



outlined in these standards. Sprint supports the Commission's efforts to gather further information regarding NG911, and Sprint respectfully submits Comments on a number of the issues raised in the NOI. Sprint also urges the Commission, however, to take steps to further the efforts of standards-making bodies and to work toward clarifying the larger issues associated with NG911 deployment before focusing on many of the detailed questions raised in the NOI.

## **II. Standards Development**

As the Commission notes, there have been at least three different proposed approaches for how to implement the different elements of NG911.<sup>3</sup> There is still a great deal of ambiguity regarding the underlying technology that will be used to support NG911. Sprint asserts that significant work must take place before the standards that are integral to NG911 deployment are finalized.<sup>4</sup> The standards that are adopted should follow a framework similar to existing 911 standards. Unfortunately, some standards that are currently in the development stage do not adhere to established American National Standards Institute ("ANSI") guidelines. In addition, standards that are developed for NG911 should clearly delineate the roles and responsibilities of carriers and public safety entities so there is no confusion about the demarcation point. Standards must be developed at the national level. Unless and until this occurs, individual jurisdictions will attempt to impose different requirements that may not be part of the final NG911 plan.

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<sup>3</sup> *Id.* at Footnote 54.

<sup>4</sup> Based on Sprint's preliminary review of the current draft National Emergency Number Association ("NENA") Functional and Interface Standards for Next Generation 9-1-1 Version 1.0 (the "NENA i3 Standard"), there is not sufficient detail to explain how implementation will occur. A number of essential technical issues, including interfaces from originating networks, remain unresolved.

### **III. NG911 Capabilities and Applications**

#### **A Media Types**

The Commission seeks comment on the potential types of media that should be deployed as part of the NG911 environment.<sup>5</sup> The media types discussed in the NOI are data products, many of which travel over separate data networks. Because the existing 911 service encompasses voice service only, standards must be finalized for the delivery of these data products.

The NG911 environment will need to support text messaging in some form to keep pace with evolving technology and consumer expectation. Existing forms of text messaging – specifically Short Message Service (“SMS”) and Multimedia Messaging Service (“MMS”) – should not be considered as the technology for supporting 911 text messaging for NG911. When these services were developed, they were not designed to include the types of information necessary for emergency communications. For example, location information is not included with text messages. Attempting to route text messages to emergency services is not currently technically feasible. Even if location information could somehow be provided for association with a specific message, a separate methodology would need to be put in place to allow for messages to be routed to the correct emergency services operator. Existing handsets are not equipped to designate a text message as an emergency communication, so changes to handsets would be necessary if SMS and MMS were to be used for 911 purposes. In addition, retrofitting existing text messaging services for use in the NG911 environment would have international considerations and would potentially be more costly than evaluating a new technology. Standards must be developed to define the technical parameters of any form of text messaging that will be included in NG911.

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<sup>5</sup> NOI at para. 32.

It may be appropriate to include other media types such as still images and real-time video, as part of the NG911 environment, but standards must also be developed for the delivery of these media types. As discussed below, Sprint would recommend that these types of media be prioritized as secondary forms of media. The Commission also seeks comment on whether auxiliary medical and other personal data should be included in the NG911 environment.<sup>6</sup> Requiring the provision of this type of data raises significant concerns regarding privacy and liability, which are discussed in more detail below.

### **B. Primary vs. Secondary Usage of Media Types**

It is critical that, when an individual sends a communication to emergency services, the initial contact contain the most vital information – such as the person’s name, where they are located, the nature of the emergency and a means to contact them – first and as expeditiously as possible. Sprint asserts that media types that can be used to convey this vital information should be supported on a primary basis. Other forms of media – such as still images and real-time video – would be supplemental and should be established as a secondary form of media.

### **C. Limitations of SMS**

As the Commission discussed in the NOI, the SMS service has numerous limitations. When the SMS service was first developed, it was intended to transmit small bursts of simple text only. As explained in the 4G Americas White Paper, “Texting to 9-1-1: Exploring the Design and Limitations of SMS,” SMS is a point-to-point, rather than a broadcast service.<sup>7</sup> SMS messages are forwarded to the Short Message Service Center (“SMSC”), where they are stored

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<sup>6</sup> *Id.* at para. 38, 61.

<sup>7</sup> 4G AMERICAS TEXTING TO 9-1-1, EXAMINING THE DESIGN AND LIMITATIONS OF SMS (Oct. 2010), <http://www.4gamericas.org/documents/SMS%20to%20911%20White%20Paper%20Final%20October%202010.pdf> (“4G Americas White Paper”), pg. 14.

and forwarded.<sup>8</sup> It is a “best-effort” service and messages can occasionally be delayed.<sup>9</sup> Thus, while SMS messaging is a convenient and popular mode of communication for many, it is not designed with emergency alert services in mind. In addition, SMS messages cannot provide location information.<sup>10</sup> If text messages are to be supported by the NG911 service, new standards will need to be developed. It would be inadvisable to attempt to use the existing short code system to reach PSAPs, given its limitations.

Sprint is concerned that efforts to develop an interim solution at this time would shift focus away from efforts to deploy NG911 and could, ultimately, delay deployment. In particular, an interim solution based on SMS could present significant challenges. The time and resources that would be spent on overcoming such challenges would be better spent working toward the long-term NG911 solution and the enhanced features and capabilities that solution will include.

In general, the public is not equipped to understand the limitations of the SMS service as it relates to 911. As a result, it is possible that consumers may believe that texts can currently be sent to 911 or that this capability will soon be available. As discussed above, Sprint agrees that NG911 should include the capability of sending some form of text messaging to emergency services, but the existing SMS platform cannot and should not be retrofitted to meet this objective. Sprint would, therefore, be supportive of programs that could be developed to educate consumers about the current limitations of texting to 911.

#### **D. NG911 Applications for Persons with Disabilities and Special Needs**

Sprint is committed to serving the needs of the disabilities community and supports efforts to explore features and capabilities that can be included in the NG911 to assist persons

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<sup>8</sup> *Id.*

<sup>9</sup> *Id.*

<sup>10</sup> *Id.* at pg. 18.

with disabilities. For example, Sprint would support exploring the use of video and telemetry data in the NG911 environment to assist persons with disabilities. Moving toward an NG911 plan that incorporates a text messaging solution as expeditiously as possible will benefit all consumers, including the disabilities community. Again, standards must be finalized so that progress can be made toward deploying NG11.

#### **IV. NG911 Network Architecture**

##### **A. Interoperability and Standards**

Standards are needed for the coding of text and other digital information and must include details, such as acceptable formats and file size. In addition, consumers who travel internationally will be limited unless international standards are also considered.

With respect to certification, if it is expected that all multi-media devices should be able to send specific data elements to public safety at some future date, then the standards that are developed will need to be adopted by the manufacturers that make these products, and manufacturers will need to ensure that the standards have been met. It may not be appropriate, however, to require that all manufactured devices be certified with public safety. Numerous new multi-media devices go on the market daily, and such certification could serve to hamper development and ingenuity in technological development.

##### **B. Issues Related to NG911 Implementation/Transition**

Due to the lack of coordinated and published standards for NG911, the transition toward NG911 is already appearing to be an arduous task. There are PSAPs that are currently in the process of developing their networks and transition strategies prior to standards being available. This will complicate the roll-out process and could cause valuable resources to be expended for capabilities that will not ultimately be part of the NG911 plan. For example, today there are

states that are putting into their agreements required class of service codes that would be considered for NG911 that have not been incorporated as part of the standards, requiring carriers to process non-standard class of service codes in the data stream that is sent to them. In addition, some states are requiring that Master Street Address Guide (“MSAG”) validation be a part of 911 call routing for VoIP services, over and above the customer’s registered location information. In the NG911 environment, the MSAG database may no longer exist. Because of the inconsistencies that exist at the local level, it is imperative that the elements of NG911 are standardized as soon as possible. Otherwise, carriers may be faced with expending time and financial resources on transition enhancements that are not part of the final NG911 plan.

### **C. Disparate PSAP Capabilities**

Historically, PSAP readiness has been variable with respect to Enhanced 911 implementation. In fact, as a recent survey by NENA indicates, there are still many states that contain large geographic areas that are not yet Phase II ready.<sup>11</sup> As with E-911 implementation, ensuring that PSAPs are ready and able to implement the next set of technical capabilities will be critical to NG911 implementation. If the NG911 system is to be deployed successfully, many PSAPs will need to upgrade equipment, which will require funding and time. Coordinated implementation at the local level will be even more essential to NG911 deployment, since the NG911 system will be based on a system of Emergency Services IP Networks (“ESInets”) deployed at the local state level.

As PSAPs take steps to upgrade in anticipation of NG911, PSAP consolidation should be considered as a way of improving operations and reducing the costs associated with any new

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<sup>11</sup> National Emergency Number Association, United States E9-1-1 Deployment, <http://nena.ddti.net/Documents/NENA%20Wireless%20E911%20deployment%20map.pdf>

technology deployment. Sprint would also support designating PSAPs of last resort at a state or multiple state level to ensure the delivery of emergency calls in a disaster situation.

#### **D. Liability Concerns**

Moving toward an NG911 system where data from a variety of different sources could potentially be provided raises important liability concerns. The current regulatory model is not equipped to address the liability issues that may arise when data is originated by a source that is not regulated by the Commission. Existing liability protections currently afforded to wireless carriers would need to be expanded to extend to all forms of data included as part of NG911. In addition, wireless providers will need liability protection for communications originated by third party providers.

The Commission has also asked whether medical and other personal data should be included in the NG911 environment. Significant privacy and confidentiality concerns, such as those outlined in the Health Insurance Portability and Accountability Act (“HIPAA”), would be raised to the extent such data is included. There are additional complexities related to the storing and sharing of this information as well as the roles and responsibilities of the parties that handle this information that will need to be addressed. It may be appropriate to defer these questions to standards bodies for further examination.

**V. CONCLUSION**

Sprint supports efforts to deploy an NG911 service that will include both voice and text capabilities. There are many technical considerations that must be resolved, however, through standards-setting organizations before NG911 implementation can move forward.

Respectfully Submitted,

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February 28, 2011