to determine the extent to which information is successfully getting through to the public, but also can provide critical feedback regarding the operational status of the telephone network.[29]

4. Serving the needs of persons with disabilities, the elderly, and the non-English speaking community.

The importance of having a national alerting system that can reach all people, particularly those people who are most at risk because of age, disability or communication limitations cannot be overstated.[30] In developing its TSN systems, NTI has ensured that they can

[29] The benefits of geo-targeting, bottom-up message management, interactivity and reporting all are illustrated by NTI's experience during Hurricane Katrina, which is described in detail in the attached copy of NTI's comments in the Commission's EAS proceeding.

[30] NPRM at ¶¶ 23-24.

be and are used to deliver messages (and receive responses) in a number of different languages. In addition, as previously noted, by supplementing voice-based messaging with text alerting, TSN services are able to deliver urgently needed information to the hearing impaired as well. In addition, the Commission must keep in mind that while some members of the hearing-disabled community may have cell phones capable of receiving SMS, others rely solely on TTY/TDD devices. It is essential that all members of the community be able to receive urgent emergency notifications.

III. CONCLUSION: PROPOSALS FOR COMMISSION ACTION

Following Hurricane Katrina, Chairman Martin set as a national goal the development of alerting capabilities that will enable officials to reach members of the public impacted by emergency situations efficiently and effectively "through a variety of communications media." The instant proceeding to establish a commercial mobile alert system is an important step forward in achieving that goal. But it is only one step.

In order to launch CMAS as quickly as possible, compromises will have to be made. These compromises, however, need not be permanent. As the foregoing comments have demonstrated, the implementation of a truly multi-modal alerting approach can allow the Commission not only to set the appropriate goals for CMAS, but also can address many of the limitations of CMAS on a more immediate basis. If federal, state, and local entities are encouraged to limit their focus to CMAS text messaging systems, they might implement a far more limited system for the same cost that could have given them an integrated, multimodal system offering voice messaging and e-mail capability. In particular, we note that TSN services such as those provided by NTI already offer an efficient gateway for initiating voice and text messages sent to landlines, cell phones, e-mail addresses, even highway signs.

Thus, NTI urges the Commission to recognize the important role that TSN systems can provide government entities in their emergency management efforts. In particular, NTI reiterates its request that the Commission take the actions to facilitate and encourage the broadest possible adoption of TSN services, such as the inclusion of TSN systems in funded pilot programs; the inclusion of TSN technology on the list of eligible services in the Schools and Libraries Universal Service support mechanism; and the assignment of priority to limited TSN messaging through the TSP and GETS programs (which will facilitate the dissemination of alerting information to key points in the Emergency Operations Center chain of command, such as a crisis team or a hospital surge team). Lastly, NTI urges the Commission to establish an ongoing advisory group to continue the work of the CMSAAC and to ensure that TSN service providers are represented thereon.[31]

Respectfully submitted,

THE NTI GROUP, INC.

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February 19, 2008
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[31] *See also* Comments of Wireless RERC at 18 (recommending establishment of a further advisory group to make recommendations for integration of CMAS into a national alert system).

Appendix A

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
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Review of the Emergency Alert System	)	EB Docket No. 04-296
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To: The Commission	)	

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JAN 24 2006

Federal Communications Commission
Office of Secretary

COMMENTS OF NOTIFICATION TECHNOLOGIES, INC.

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January 24, 2006

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of the Emergency Alert System	)	EB Docket No. 04-296
	)	
	)	
	)	
To: The Commission	)	

COMMENTS OF NOTIFICATION TECHNOLOGIES, INC.

Pursuant to Section 1.419 of the Commission's rules,[1] Notification Technologies, Inc. ("NTI™"), by its attorneys, hereby submits its Comments in the above-referenced proceeding.[2] NTI respectfully recommends that the Commission recognize the critical role of hosted, time-sensitive notification ("TSN") systems as an adjunct to its updated Emergency Alert System ("EAS").

SUMMARY

TSN systems, which represent the latest generation of "one-to-many" communications services, are increasingly being deployed as a means of transmitting vital communications in times of emergency. TSN systems are more advanced, reliable, faster and "user-friendly" than their predecessors and are performance-tested through the delivery of millions of time-sensitive calls per month. Thus, the Commission should take steps to promote the widespread use of TSN.

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[1] *See* 47 C.F.R. Section 1.419.

[2] *See Review of the Emergency Alert System*, First Report And Order And Further Notice Of Proposed Rulemaking, 37 CR 47 (2005) ("FNPRM").

DISCUSSION

I. TSN Systems Have the Proven Capability to Play an Integral Role in the Accomplishment of the Commission's EAS Goals.

In its Notice as well as in testimony before Congress, the Commission has stated that its ultimate goal is to have a comprehensive and robust emergency communications system that "enables officials at the national, state and local levels to reach affected citizens in the most effective and efficient manner possible."[3] In particular, the Commission has emphasized the need for a system that "use[s] a variety of communications media so that officials can reach large numbers of people simultaneously."[4] The Commission should encourage use of TSN systems, which have the proven capability to successfully reach "large numbers of people simultaneously" in urgent situations.

TSN systems essentially are advanced, intelligent "one-to-many" telephonic systems that can be used by governments and first responders to send urgent messages to members of the public. Such systems primarily send notifications to people's landline or cellphones, taking advantage of the near ubiquity of such services.[5] In addition, users of advanced TSN systems such as that offered by NTI can send messages to PDAs and other text devices and via e-mail.[6] Thus, urgent messages are virtually certain to reach the people who need to receive them.

The Commission is quite familiar with the forerunners of TSN technology, such as auto-dialers, which are computer-operated random or sequential dialing devices that dial telephones

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[3] FNPRM at para. 62; *see also* FNPRM at Statement of Chairman Kevin J. Martin ("The system also should take advantage of advances in technology that enable officials to reach large numbers of people simultaneously through a variety of communications media.").

[4] *Id.*

[5] The United States has a telephone penetration rate of 92.4 percent for landline phones and 62 percent for mobile phones. *See Federal State Joint Board on Universal Service*, Order, 36 CR 1279, para 8 (2005); *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Tenth Report, FCC 05-173, para. 5 (re. Sept. 20, 2005).

[6] More information concerning TSN and NTI's products can be found at www.ntigroup.com.

and, upon connection, play a recorded message; auto-dialers came into use approximately three decades ago.[7] Some users deploy a "blended" auto-dialer data center operation, whereby the auto-dialer is used for routine messages and the outsourced data center is used for urgent messages. These blended systems are redundant given the advent of TSN providers. After auto-dialers, "reverse-911 technology" was introduced approximately one decade ago,[8] and is characterized by the Commission in the Notice as "a calling system that places calls generated by a public safety call center to a specific audience."[9] In essence, these systems layered more sophisticated list management tools on top of auto-dialer technology.

The TSN technology – which utilizes a flexible, hosted Application Service Provider ("ASP") model – represents a quantum leap forward from these predecessor systems in the development of "one-to-many" notification, providing users with a far more robust and user-friendly tool for communicating information to large numbers of people in urgent situations. TSN systems can be used to convey vital information before, during and after crises – in instances involving, for example, amber alerts, storm warnings, pandemic influenza and chemical spills. An advanced TSN system, such as that developed and deployed by NTI, is capable of delivering messages to tens of thousands of recipients in a matter of minutes. In contrast, it takes a standard 48-port auto-dialer system over eight and a half hours to send a 30-second message to 50,000 people – and that is just first attempts to reach people who may be using the phone. To maximize delivery of a call, systems should retry anywhere from 3 to 5 times on unsuccessful first attempts (busy signals, ring no answers, fax machines, phone network busy).

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[7] *See* Auto Dialer Industry Overview, http://atcdialer.com/autodialerio.htm.

[8] *See* Patented Technology, http://reverse911.com/products/technology.php.

[9] FNPRM at n.31. "Reverse 911" technology has, as of yet, not been formally defined.

Briefly and generally described, TSN systems operate as follows: First, an authorized user with access to either a landline or cell phone interfaces with the password-protected system via a toll-free number and records an outgoing voice message. The user can then program this message (either via a secure Internet connection or over the phone) to be sent immediately, or at a specified time, to either an entire universe of recipients or to selected subgroups. Some TSN systems even offer a geographic mapping function that gives users the ability to send messages to all telephones in a particular area. Using this feature, a school system could, for example, alert a group of parents waiting at a bus stop that their children's transportation has been delayed or re-routed due to an accident or weather conditions.

Unlike predecessor systems, TSN systems can be designed and deployed to have the redundancy that the Commission favors.[10] For example, TSN providers such as NTI design their TSN systems to have "carrier redundancy", power redundancy, and database redundancy.

More specifically, NTI's advanced TSN system utilizes several interexchange carriers' ("IXCs") networks, allowing NTI to place thousands of calls without the call traffic congestion that would occur if all of the calls passed through a single IXC. Through the use of multiple IXCs, more accurate routing to the endpoint can occur due to different relationships between IXCs over the Public Switched Telephone Network ("PSTN") resulting in different methods of reaching the incumbent local exchange carriers ("ILECs") and competitive local exchange carriers ("CLECs") to reach the final termination point. TSN systems use software to sort call traffic automatically, thus ensuring the quickest and highest percentage possible for call completion.

[10] *See* FNPRM at para. 62.

In addition, TSN providers such as NTI deploy systems at sites straddling the nation's three power grids, ensuring constant access to power during emergencies; if one power grid fails, NTI can redirect calls to its sites located on the other two power grids to ensure that its users' messages are sent. Furthermore, if there is power failure or other problem associated with a data center in a geographic area, the TSN technology can automatically extract information (e.g., the phone numbers to which calls should be sent) from a redundant data center in another geographic area. Thus, users of TSN providers' systems maintain the ability to send messages even in circumstances where the user's primary site, or one of its other sites, may lack electrical power.

Multiple redundancies are only one of the features that distinguish advanced TSN systems from predecessor technologies. Other operating advantages that TSN technology offers over predecessor systems in providing urgent communications include the following:

The architecture of intelligent TSN systems minimizes local phone line congestion. TSN systems have intelligent delivery capability, utilizing mathematical algorithms to analyze network congestion and to automatically adjust to the point-of-presence capacity. Where call congestion is detected, TSN systems can throttle down how frequently calls are sent while simultaneously looking for less congested paths. Thus, for example, when NTI's advanced TSN technology detects a certain level of congestion, it can redirect calls so that the long distance and local telephone networks are less likely to be "exhausted" by outbound urgent calls.

Predecessor systems with unsophisticated delivery detection, on the other hand, are not aware of congestion. They are, alternatively, programmed to send one call per line upon the previous call's completion. If the system is large enough to get calls through quickly, meaning, if enough phone lines are employed to send calls at one time, then the system could potentially choke the local telephone network to the point of collapse. If the system is small enough to not

cause this type of congestion, it is most likely not going to have enough capacity to get calls out to a large number of recipients quickly. These predecessor technologies are, then, either too big or too small.

TSN systems send messages at faster speeds than their technological predecessors. Unlike predecessor systems, TSN systems are not limited to the number of telephone ports installed by the user. Rather, TSN systems are capable of originating thousands of calls over several different carriers' networks simultaneously, allowing users to deliver significantly more messages in substantially less time (and increasing redundancy should one carrier experience its own congestion or failure) than predecessors of the technology employed by TSN systems. For example, NTI's advanced TSN system has contracted Service Level Agreements ("SLAs") to ensure the capacity to deliver nearly 400,000 thirty-second voice messages in a half-hour. As discussed *supra*, by employing the ability to read congestion at the local carrier level, TSN providers are better able to ensure that more calls can get through the pipe at the local level quickly by minimizing network congestion (fast busy signals). This performance stands in stark contrast to predecessor systems' slower speeds, which are causing some municipalities to consider making equipment upgrades to increase their system speeds.[11]

TSN technology facilitates the use of a "credible spokesperson" and provides message consistency. TSN systems allow governmental entities sending urgent messages to communicate with the public by using a familiar voice of authority, be it the voice of a mayor, county executive, governor or another recognized "credible spokesperson." The concept of use of a "credible spokesperson" to speak to the public in times of emergency is widely recognized.[12]

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[11] *See* "Five Towns Look to Speed Up Reverse 911 System," Asbury Park Press (Oct. 20, 2005).

[12] *See* A Guide for Developing Crisis Communications Plans, Michigan Crisis and Emergency Risk Communications, Michigan Office of Public Health Preparedness, http://www.michigan.gov/documents/Michigan_Crisis_Emergency_and Risk_Communication3_82364_7.doc (Oct.

As Dr. Julie Gerberding, the Director for the Centers for Disease Control and Prevention, said in the context of communicating to the public about a smallpox threat, "Now, people really look toward the most credible spokesperson, especially when there is a lot of uncertainty on an issue, and that's going to be very important and helpful to us to have people at the local level that are trusted and credible come out and be able to educate people about this. We're really counting on that."[13] TSN networks allow for such communication between local leaders and the public during times of uncertainty and emergency, which is an "essential" communication recognized by the Commission.[14]

In addition, TSN systems have the advantage of ensuring that the information delivered to the public is both consistent and tailored to the audience. Broadcast notification systems, such as those using television and radio, run the risk of being over or under inclusive. In contrast, TSN systems can deliver consistently worded messages to as many or as few recipients as is appropriate given the circumstances. Thus, for example, in the event of a health crisis, times and instructions for the receipt of medical treatment could be delivered on a neighborhood-by-neighborhood basis, minimizing the risk of institutions being overwhelmed by panic-stricken citizens.

Advanced TSN systems offer interactive functionality, including call delivery reporting. Advanced TSN systems such as that deployed by NTI are interactive, allowing the government entities that use the system not only to create and send messages, but also to receive information in response. For example, the "sending" party can deliver a TSN message that

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2003); "Emergency Management Plans," Kevin Brown, MD, http://www.gnyha.org/eprc/general/presentations/20030204_Emergency_Plans.pdf.

[13] Interview with Dr. Julie Gerberding, Online NewsHour, http://www.pbs.org/newshour/bb/health/july-dec02/gerberding_smallpox.html.

[14] *See* FNPRM at para.73.

requests the receiving party's location or that inquires whether the receiving party needs assistance; the receiving party, by using his or her phone's touch-tone capability, can provide an appropriate response, thereby facilitating urgent relief efforts. This interactive capacity allows those engaged in emergency management to determine whether their messages have been received, an important advantage over anonymous, one-way broadcast technologies.

Another significant feature of advanced TSN systems are their superior reporting capabilities. For example, NTI's advanced TSN technology allows the user to receive a report of successful and unsuccessful message deliveries – distinguishing between "live" reception, voice-mail reception, non-reception and non-working numbers – all within minutes of sending the message. As described below, this two-way functionality not only allows officials to determine the extent to which information is successfully getting through to the public, but also can provide critical feedback regarding the operational status of the telephone network.

TSN systems possess multi-lingual capability. TSN systems can be and are used to deliver messages (and receive responses) in a number of different languages. As a result, broad utilization of TSN providers would answer the Commission's encouragement of the provision of multilingual emergency communications in areas in which languages other than English are of primary fluency.[15]

TSN technology can manage increased scalability. TSN's predecessor systems are basically pieces of equipment that typically have between 24 and 96 phone lines plugged into them (although a user could have 672 ports or multiple systems totaling more than that, but they run the risk of overloading the local network as discussed *supra*). As such, the predecessor systems are not scalable because they are limited by the number of phone lines to which they are

[15] *Id.* at para 81.

connected. Thus, predecessor systems are too large, in terms of costs, equipment and maintenance, and too small, in terms of their ability to send vast amounts of messages quickly.

TSN providers, however, face far fewer limitations, as their systems are built to scale and can send outbound calls through a number of different telecommunications carriers' networks, assuming that they have entered into the necessary agreements to do so. This carrier redundancy allows TSN systems to far exceed the volume of calls of a predecessor system.

TSN systems are more reliable than predecessor systems. TSN providers' use of multiple power grids and multiple telecommunications carriers means that an outage at one point of the network will not terminate a user's ability to send messages. Predecessors systems are susceptible to a single point of failure, which can occur at many points of the message's path – such as an operational problem with the predecessor system's machines or a flood, fire, or electrical outage at the site of the predecessor system's equipment center. Due to cost constraints, most users of predecessor systems do not add redundant equipment or back-up power to their systems. Thus, these systems remain prone to the "single point of failure" problem.

TSN systems, on the other hand, use their power and carrier redundancies to send thousands of calls each day, compiling a reliability record that far exceeds that of predecessor systems. TSN systems also enjoy a higher success rate in recognizing answering machines than most predecessor systems. Using its advanced TSN technology, NTI successfully placed more than 54 million time-sensitive calls in 2005, and is currently delivering more than seven million time-sensitive calls per month.

TSN systems are more cost effective than other one-to-many notification systems, even in rural areas. TSN systems have lower upfront installation and operational costs than

predecessor systems, as TSN technology does not require the hardware, software or additional phone lines of predecessor systems. Operationally, TSN providers' geographic and carrier redundancies facilitate least-cost routing of calls. Should a user/owner of a predecessor system wish to repeat the same level of redundancy at the data center and call origination center level, significant costs would be incurred to establish and maintain such facilities. TSN providers are able to defray the costs of redundancies, SLAs, customer service maintenance, and upgrades across thousands of users rather than just one making them the best choice given current available options.

The lower cost structure of TSN providers is a "practical implication for underserved and rural communities" that the Commission has highlighted in this proceeding.[16] Rural users of TSN technology (including local and state governments) can obtain a reliable means by which to communicate more quickly with the general public for less cost than predecessor systems. All TSN system users, including those in rural areas, do not have to pay for maintenance of equipment, as they would with predecessor systems. In addition to offering the advantage of a lower cost structure, TSN technology has proven reliable in completing a large number of calls in a concentrated geographic area (*see* discussion of NTI's Connect-ED™ system, *infra*), which are the conditions that would face a rural community during an urgent situation.

TSN system databases are more accurate than those of predecessor systems. In an attempt to avoid the costs of predecessor systems, some users deploy a "blended" auto-dialer data center operation, whereby the auto-dialer is used for routine messages and the outsourced data center is used for urgent messages. Two problems are apparent with this structure. First, it is difficult to ensure that data will be up-to-date in an emergency situation as the user has to

[16] *See* FNPRM at Separate Statement of Commissioner Jonathan S. Adelstein.

extract information from his or her database and send it, in a secure manner, to the provider who will deliver the calls. Second, the provider of the blended model (who tend to be companies whose primary business is selling auto-dialers) will most likely have far less experience than a TSN provider whose system is activated and utilized on a daily basis. Advanced TSN systems, such as those developed by NTI, constantly work with clients to update their databases, and have a proven record of successfully sending hundreds of thousands to millions of messages every day.

TSN technology is compatible with other alerting standards. The Commission has long recognized the importance of compatible alerting technologies to safeguard the American public during emergencies.[17] TSN systems are compatible with other alerting standards, such as Common Alerting Protocol ("CAP"). As the Commission noted, CAP has been "endorsed by...many public and private organizations responsible for alerts...."[18] If the Commission chooses CAP as a baseline alerting architecture, TSN systems would be able to communicate seamlessly with the rest of the Commission's EAS network.

II. Case History: Use of NTI's TSN Services in Emergency Situations

NTI has developed and deployed an advanced TSN system for its Connect-ED™ and Connect-CTY™ services, which enable municipal governments and school administrators to schedule, send and track personalized voice communications to thousands in minutes from the convenience of a computer or the necessity of a cell phone when the circumstances dictate.

More specifically, NTI first developed the *NTI Connect-ED* system, which school systems around the country currently use for a variety of purposes, including as a means of

[17] *See Amendment of Part 73, Subpart G, of the Commission's Rules Regarding the Emergency Broadcast System,* 10 FCC Rcd 1786, para. 174 (1994).

[18] *See* FNPRM at para. 67.

getting information to parents, students, and employees in the event of an urgent situation. Indeed, the *NTI Connect-ED* service proved to be an invaluable tool for a number of communities during last year's devastating string of hurricanes, delivering over 2.3 million distinct hurricane-focused messages to affected members of the public. Some examples include:

- On Monday, August 29, 2005, the St. Charles Parish School District used the *NTI Connect-ED* service to send a recorded message to over 21,000 phone numbers relaying information about mandatory evacuation procedures as requested by the Parish's Emergency Operations Center. In the following days and weeks, the Parish made repeated use of the *NTI Connect-ED* service to contact citizens and school personnel with updated information, requesting that recipients pass along the information to friends and family with children in the district who would not be receiving calls.

- On August 31, 2005, the Lafayette Parish School District used the *NTI Connect-ED* service to send messages to nearly 300 transportation employees to request they volunteer their assistance in a city-wide rescue planning operation. The Parish also used the service to contact over 56,000 phone numbers with pre- and post-hurricane information about school closings.

- Before and after both Hurricane Katrina and Hurricane Rita, the East Baton Rouge Parish School District used the *NTI Connect-ED* service to send urgent messages to more than 34,000 phone numbers to inform families and employees about school closings.

Apart from its utility as a means of fulfilling the Commission's goal of reaching "large numbers of people simultaneously," the *NTI Connect-ED* TSN system proved itself capable of providing government officials with another valuable benefit during last year's hurricanes. Taking advantage of the "reporting" capability described above, one city's Emergency Operations Center was able to use the system as a tool for gauging the progress of telephone service restoration and to locate areas of telephone outages.[19]

The versatility of the *NTI Connect-ED* system and the effective utilization of that system in over 5,000 sites across the nation, and the level of local governmental interest and

[19] In light of this performance, the Commission has included NTI's President, Government Affairs, Billy Pitts, on the Commission's independent panel reviewing the impact of Hurricane Katrina on communications networks. *See Notice of Appointment of Members To Serve On Federal Communications Commission's Independent Panel*

demand, has led NTI to develop its *Connect-CTY* service, which allows local government officials (or designated first responders) to communicate with members of a community within minutes, providing direction coming from the voice of a credible authority figure. It further allows officials to use geographic mapping functionality to identify regions that might need to receive different information, for instance, if region one is to receive an evacuation notice at 1:00 PM and region two at 9:00 PM.

III. Actions the Commission Can and Should Take to Facilitate the Further Deployment of the TSN Systems.

In light of the proven reliability of TSN systems in delivering communications between and among government entities and citizens before, during, and after emergency situations, the technological superiority of TSN systems to other "one-to-many" communications systems, and the compatibility of TSN technology with other alerting systems, NTI respectfully requests that the Commission and other federal agencies take certain actions to encourage the widespread use of TSN technology.

First, the Commission should directly examine the benefits of TSN technology through inclusion of TSN systems in the funded pilot programs and systems of its agencies, including the Department of Homeland Security, the National Oceanic and Atmospheric Administration (of the Department of Commerce) and the Department of Education. TSN providers' ability to send vast numbers of voice messages within minutes to the public (or to key agency personnel) would be invaluable to these agencies (and the public) in times of terror or catastrophic weather.

Second, the Commission should include TSN technology on the list of eligible services in the Schools and Libraries Universal Service support mechanism. One-to-many telephone

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Reviewing the Impact of Hurricane Katrina on Communications Networks, Public Notice, DA 06-57 (rel. Jan. 12, 2006).

message distribution platforms, when used by schools for community outreach, urgent notification, and attendance notification also are "integral" to the educational purposes underlying the schools and libraries program. In fact, Congress has repeatedly recognized that improving communications between and among educators, students and parents is critical to the success of the educational mission. Legislation such as the Enhancing Education Through Technology Act and the No Child Left Behind Act specifically focus on the importance of "using technology to promote parent and family involvement in education and communication among students, parents, teachers, principals, and administrators."[20]

Finally, a TSN system, like any system using telephones, will suffer absent a Commission mandate directing the ILECs to grant fast access to their telephone numbers databases and to provide regular updates at a reasonable cost. Without such access, government entities using TSN technology will not be able to update their calling lists and databases. This can obviously lead to dire consequences when urgent messages and instructions do not reach their intended targets. While many LECs sell listed, unlisted and E911 data to government entities, the process can be slow and updates can be too costly for most municipalities, especially those located in small rural communities.

[20] 20 U.S.C. § 2402(a)(8) (goals of the Enhancing Education Through Technology Act); *see also* Section 1118 of the No Child Left Behind Act, *codified* at 20 U.S.C. § 6318 (emphasizing role of communications in enhancing parental involvement in education).

CONCLUSION

For all of the foregoing reasons, NTI respectfully requests the Commission to recognize the important role that TSN systems can provide government entities in their emergency management efforts and should take the necessary and appropriate steps outlined herein to encourage the broadest use of TSN systems.

Respectfully submitted,

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Its Attorneys

January 24, 2006

177036v3

Appendix B

NTI Time-sensitive Mass Notification Delivery During the California Wildfires

Presented at the California Public Utilities Commission
Hearing Investigating Emergency Communication re:
AB2393 R.07-04-015 proceeding

January 9, 2008

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The NTI Group

About The NTI Group, Inc.

- Provides voice, email, and SMS delivery of time-sensitive mass notifications (TSNs) via ***Connect*-ED®**, ***Connect*-CTY®**, and ***Connect*-GOV®** services
- Sole focus: TSNs for government entities
  - schools, cities, counties, states, military, and government agencies
- The ***Connect*** platform is a SaaS
  - no hardware, software or phone lines to buy or maintain
- Connect services sold on an annual, fixed fee per recipient basis
  - unlimited calls – no fees for use
- Extensive experience handling TSNs
  - 100% focused on TSNs for over six years
  - ~250 million voice calls in 2007 (plus e-mail and SMS)
  - One in two students in CA public schools served– one in six in the US
  - 17,000 active, government sites in 44 states and DC
  - Awarded vendor for Florida DEM pilot and NotifyNYC pilot

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NTI Usage During the Wildfires October 21-28, 2007

Over 2.7 million voice messages to 393,000 unique recipients sent in San Diego County via NTI

- 24 school districts sent messages in multiple languages
  - 2.7 mil voice messages (85% delivered, 96% recipients reached)
  - 1.15 mil email messages
- Two college campuses sent messages to students and staff
  - ~60,000 voice messages (90% delivered, 92% recipients reached)
  - +50,000 email messages
  - ~27,000 SMS messages
- In the Nation, NTI sent +14 million messages
  - +12.4 mil voice messages (83% delivered, 87% recipients reached)
  - +1.85 mil email messages
  - ~30,000 SMS messages

NTI <u>did not</u> experience a delay in initiating or delivering messages

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NTI Usage During the Wildfires October 22nd – Busiest Day

For delivery of voice messages on October 22nd:

- US – 3.17 million sent via NTI systems
- CA – 2 million sent via NTI systems
- SD County - 1.3 million sent via NTI systems
  - 82.7% successfully sent
  - 95.52% recipients reached

- NTI did not experience a delay initiating or delivering messages
- Delivery success metrics are consistent versus other days randomly selected

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Poway USD - Best Connection Report
October 22 v. October 26th

October 22nd, 12:30 PM

Message sent to 34,683 contacts at 80,811 unique telephone numbers and 28,645 email addresses

Message Summary: Fire Update 2 10/22/07 - Students

Call Results - *Best Connection Per Contact* Site: POWAY UNIFIED SCHOOL DISTRICT

This message was sent to ALL available numbers for each selected contact.

Alert: 256 contacts (0.7%) **could not be reached** at any number.

3,250 contacts (9.4%) were only reached via answering machine.

31,177 contacts (89.9%) received a live delivery of your message.

Download Result Details | View Result Details

October 26th, 3:00 PM

Message sent to 34,682 contacts at 80,811 unique telephone numbers and 28,645 email addresses

Message Summary: Superintendent to Parents

Call Results - *Best Connection Per Contact* Site: POWAY UNIFIED SCHOOL DISTRICT

This message was sent to ALL available numbers for each selected contact.

Alert: 206 contacts (0.6%) **could not be reached** at any number.

4,135 contacts (11.9%) were only reached via answering machine.

30,341 contacts (87.5%) received a live delivery of your message.

Download Result Details | View Result Details

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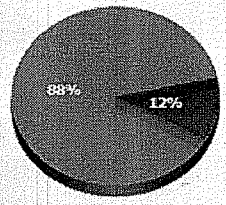
Poway USD – Call Delivery Report
October 22nd v. October 26th

October 22nd, 12:30 PM



Total Contacts Selected = 34,683
Total Unique Deliveries = 80,811*

- Successful Deliveries = 71,308 (88.2%)
- Unsuccessful Deliveries = 9,503 (11.8%)

Successful Deliveries	**71,308**	
Answering Machine	32,223	DETAILS
Live Delivery	39,085	DETAILS
Unsuccessful Deliveries	**9,503**	
Bad Phone Number	2,439	DETAILS
Busy	579	DETAILS
Fax/Modem	190	DETAILS
Hangup	8	DETAILS
No Answer	4,088	DETAILS
Phone Network Busy	1,653	DETAILS
Undeliverable	546	DETAILS
Total Unique Deliveries	**80,811***	DETAILS

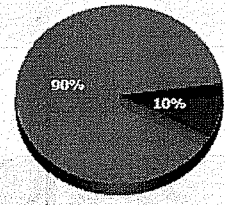
Resend Messages

Total E-mails Sent	**28,645**	DETAILS

Download Bad Numbers Download All Details

* **What are Unique Deliveries?** Unique deliveries are the actual number of calls that are placed. This number will be lowered by multiple contacts that share the same phone number and raised by contacts that have more than one phone number. more info...

October 26th, 3:00 PM



Total Contacts Selected = 34,682
Total Unique Deliveries = 80,811*

- Successful Deliveries = 72,534 (89.8%)
- Unsuccessful Deliveries = 8,277 (10.2%)

Successful Deliveries	**72,534**	
Answering Machine	36,253	DETAILS
Live Delivery	36,281	DETAILS
Unsuccessful Deliveries	**8,277**	
Bad Phone Number	2,973	DETAILS
Busy	533	DETAILS
Fax/Modem	659	DETAILS
Hangup	768	DETAILS
No Answer	1,542	DETAILS
Phone Network Busy	1,788	DETAILS
Undeliverable	14	DETAILS
Total Unique Deliveries	**80,811***	DETAILS

Resend Messages

Total E-mails Sent	**28,645**	DETAILS

Download Bad Numbers Download All Details

* **What are Unique Deliveries?** Unique deliveries are the actual number of calls that are placed. This number will be lowered by multiple contacts that share the same phone number and raised by contacts that have more than one phone number. more info...

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During a Time-Sensitive Incident

- Ensure users can initiate messages using just a telephone
- 24/7 support is provided for all users for any need
  - SDUSD loaded entire database
  - Client Care assisted with crafting messages
  - Client Care sent reminders to clients about clear air messages, etc.
  - Client Care notified districts when schools were sending messages
  - Hurricanes Katrina/Rita
    - Client Care recorded messages with client at 2 AM each night for delivery next day
    - Client used delivery reports to help Telco identify service issues
    - Loaded 250,000 contacts within 2 hours as Rita approached and assisted brand new client to send a message

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Best Practices to Consider

- Test the system regularly with issues in the public interest
  - Clean up bad telephone numbers
  - Identify number of residents not in the service
  - Ensure users know how to use the system
  - Refine your overall emergency communication plan
- Target residents who are not in the system with PSAs and via local news
  - Sign up if you didn't get a call, it was in the wrong language, or you need special assistance (TTY/TDD)
- Contract with a TSN company that provides monthly updates to the telephone database that are geo-coded for mapping– most are annual or they charge an additional fee
- Have an easy to use web portal to collect registrants
  - Language preference
  - TTY/TDD needs
  - VoIP and cell numbers, SMS preference if applicable, and email address

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Best Practices to Consider

- Get a plan in place to coordinate among people who typically deliver messages
  - School districts, city officials, county officials, colleges
  - Are you alerted that they are sending messages when you are? Is the information the same? Duplicitous? Tying up capacity?
- Ensure you have an unlimited messaging plan so you maximize ROI
- Be realistic about SMS delivery and plan accordingly
- Purchase an SaaS vs. hardware to get the benefit of the provider's experience, investments, and to decrease load made on local Telco
- Make sure your map interface can be used whether you are an ESRI specialist or an informed police chief or mayor

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SaaS vs. Hardware

- Users do not invest in or maintain hardware, software, or phone lines
  - Maximize resources – city does not allocate IT staff
  - Focus staff on other issues during an urgent situation
- Require training, retraining, best practices, and 24/7 support for all users for any reason
  - Vendor learns from active clients' usage
    - Policies and practices of clients of similar size/demographic
    - Refined delivery and answering machine detection
- Calls initiated OUTSIDE local area
  - Minimize congestion to increase rapid delivery
  - Redundancy – no single-point of failure
- System used all day everyday – you know it works

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SaaS vs. Hardware

- Users benefit from NTI's TSN experience and investments:
  - Proprietary, in-the-moment traffic detection and retry processing
    - maximize delivery, minimize congestion at Telco
  - SLAs for call initiation/capacity – only 2% used on average day
  - Answering machine detection is current (landline and cell)
  - Additional offerings/fixes added with no down-time or reconfiguration done by city
  - Best in class security, redundancy (no single point of failure), back-up, and systems needed to ensure access to initiate calls
  - Proven system – successfully sends over 20 million voice calls each month

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Unlimited vs. Per Call Fees

- Fiscal responsibility - no contingency budget needed
  - you know exactly what you will spend each year
  - No fees for voice, e-mail or SMS messages
- Inform, Alert, and Recover – better ROI for everyone
  - Test the system regularly
    - Does it work?
    - Where can I improve my communication plan?
    - Identify out-of-date phone numbers
    - Identify when you need to do a PSA to improve residents covered
  - Alert constituents when a threat is impending, not just to evacuate
  - Use for more comprehensive public safety notices and target special groups
  - Use after the fact for safety notices (boil water, downed power lines), recovery plans (filing papers), volunteer call ups, etc.

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Appendix

How to Prepare:

- Communication Plan
- Emergency Personnel
- Residents and the Media

What to Require of your Provider:

- Capacity
- Security
- Redundancy

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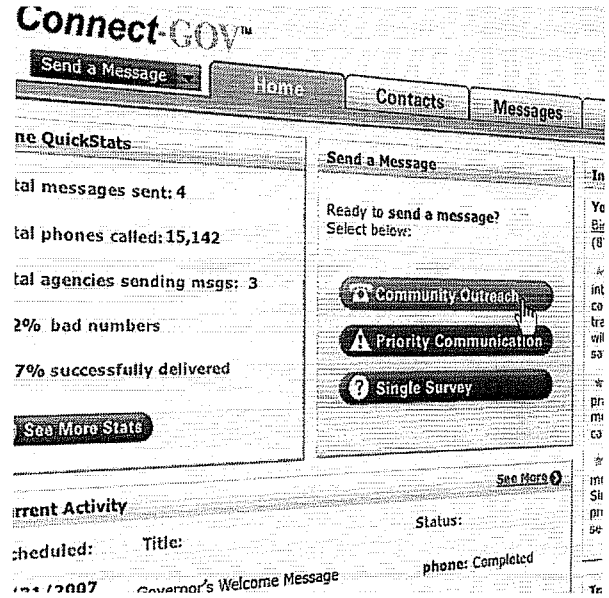
Before an Emergency – How to Prepare

When drafting your new emergency communications plan, ensure that you:

- Determine what is actionable by the state vs. local officials
- Have every user set their Caller ID display tied to a recognizable name
- Determine protocol that needs to be followed before sending a call
- Script messages that are pushed to each appropriate user-type – remember other languages
- Include in your Emergency Tests – include residents, day care centers, senior care facilities, etc.



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How to Prepare First Responders

Coordinate emergency communication plans with local law enforcement

- Coordinate between state officials, OES, and local officials to identify protocol and determine if local officials will have access to the service or will need to have their own service
- Identify scenarios when state officials will/won't initiate messages (abduction, in process event, post-earthquake communication)
- Determine how you will message key scenarios - what type of information will be made available, etc.
- Script messages together that align with scenarios
- Identify who will have jurisdiction over which scenarios
- Include first responders when you test your plan
- Is your local school district using a service? Do you have insight into when they are sending messages? Do they know when you are?

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How to Prepare Residents and Media

Help the community get used to receiving information and explain the opt-in/opt-out process

- Hold a press conference at launch and for each test
  - ✓ Discuss what data is automatically included and what needs to be added, including language preference
  - ✓ Provide information on how to add phone numbers, opt-in to text messages, or opt-out of the service
  - ✓ Hold data drives to collect accurate contact information
  - ✓ Tell recipients to save the call ID number and set a unique ring tone
- Consider sending messages to groups of residents in an area when testing your EOP - allows media to remind residents on an ongoing basis
- Use tests to determine the percent of the population not in your system and market the benefits to them in advance of an urgent situation
- Rotate officials sending messages to staff – allows them to practice
- Monitor your bad telephone number percentage and list
- Include a media group in your service

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What to Require Capacity

- **Initiation:**
  - Contracted capacity through multiple Telco providers
  - SLAs to initiate voice calls
  - Escalation agreements on those SLAs to avoid brown-outs as the provider's client base grows
  - Provider can demonstrate that uses less than 2% of capacity on average day

- **Delivery:**
  - Intelligent algorithms read local congestion and throttle and balance to avoid overloading local Telco switches
  - Blended delivery mechanisms (TDM, VoIP, e-mail, and SMS)
  - Answering machine detection and call retry processes to minimize local congestion

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What to Require Security

- Annual (minimum) audits by premier security firm – **GET PROOF**
- Full-time CISSP certified Security Managers on staff
- Perimeter, intrusion prevention/detection, vulnerability detection, and mitigation and application awareness
- Secure access and data transfer mechanisms (e.g., SSL or VPN)
- Proven LDAP integration – **ASK FOR REFERENCES**
- State-of-the-art data centers with 24/7 security and monitoring
- All databases segregate into isolated VLANs with stringent access control lists (ACLs) to protect data entering and exiting
- Specific and limited number of staff given database access - tightly defined permission levels
- Servers monitored 24/7 for potential hacks, viruses, and other unwanted software
- Full background check on every employee

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What to Require Redundancy

Require a redundant, zero single point of failure system

- Software as a Service (SaaS) provider vs. hardware
- Multiple Telco providers utilized to initiate messages
- Calls originate from points across the country/power interconnects
- Blended delivery mechanisms (TDM, VoIP, and e-mail)
- Text and voice messages
- 24/7 Client Care personnel located throughout the continental US span power interconnects and time-zones
- Redundant servers housed behind own firewalls accessible only by specific calling applications via specific ports
- Nightly back-ups encrypted, stored off-site in a locked box
- Business Continuity Plan – **GET PROOF**

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