

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

In the Matter of)
)
A National Broadband Plan for Our Future) GN Docket No. 09-51

COMMENTS OF NENA

The National Emergency Number Association (“NENA”) hereby responds to the Notice of Inquiry (“NOI”) in the captioned proceeding.¹ NENA participated in the legislative process leading up to the American Recovery and Reinvestment Act of 2009 (“ARRA”), and has remained involved, on behalf of its members, in the implementation of certain portions of the new law. NENA submitted comments recently to the two agencies principally charged with implementing telecommunications aspects of ARRA.²

NENA appreciates the emphasis on public safety in the NOI and the inclusion of a specific section on Public Safety and Homeland Security. While some of our comments are directly in response to questions raised in that section (paragraphs 72-79), our comments also apply to the broader issues raised in the NOI. Namely, the NOI speaks to four general issues: (1) the most effective and efficient mechanisms for ensuring broadband access by all, (2) affordability of access to broadband, (3) the effective evaluation of the status of broadband deployment, and (4) a plan for the maximum utilization of broadband infrastructure and services (NOI, ¶9).

NENA urges the Commission to analyze each of these overarching goals as they relate to 9-1-1 and emergency communications and to ensure that federal broadband policies are designed

¹ FCC 09-31, released April 8, 2009.

² NTIA and RUS, American Recovery and Reinvestment Act of 2009 Broadband Initiatives, Docket No. 090309298-9299-01, April 13, 2009.

to enable effective, affordable broadband access, and the efficient use of broadband, by all emergency response agencies.

The National Broadband Plan NOI offers a significant opportunity to outline steps to foster the migration from analog, voice-centric 9-1-1 and emergency communications systems into a 21st century, next generation, IP broadband-based emergency services model that embraces a wide range of voice, video, and data applications. Until all emergency response agencies and individual responders can access interoperable wired and wireless broadband networks, and utilize the services and applications enabled by such networks, the migration to the next generation of truly integrated and interoperable emergency communications will remain a mere vision.

While promotion of broadband access for the general public is an important investment, it is even more important for the future of 9-1-1 and emergency communications, which will increasingly depend on high bandwidth networks to effectively prepare for, and respond to, emergencies. Indeed, NENA believes that fostering greater availability and use of broadband for emergency services, education, and healthcare will be a significant driver of improved broadband capabilities and deployment for other community uses. Therefore, it is important that the Commission place a clear priority in the National Broadband Plan on the need for investment in the infrastructure, services and applications for safety organizations that will enable their effective and vastly expanded use of broadband networks. Ensuring access to broadband networks is important, but as critical, is the need for programs that enhance the use of current and future broadband networks.

The Broadband plan should place an emphasis on policies that:

- ensure that technologically advanced 9-1-1 and emergency communications systems are universally available and adequately funded to serve all Americans; and
- ensure (1) that all 9-1-1 and emergency response organizations have access to high-speed broadband networks, (2) that these organizations are interconnected through the establishment of, and access to, shared, secure managed emergency services IP backbones, and (3) that these organizations have access to innovative services and applications made possible through access to shared broadband networks, IP backbones and IP application layer software services.

Finally, while it is important for the FCC to continue to place an emphasis on the establishment of a national wireless public safety broadband network, the Commission should equally stress the need for all emergency response agencies to have access to, and to utilize, wired broadband networks.

Next Generation 9-1-1 and emergency communications

The following section is in response to the NOI's specific public safety and homeland security questions at NOI paragraphs 72-79. It is essential that all Americans have access to the best 9-1-1 systems possible, and can rely on an effective and coordinated response to emergencies of any magnitude, regardless of where they live, work, or travel. Policies must be designed to improve access to 9-1-1 for a growing segment of the population, including the deaf, hard of hearing, and deaf-blind, and individuals with speech disabilities, who are increasingly communicating with non-traditional text, video, and instant messaging communications services, and who expect those services to be able to connect directly to 9-1-1 systems. Policies also must enable interoperable communications capabilities so 9-1-1 centers and other emergency response

agencies and responders can effectively access and share information to provide the best emergency response to citizens in need of assistance. Therefore, it must be a national priority to foster the migration from analog, voice-centric 9-1-1 and emergency communications systems, to a 21st century, next generation, emergency services model that embraces all voice, video, and data applications.

The National Broadband strategy should focus on the use of broadband by public safety agencies to put 9-1-1 and emergency communications information and communications technology (“ICT”) squarely in the forefront of modern commercial, network-centric³, cloud computing⁴ communications. 9-1-1 and emergency communications systems are not keeping pace with rapidly changing technological advances and are facing serious funding shortfalls. 9-1-1 systems today are incapable of accepting communications in all the forms in which citizens communicate daily: text, video, advanced IP-enabled voice and data services. Today, 9-1-1 and EMS agencies cannot obtain or share critical data on victims (e.g. medications, allergies) from electronic health records. In general, interoperability and information sharing among emergency responders and the agencies they serve remain a major challenge.

9-1-1 and emergency communications and response systems remain largely stuck in the technology and mentality of the 20th Century at a time when 21st Century broadband-enabled technologies are being deployed throughout most other sectors in the U.S. The results are

³ By “network centric” we mean embracing a model in which services and applications utilized by emergency response agencies and individual responders can be hosted in the network and simultaneously shared by many agencies who are interconnected via standards-based emergency services IP Networks, or ESInets. This is in contrast to the traditional emergency services model in which most equipment and applications are paid for, hosted, and operated separately by each individual agency.

⁴ The term “cloud computing” refers to a collection of resources – applications, platforms, raw computing power and storage, and managed services – delivered over IP networks. The term has also been defined as a style of computing where massively scalable, IT-enabled capabilities are provided as a service to external customers using Internet technologies. See J.D. Lasica, “Identity in the Age of Cloud Computing: The next-generation Internet’s impact on business, governance and social interaction,” the Aspen Institute, 2009 at 5; see also Daryl C. Plummer, et al: “Cloud Computing: Defining and Describing an Emerging Phenomenon,” Gartner, June 17, 2008.

responders without numerous forms of available and useful information, emergency communications systems that are often inflexible and insufficiently redundant during major disasters, and overall system inefficiencies. A major national emphasis on emergency response agency access to, and use of, broadband, consistent with the Recovery Act, offers a significant opportunity to improve emergency response in America.

The Commission's Broadband Plan offers an opportunity to provide necessary leadership to enable a strong, visionary effort to deploy next generation 9-1-1 and emergency communications and information technology that will aid in saving lives and property and reducing injuries, protect homeland security, improve emergency medical care, and ultimately save money across a wide array of local, state and federal safety and related functions. The plan should call for a broad, multi-dimensional effort to deploy next generation emergency ICT, starting with broadband access for all 9-1-1 and emergency response agencies, broadband backbone networks connecting them, and multiple services and applications enabled by such broadband access.

The 9-1-1 system as an integral element of modern emergency response

The 9-1-1 system, which was originally established for the sole purpose of receiving emergency voice calls, is well positioned to become a key component of a smart, all-hazards, Internet-protocol, interoperable and integrated emergency response system. 9-1-1 telecommunicators and other responders could provide a far more informed and effective response if they had access to, and could share, video, text messages, car crash data, key electronic health data, building plans, extrication guides, traffic information, electronic maps, weather and hazmat data. This can be accomplished by ensuring that emergency response organizations have access to, and use, new information technologies, riding on the deployment of

broadband systems throughout the U.S.

The Broadband Plan should promote the following principles to foster the transition to an IP-based Next Generation 9-1-1 and integrated emergency communications network:

- (1) integrate 9-1-1 and all other key emergency response functions into planning, deployment and operation of interoperable emergency communications policies, programs, and systems;
- (2) ensure that the nation's 9-1-1 system is an integral component of emergency response, along with all other emergency response organizations, in a shared emergency services environment, by taking full advantage of voice, data, video, and other information available over broadband networks and IP platforms; and
- (3) foster public/private collaboration and coordination at the local, state and national levels.

The Broadband Plan should address the following serious deficiencies that currently exist. First, there has been insufficient focus on connecting the approximately 100,000 emergency response agencies in America to secure and redundant broadband networks. Yet, safety uses are clearly compelling reasons for deploying broadband and increasing its capacity. Second, there has been even less focus on the application layer (software) innovations needed to make broadband connections useful to emergency response, i.e. creating demand for broadband.

The Broadband Plan for 9-1-1 and emergency communications should start with a coherent analysis and architecture for the overall emergency communication services ecosystem, or "virtual enterprise", of tens of thousands of emergency organizations in which there are over 6,000 Public Safety Answering Points (PSAPs). The Broadband Plan should be based on an overall analysis and architecture for the whole enterprise, rather than unique single-

purpose profession-by-profession solutions. This means ensuring that all safety agencies are connected to broadband services sufficient for NG9-1-1 and emergency communications. It means adopting a standards-based and IP-based open architecture approach focusing not on individual professions or on individual agencies, but on the “middle”, the network-centric applications and software services using broadband that are needed to enable thousands of organizations to be more informed, interoperable and situationally aware.

A focus is needed at the Application (IP) Layer to enable the development and implementation of managed, shared services that do not require major capital investment or sophisticated IT staffing by the tens of thousands of safety agencies that are mostly small and often lack the technical expertise to fully embrace the broadband revolution on their own. The Broadband Plan should emphasize how broadband can close the digital divide in emergency response, as in other areas. In summary, for 9-1-1 and emergency communications, the Broadband Plan should be designed to:

- ensure that every agency involved in emergency response has appropriate broadband connectivity, ideally to shared state and regional backbone networks;
- ensure the establishment of shared state and regional backbone emergency service IP networks (ESInets) for emergency response⁵;
- ensure the establishment of a national “internetwork” backbone to provide the (mostly application layer) connections between state and regional backbone networks;
- adopt an “everything over Internet Protocol” and open architecture approach;

⁵ All emergency response agencies need to be connected to ESInets. ESInets are engineered, managed networks, and are intended to be multi-purpose, supporting extended public safety communications services, in addition to 9-1-1. ESInets use broadband, packet switched technology capable of carrying voice plus large amounts of varying types of data using Internet Protocols and standards. ESInets will ride on a mix of commercial and government-owned network infrastructure, but simply having a broadband network pass by emergency response agencies is insufficient. Commercial and government-owned broadband networks are a critical component of our nation’s homeland security, but the vision of NG9-1-1 and emergency communications requires the further step of ensuring that all public safety agencies are interconnected on ESInets riding the broadband infrastructure.

- focus on industry-based, open standards development and use;
- focus not just on individual agencies (the “end points”), but also on the “middle”, the network-centric applications and core services (e.g. security, access control and data rights management) that can be accessed and utilized by all authorized public and private entities involved in emergency response;
- broaden the traditional “pipes” (communications transport) focus to broadband, and the focus on “pipes” to include attention to the Application (IP) Layers; and
- Encourage the development of new services and applications for emergency response enabled by access to broadband, particularly the provision of managed/hosted services and applications for 9-1-1 and emergency communications. For example encourage mapping and computer aided dispatch systems or records management systems that can be hosted in the network and shared by multiple agencies across a region.

Wireless broadband for public safety

NENA will not offer any new comments at this time related to the development of a national wireless public safety broadband network. NENA remains committed to the establishment of such a network. As the Commission continues to examine proposals for the D Block, NENA urges the Commission to ensure that any actions taken by the Commission (1) result in a network that is built nationally based on a single standard and technology platform consistent for all users of the 700 MHz band, (2) that takes advantage of the significant research and development of the commercial wireless industry, and (3) that has a known and recurring funding source for public safety to access and utilize the wireless broadband network.

Consistent with the comments above and previous NENA filings, we urge the Commission and stakeholders involved in the D Block debate to consider how all the components of a national wireless public safety broadband network, including the wired portion of such a network that joins the wireless access points, can be a part of a national “internetwork” backbone interconnecting state and regional ESInets.

Establishment of a Next Generation 9-1-1 and Emergency Communications Docket

While NG9-1-1 and emergency communications issues should be included as critical subjects in the National Broadband Plan, there are a significant number of issues that must be examined by the Commission to truly enable NENA's Next Generation vision. Therefore, NENA suggests that the Commission establish a single docket on the issue of NG9-1-1 and emergency communications and seek comment on steps the Commission can take to enable NG9-1-1 and the topics raised above. In doing so, the Commission should seek information from all relevant stakeholders, including the Commission's own Communications, Security, Reliability and Interoperability Council (CSRIC). Some topics the Commission should seek comment on in the notice include, but are not limited to:

- An examination of current Federal and state statutes, regulations and rules that may be in conflict with the vision of NG9-1-1 and emergency communications. More details on this topic can be found in a publication of NENA's Next Generation Partner Program titled "A Policy Maker Blueprint for Transitioning to the Next Generation 9-1-1 System" and subsequent NG9-1-1 Transition Policy Briefs on the subjects of automatic location, confidentiality and liability. The documents are available at <http://www.nena.org/ng-partner-program/NG911-Transition-Policy-Maker-Blueprint> and in the Appendix of this filing;
- The establishment of statewide or regional emergency services IP networks (ESInets) and a national internetwork connecting the multitude of federal, state and regional IP networks;⁶
- Automatic location of 9-1-1 calls and other forms of information to be routed to PSAPs and shared with other emergency response organizations over IP broadband networks;⁷
- Identification of devices and services expected to provide 9-1-1 connectivity when NG9-1-1 systems are implemented and on what terms;
- System reliability and redundancy requirements;
- Security;

⁶ See Appendix – NG9-1-1 Transition Policy Brief Number Three: Establishing State-Wide Emergency Services IP Networks (ESInets).

⁷ See Appendix – NG9-1-1 Transition Policy Brief Number Five: Addressing Gaps in the Automatic Location of 9-1-1 Calls for Current and Emerging Devices and Services for 9-1-1 Calls.

- Federated access control, identity management and data rights management issues;
- Funding and cost recovery issues;⁸
- Jurisdictional issues;
- Confidentiality and liability concerns in an NG9-1-1 environment;⁹
- Standards; and
- Interconnection issues for new and legacy 9-1-1 systems during the transition to NG9-1-1.¹⁰

Measuring Progress: Evaluation of the Status broadband deployment

NENA responds as follows to the questions at paragraphs 29, 32 and 33 of the NOI. It is essential that any evaluation of broadband availability take into consideration the broadband availability for PSAPs and other emergency response organizations. For example, the Recovery Act directs NTIA, in consultation with the FCC, to establish a comprehensive nationwide inventory map of existing broadband service capability and availability in the United States that depicts the geographic extent to which broadband service capability is deployed and available from a commercial provider or public provider throughout each state. While discussions on mapping are typically focused on the individual consumer's access to broadband, there is also a significant need to map the broadband service availability for emergency response organizations. All counties should be mapped to determine the broadband availability, including the characteristics of such offerings, for all emergency response agencies, including 9-1-1 centers.

We reiterate here what we have previously suggested to the FCC, NTIA and RUS,¹¹ that

⁸ See Appendix – NG9-1-1 Transition Policy Brief Number Two: Funding the NG9-1-1 System.

⁹ See Appendix – NG9-1-1 Transition Policy Brief Number Six: Confidentiality, Disclosure and Retention of 9-1-1 Calls and Other Emergency Information and NG9-1-1 Transition Policy Brief Number Seven: Next Generation 9-1-1 Liability Issues.

¹⁰ See Appendix: NG9-1-1 Transition Policy Brief Number Four: Addressing Transitional Regulation/Legislation/Tariff Modifications to Enable Next Generation 9-1-1 Deployment.

some factors to be considered in the mapping of public safety broadband capabilities include, but are not limited to:

1. Does broadband capability exist at ALL emergency response locations? For example, for 9-1-1 systems, not just at a 9-1-1 Public Safety Answering Point (PSAP), but also other public safety locations, such as administrative offices where centralized 9-1-1 database control systems might be placed. The definition of public safety needs to include all entities involved in the process of preparing for, responding to, and recovering from emergencies of all magnitude.
2. What bandwidth is available at each location and points of presence in general? Is it symmetrical (same capacity for both send and receive)? If not, what are the limitations?
3. What degree of network diversity exists, both physically and logically? Are there at least two physically diverse paths available at each location?
4. Is there redundancy across more than one vendor, more than one technology, more than one equipment supplier?
5. Are broadband services capable of being managed per application needs and do they support the privacy of data (at least VPNs, encryption, etc)?
6. What is the availability of the broadband network? Does the wired broadband network meet a minimum reliability of 99.995%, with a goal of attaining 99.999 % uptime?
7. Are IP networks that run on the broadband capacity secure, able to support access controls?
8. What technology is used – what broadband services can be supported (frame, ATM, MPLS, etc.)?
9. Who are all of the broadband service providers for each location (commercial and state/municipal owned) and what are the geographic area/regions with their historical reliability levels?
10. What are the network operations center (NOC) capabilities for each broadband provider?
11. For each public safety location, are they capable of two physically separate entry points for broadband network connectivity?

Such information should be sought by the Commission in any broadband mapping required by

¹¹ http://www.nena.org/sites/default/files/FCC%20Recovery%20Act%20Comments_NENA.pdf and http://www.nena.org/sites/default/files/NTIA-RUS%20RFI%20Response_NENA.pdf.

the Recovery Act. This information should also be collected by the FCC as part of its recurring data collection process.

Defining broadband for public safety

The FCC should establish (NOI, ¶¶ 15-22) a definition for broadband for public safety needs that acknowledges that public safety generally needs both fixed and mobile broadband service at data rates above what would be considered acceptable for residential use. Separate definitions may be needed based on the unique characteristics of individual broadband technology platforms. While we decline to suggest how those data rates should be defined at this point, it is important for the FCC to consider establishing separate definitions for emergency communications purposes in consideration of the unique needs of emergency response organizations. The Commission's Communications, Security, Reliability and Interoperability Council (CSRIC) could be tasked with establishing such definitions.

Universal Service Programs

USF programs should make broadband a supported service. Congress recognized in Section 254(c) of the Communications Act that universal service is an “evolving level of telecommunications services.”¹² The FCC should examine existing universal service funds and consider modifying existing USF programs to enable USF funds to pay for public safety access to, and use of, broadband. If Congressional action is required, the FCC should request this as it considers USF reform.

The FCC, other federal agencies, and Congress should examine any federal programs that provide federal funds, including USF, to build broadband networks for a single purpose to the exclusion of other entities that could and should share infrastructure. The FCC's Rural Healthcare Initiative is a good example. Per Section 254 of the Communications Act, using

¹² 47 U.S.C. §254(c).

universal service funds the Commission has established the Rural Healthcare Pilot Program to build infrastructure and connect rural hospitals and healthcare providers. That is a good thing to do, but this same infrastructure could and should be utilized by 9-1-1 centers and other emergency response entities as well if the program were rewritten to allow it.

In that regard, Acting Chairman Copps has stated that “there is great potential to improve health care for those communities that currently have limited access to primary, specialty and preventive care; *as well as to enhance public safety by connecting health care providers, public health officials and first responders to these networks so that they can share crucial data during emergencies.*” [emphasis added]¹³ While that is the right approach, it does not appear that the USF funds for the rural healthcare initiative can actually be used for this purpose, which is a shame.

Related Statutory Mechanisms

There are numerous existing 9-1-1 and public safety grant and loan programs in place today and authorized by Congress. Programs exist within the FCC, the Department of Homeland Security (“DHS”), the Department of Transportation (“DOT”), the National Telecommunications and Information Administration (“NTIA”) and the Rural Utilities Service (“RUS”). Efforts should be made to better coordinate the purposes and use of federal grant funds and a significant emphasis should be placed on ensuring that grant funds are utilized for Next Generation 9-1-1 and emergency communications systems consistent with the vision outlined above.

RUS has existing authority to provide low-interest loans through the “9-1-1 Access Program” established under Section 6107 of the Food, Conservation, and Energy Act of 2008 (Pub. Law No. 110-246). The loan program gives RUS authority to make loans to state or local governments, Indian tribes, or other public entities for facilities and equipment to expand or

¹³ http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-290141A1.pdf.

improve in rural areas “9-1-1 access, integrated interoperable emergency communications, including multiuse networks that provide commercial or transportation information services in addition to emergency communications services, homeland security communications, transportation safety communications, or location technologies used outside an urbanized area.” The Commission should coordinate with RUS so that loans are promulgated under this authority and the loans are consistent with the FCC’s direction in the National Broadband Plan.

As partners in the National E9-1-1 Implementation and Coordination Office (“ICO”), the National Highway Traffic Safety Administration (“NHTSA”) and NTIA have authority to provide grants to PSAPs for “the migration to an IP-enabled emergency network”¹⁴ which clearly requires the use of broadband. NHTSA and NTIA recently released the final rules for this grant program providing greater clarity on the purpose and eligible use of funds under the grant program, which can include the implementation of statewide ESInets.¹⁵ Having released the final rules, the agencies are in the process of preparing to receive grant applications to administer \$43.5 million in available funds which will be distributed by September 30, 2009. The Commission should coordinate with NHTSA and NTIA to ensure that the Commission’s Broadband Plan is consistent with, and provides further support for, this essential grant program.

And of course, the same Congressional enactment requesting of the FCC a national broadband plan is also the source of \$7 billion in stimulus funding for broadband telecommunications initiatives, including “access to, and use of, broadband by public safety agencies.”¹⁶ The Commission should coordinate with NTIA and NHTSA so that grants promulgated by the agencies are consistent with the FCC’s direction in the National Broadband Plan.

¹⁴ 47 U.S.C. §942(b)(1).

¹⁵ Fed. Reg. 26,965. June 5, 2009.

¹⁶ American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009).

Conclusion

In conclusion, the National Broadband Plan offers a significant opportunity to outline steps to foster the migration from analog, voice-centric 9-1-1 and emergency communications systems into a 21st century, next generation, IP broadband-based emergency services model that embraces a wide range of voice, video, and data applications. A major national emphasis on emergency response agency access to, and use of, broadband, consistent with the Recovery Act, offers a significant opportunity to improve emergency response in America.

Respectfully submitted,

NENA

By ___/s/ _____

Brian Fontes

CEO

National Emergency Number Association

4350 North Fairfax Dr.

Suite 750

Arlington, VA 22203

703-812-4600

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APPENDIX – NENA NG Partner Program NG9-1-1 Transition Policy Briefs

NUMBER: One

SUBJECT: State-Level 9-1-1 Leadership and Coordination

OBJECTIVE: Establishment of a State Level organization to plan, coordinate and implement a Next Generation 9-1-1 system

TARGET AUDIENCE: 9-1-1 Authorities, Legislatures and Governors' Offices

JURISDICTION: State

BACKGROUND: The level and manner of coordination of 9-1-1 varies widely from state to state. In some states, 9-1-1 is strictly a local matter. A number of states have centralized the 9-1-1 program function or have otherwise established a statewide coordination mechanism, although their circumstances and authority vary widely due to the way state laws and regulations conceive and define the state-level function. For example, some states have a central, state-level 9-1-1 program, but it is primarily focused on cost reimbursement. Some states have centralized the 9-1-1 oversight function, but it focused exclusively on wireless. Some states have centralized the 9-1-1 oversight function and provided it with broad authority and adequate resources to oversee all aspects of 9-1-1. And some states have elected to combine local autonomy and state level coordination. The ability to effect both interstate and intrastate coordination of NG9-1-1, and to coordinate it with other emergency communications, will be a key factor in its – NG9-1-1's – success.

DISCUSSION: The principle of state-level coordination for 9-1-1, and of overall emergency communications, is not new. It is explicitly articulated in the Wireless Communications and Public Safety Act of 1999¹, in which Congress desired states to implement seamless, end-to-end emergency telecommunications services and found that efficiency in deploying such “requires statewide coordination of the efforts of local public safety, fire service and law enforcement officials, emergency dispatch providers, and transportation officials; the establishment of sources of adequate funding for carrier and public safety, fire service and law enforcement agency technology development and deployment; the coordination and integration of emergency communications with traffic control and management systems...” Furthermore, Congress directed the FCC to help make this happen by encouraging the development and implementation of “coordinated statewide deployment plans, through an entity designated by the governor” that should “include representatives of the foregoing organizations and entities in development and implementation of such plans.” The principle of statewide coordination and planning under the auspices of a designated state-level entity is reinforced in the ENHANCE 911 Act of 2004 and is a specific eligibility criterion for PSAP grant funding under the Act. Similarly, statewide planning and coordination for use of homeland security communications grants is being required, and gradually expanded from solely first responder voice communications to include all emergency organizations and all types of emergency communications.

¹ PUBLIC LAW 106-81-October 26, 1999.

The link between these principles and the vision of NG9-1-1 is clear. Many key features and functions NG9-1-1 will require an effective state-level leadership and coordination mechanism to be in place. NG9-1-1 and next generation emergency communications generally, as an “interconnected system of local and regional emergency services systems (system of systems)”² that ultimately becomes “...a nationally interoperable emergency services internetwork”³ with the coordinated involvement of all state, regional and local stakeholders is what will finally achieve the vision of the 1999 Act.

Although the staffing of PSAPs and handling of 9-1-1 calls (and associated emergency response) will generally remain a local function, subject primarily to local decisions, aspects of NG9-1-1 will require state-level planning and implementation coordination. For example, network and related information delivery functions will no longer be agency specific, but will be shared by all authorized emergency agencies. Such shared Emergency Services IP Networks (ESInets) may be developed and managed locally or regionally, but need strong state level leadership and coordination, to ensure both operability and interoperability of state, local and regional ESInets, and to ensure they conform to applicable policies and industry-based standards. Further, coordination with national entities to ensure statewide compliance with required standards, federal policies and the like is best accomplished when said coordination occurs at the state level.

ACTION PROPOSED TO RESOLVE ISSUE:

- Each state needs to have an organization, with appropriate authority, responsible for planning, coordinating and implementing the NG9-1-1 system, that reflects the following:
 - Statewide scope
 - Coordination within the state and with adjacent states and federal authorities
 - Coordination with other emergency service functions and other relevant stakeholders involved in the development and implementation of seamless, end-to-end NG emergency communication services
 - The appropriate adoption of industry-based standards, rules, policies and procedures by stakeholders necessary to support such deployment
 - Adequate funding to support state and local planning and implementation of NG9-1-1
- Each state needs to have an organization, with appropriate authority, responsible for planning, coordinating and implementing a seamless Next Generation end-to-end emergency communication system, including 9-1-1.

² USDOT. “Next Generation 9-1-1 (NG9-1-1) System Initiative: Concept of Operations.” Intelligent Transportation Systems. April 2007. 12. http://www.its.dot.gov/ng911/ng911_pubs.htm (April 19, 2008)

³ Ibid

NUMBER: Two

SUBJECT: Funding the NG9-1-1 System

OBJECTIVE: Ensure sufficient resources are made available to implement and operate the NG9-1-1 system.

TARGET AUDIENCE: 9-1-1 and Public Safety Authorities, Legislatures and Governors' Offices

JURISDICTION: Federal/State/Local

BACKGROUND: Current State and local 9-1-1 funding and planning legislation and authority are functionally tied to the architecture of the current 9-1-1 system and state or local public safety operations. Existing laws or authority often do not take into consideration the Next Generation of 9-1-1 in which 9-1-1 will be an application that utilizes Emergency Services IP Networks (ESInets), along with other emergency services functions.

DISCUSSION: The 9-1-1 system and other emergency communications functions are funded by different and disparate funding sources. Those funding structures are used, and indeed are typically required to be used, to create separate and distinctly different systems (e.g. 9-1-1; interoperable Police/Fire/EMS radio systems; public health alert networks, poison control centers etc). Absent significant inter-governmental cooperation, this form of planning and funding may not lead to economies of scale that will enable parity of emergency services capabilities, interoperability, increased efficiency or cost savings within all aspects of emergency communications. More so than today, the Next Generation System will be a shared system comprised of multiple entities and components, including 9-1-1, the support of which will require coordinated planning and funding.

ACTION PROPOSED TO RESOLVE ISSUE:

- State and local governments should examine funding, operations, and legislation to ensure they promote the needed ESInets and cooperation, including interstate ESInets and NG9-1-1 in general.
- Any fees assessed to enable NG9-1-1 imposed on end users or devices of any service or infrastructure with the ability to access the NG9-1-1 system should be reasonable, equitable and nondiscriminatory;
- Fee remittance should be made for deposit into a dedicated fund and the allowable uses should ensure the provision of the needed services and constrain diversion of funds to other non-allowable purposes;
- Establish a maximum fee, providing the 9-1-1 authority with the ability to adjust the fee rate based on the cost to provide service;
- It is possible to pay for NG9-1-1 services as part of a shared NG emergency services network in which multiple emergency services functions will pay a portion of the network costs and policy makers should explore and examine this possibility.
- State and federal legislation and grant programs should reflect the growing convergence and integration of emergency response technology and agency interaction. State

interoperability plans and federal funding in support of them must be for overall next generation emergency communications, including NG 9-1-1.

- Federal and state interoperability and Next Generation 9-1-1 definitions need to be more comprehensive and inclusive, e.g., all emergency response agencies, including 9-1-1, and all forms of emergency communications. As state and federal policy officials review and modify current 9-1-1 related policies; all definitions should be reviewed to align with next generation technology.
- Funding legislation should encourage parity of emergency services capabilities, interoperability, increased efficiency or cost savings within all aspects of emergency communications.
- Fee should be based on sound planning that includes short- and long-term projections of recurring and non-recurring costs and revenues;
- Service provider fee remittances should be audited for accuracy, and the 9-1-1 authority or PSAP should be audited or monitored for use of funds in compliance with legislative and authorized intent.

NUMBER: Three

SUBJECT: Establishing State-Wide Emergency Services IP Networks (ESInets)

OBJECTIVE: Ensuring that State/Regional/Local authorities recognize the need and apply directive influence to enable and initiate state-wide ESInets needed for NG9-1-1

TARGET AUDIENCE: 9-1-1 and Emergency Services Authorities, Legislatures, Regulatory Agencies and Governors' Offices

JURISDICTION: State/Regional/Local

BACKGROUND: Most current 9-1-1 and emergency communications systems are local or regional in nature, both operationally and technically. However, the proposed technical architecture of the NG9-1-1 system indicates the need for state-wide management and coordination of IP emergency service networks (ESInets). In addition to technical specifications, the NENA **Functional and Interface Standards for Next Generation 9-1-1 (i3)** provides some guidance on Roles and Responsibilities for ESInets. There are two key aspects to the deployment of ESInets: (1) the physical buildout and coverage of the ESInets and (2) the management and coordination of ESInets.

ESInets may be deployed at a state level and there may be increased efficiencies and economies of scale in doing so. However, ESInets will very likely be deployed at a sub-state level (regional/county) in many areas which must then be interconnected with other sub-state ESInets to establish a standardized, interconnected and interoperable state-wide ESInet. In practice there will be a number of different ways to affect statewide ESInet coverage. A state level entity or organization is recommended to implement and manage the interconnected state-wide ESInet (comprised of the interconnected regional/local IP networks or a single state network). A state

level entity or organization can play a significant role by providing an IP backbone network to make interconnection of regional/local ESInets more efficient.

No matter who manages the ESInet(s) in a state, it is desirable to have one entity or organization coordinate development and management of the network in order to ensure adherence to appropriate standards and achieve the economies of scale and efficiencies that NG9-1-1 promises. To further improve efficiency, one entity per state should be responsible for arranging interconnect between their network and adjacent state networks. This includes both redundant physical connections and router configuration to allow seamless interagency communications.

Local and regional 9-1-1 operations will continue to be handled at the current entity level.

DISCUSSION: ESInets are critical to the NG9-1-1 and next generation emergency communications architecture. They will provide call routing, transport, interoperability, security, and related services that can most effectively and efficiently be coordinated at the state level and facilitate required intra and interstate connectivity that will be very difficult, if not impossible, to achieve at the regional or local level.

State-wide ESInets are more than just physical pathways. They host (or provide access to) numerous application layer services that support interoperability among the highly diverse regional/local networks and agency applications. These include appropriate standardized core services such as GIS-based directories of authorized organizations and resources, and access control/identity management for implementation of information sharing policies. These directories will enable interstate and intrastate dissemination and queries for emergency incident information and messages, including references to locations, agencies and data sources. All authorized organizations (local, state, national, public, private) need to be able to implement their data policies through these core services. The ESInets may also offer optional managed services (or access to them) for use by individual agencies.

While there are numerous statewide programs in place for the funding and administration of 9-1-1 service and other emergency services, no state today is implementing and operating a comprehensive ESInet shared by 9-1-1 and other emergency services and government functions. Some have state networks for specific emergency functions (e.g. Indiana has an innovative statewide wireless 9-1-1 network; there are many state Health Alert Networks; law enforcement networks including NCIC and NLETS). Some states do not have the ability or authority to establish a state-wide ESInet. Some states do not have a state-wide 9-1-1 authority. Most states do not have a comprehensive state emergency communications agency, or if they do have one, the agency does not have the authority or funding to implement an ESInet and carry out these comprehensive new responsibilities involving all emergency response agencies, including coordination with state and local agencies or organizations responsible for 9-1-1.

ACTION PROPOSED TO RESOLVE ISSUE:

- Policymakers at all levels should commit to the development and deployment of interoperable state-wide ESInets as a fundamental 9-1-1 and emergency communications policy objective.

- 9-1-1 and emergency services authorities need to review existing legislation and regulations to ensure there are no barriers to, and sufficient authority for, the establishment of state-wide ESInets. Statutes and regulations to enable Next Generation systems should be actively pursued. Any current rules that would prohibit, or fail to authorize, the establishment NG9-1-1 must be resolved.
- Where existing state statutes and regulations permit, state, regional, and local 9-1-1 and emergency services authorities should work cooperatively toward establishing state-wide ESInets.
- Where not currently authorized, states should affirmatively legislate, authorize, organize and fund state-wide ESInets and key interoperability services hosted on, or accessed by them. It is in the operational and financial interests of emergency agencies to share and contribute to an ESInet. Planning and funding should involve and come from all emergency services, including but not limited to 9-1-1. The federal government should support efforts to establish state-wide ESInets.
- Emergency services agencies need to consider the sharing of infrastructure with other governmental entities as a matter of affordability. This calls for the development of new cooperative working agreements between federal, state and local agencies to participate in shared state backbone networks that include priority access for emergency services, particularly during periods of disaster.

NUMBER: Four

SUBJECT: Addressing Transitional Regulation/Legislation/Tariff Modifications to Enable Next Generation 9-1-1 Deployment

OBJECTIVE: Modify and update current legislation, regulations and tariffs to ensure a competitive E9-1-1 environment and a transition to a full NG9-1-1 system

TARGET AUDIENCE: 9-1-1 and Public Safety Authorities, Legislatures, Regulatory Agencies and Governors' Offices, Federal Communications Commission

JURISDICTION: Federal, State and Local

BACKGROUND: As compared to the current marketplace where Incumbent Local Exchange Carriers (ILECs) are the predominate 9-1-1 System Service Providers (SSPs), in the NG9-1-1 marketplace it is anticipated that there will be multiple providers offering a variety of service capabilities and options, thereby providing greater choices for 9-1-1 governing authorities. As we transition to a full NG9-1-1 system, it is also expected, and is indeed a policy objective, that competitive alternatives for current E9-1-1 services will emerge as well. An open, competitive E9-1-1 environment should be fostered and should be done so with an eye towards a full NG9-1-1 system.

NG9-1-1 is not simply an extension of E9-1-1. While a full NG9-1-1 system must support all E9-1-1 functions and features, NG9-1-1 is Internet Protocol (IP) based, and software and

database controlled in fundamentally new ways, enabling many new technical and operational capabilities to further enhance the coordination and delivery of emergency services nationwide. However, before and during the transition to a full NG9-1-1 system, it is expected that new E9-1-1 service offerings will be provided by competitive 9-1-1 SSPs in direct competition with incumbent SSPs. Such offerings will likely replicate current E9-1-1 functions and advance beyond current E9-1-1 system capabilities, while, initially, not being a full NG9-1-1 system. In many cases, competitive SSPs will offer individual components of 9-1-1 solutions. As these competitive E9-1-1 service offerings and full NG9-1-1 capabilities are deployed, they will necessarily involve new complex technical and business arrangements that current regulations and laws did not fully contemplate.

DISCUSSION:

NG9-1-1 will not be deployed in a “flash cutover”. There will be PSAPs and areas that remain tied to the legacy E9-1-1 system for quite some time that must be able to interoperate with PSAPs that have migrated to NG9-1-1. With that reality in mind, it is imperative that 9-1-1 authorities at every level – as well as industry – begin now to lay the foundation for NG9-1-1 by facilitating the deployment of “dual-mode” capabilities in networks and/or IP-enabled PSAPs that can translate between the legacy, circuit switched environment and the next generation environment. This will be a significant issue as NG9-1-1 will not be deployed as a single nationwide project. It will take several years to complete the transition.

Much of the legislative and regulatory framework governing the provisioning, operation and maintenance of PSAPs, and the 9-1-1/emergency communications system that serves PSAPs, rests with state and local governments, and as such, varies greatly across the country. Additionally, the Federal Communications Commission plays a significant role in regulating communications providers and contains current rules that require the delivery of wireless and voice over IP (VoIP) 9-1-1 “calls” over the “wireline E9-1-1 network” which could be argued does not clearly include the routing of 9-1-1 calls via an IP-based NG9-1-1 system. These state and federal laws were written in an era where all the possibilities and technological capabilities of NG9-1-1 simply did not exist. Many existing laws, regulations and tariffs make specific reference to older technologies or system capabilities which may inadvertently inhibit the migration to NG9-1-1. To foster the rapid migration of NG9-1-1, it is essential that state and federal legislatures and regulatory bodies review current laws and regulations to keep pace with the rapidly changing public safety marketplace and to create a framework which will optimize 9-1-1 governing authority choices and establish a competitively neutral marketplace that allows 9-1-1 authorities to replace legacy 9-1-1 functions component by component.

ACTION PROPOSED TO RESOLVE ISSUE:

To meet the objective of a fully functioning next generation 9-1-1 and emergency communications system, it is critical that state regulatory bodies and the FCC take timely and carefully scrutinized action to analyze and update existing 9-1-1 rules and regulations to ensure they optimize 9-1-1 governing authority choices for E9-1-1 and NG9-1-1 and foster competition by establishing a competitively neutral marketplace.

- State legislatures and regulatory bodies, as well as the FCC, must initiate efforts to understand how current regulations and laws facilitate, or inhibit, the local, state, regional and national interoperable environment of NG9-1-1, and analyze how such rules and regulations may need to be modified to enable the IP-based, software and database controlled structure of NG9-1-1.
- State legislatures and regulatory bodies, as well as the FCC, are encouraged to actively consider appropriate steps to enable appropriate competition for the delivery of E9-1-1 service that will provide increased opportunities and choices for 9-1-1 governing authorities today. Simultaneously, as such rules are considered, states must ensure that any regulatory actions will effectively enable the transition to a full NG9-1-1 system.
- Some example regulatory/legislative issues that must be addressed include:
 - Laws/regulations concerning the eligible use of 9-1-1 funds
 - Provisions that require specific technology components for "E9-1-1" service delivery that are not necessarily the same for NG9-1-1.
 - Laws which may inhibit appropriate and efficient information sharing of 9-1-1 data with appropriate safeguards for privacy protection. For example, regulations/laws/tariffs may need to be modified to ensure that 9-1-1 authorities or new customer authorized Service Providers should be entitled to receive relevant routing, location and other related 9-1-1 information in the possession of the Incumbent Service Provider at reasonable rates and terms. Such information is essential to ensure an efficient and error free transition of Service Providers.
 - Existing 9-1-1 service arrangements and tariffs which may inhibit enabling new entrants to make similar competitive services available on a component by component basis, where technically and operationally feasible. Unbundled tariff options should be made available in such a way that prices of each unbundled component reflect reasonable rates and terms.
 - Uniform requirements for all 9-1-1 service providers to meet accepted industry standards (reference to industry standards is necessary for service integrity).
- New competitive providers should be afforded reasonable and nondiscriminatory treatment as incumbent service providers by requiring comparable agreements and terms between all service providers.
- Where regulatory requirements are in place, such requirements should be functional and performance based without reference to any specific proprietary technologies, manufactures or service providers.

NUMBER: Five

SUBJECT: Addressing Gaps in the Automatic Location of 9-1-1 Calls for Current and Emerging Devices and Services for 9-1-1 Calls⁴

OBJECTIVE: Ensuring that accurate and automatic location is available for all consumer communications platforms; those available today and for new services when they come to market, for E9-1-1 and NG9-1-1 systems

TARGET AUDIENCE: Federal Communications Commission in conjunction with 9-1-1 and Public Safety Authorities, communications and broadband access industry, standards development organizations; National E9-1-1 Implementation and Coordination Office (ICO); Congress

JURISDICTION: Federal/National

BACKGROUND AND DISCUSSION: New forms of communications, from cell phones to Internet-based calling services, have consistently forced public safety to adapt. Indeed, it is these very advances that have exposed some of the limitations in our 9-1-1 infrastructure, and have provided an impetus for Next Generation 9-1-1 (NG9-1-1). Many devices in the hands of consumers today do not provide accurate automatic location of 9-1-1 calls. This current gap must be addressed. Also, new innovations are rapidly coming to market, such as femtocells⁵, dual-mode handsets⁶, softphones⁷ and devices not yet envisioned that may not provide accurate automatic location for 9-1-1 calls. Significant leadership from policy makers is needed to address this issue.

NG9-1-1 policymaking efforts and investment have largely focused on the infrastructure side of 9-1-1. This Transition Policy Brief focuses on the critical need for accurate automatic location of all 9-1-1 calls to enable effective location-based routing and appropriate emergency response. It is a fundamental technical requirement of NG9-1-1 that the calling device or service must be aware of the caller's location for the call to be routed to the proper answering point. It must be a fundamental policy objective to ensure all communications devices capable of accessing 9-1-1, or those in which the customer reasonably expects to be able to do so, can be automatically and accurately located. This is true for current devices/services and for new consumer communications platforms when they come to market. Having 9-1-1 solutions and requirements in place for services when they come to market is a key policy objective and would be a welcome approach compared to the post-market 9-1-1 regulations that have been required in the past. Policy makers need to lead efforts to effectively promote innovation while ensuring the reasonable 9-1-1 expectations of consumers are met on the first day a new service is offered.

⁴ In this Transition Policy Brief, the term 9-1-1 emergency "calls" refers to any voice calls or emergency data messages.

⁵ Femtocell: Femtocells are in-home cellular access points that connect to a mobile operator's network using residential DSL or cable broadband connections. (source: Femto Forum)

⁶ Dual-mode handset: a calling device with both cellular and WiFi (802.11x) capability. The device typically rolls over to the subscriber's WiFi network when in the home.

⁷ Softphone: A software program for making telephone calls over the Internet from a general-purpose computer, rather than a dedicated calling device.

Current Gaps

There are many devices/services which currently do not enable the automatic location of 9-1-1 calls, and many that offer no 9-1-1 service at all. For example, while wireless 9-1-1 calls are routed over the E9-1-1 system to Public Safety Answering Points (PSAPs) with location information, SMS messages that originate from the same devices cannot be. Some 48 billion SMS messages were sent in December 2007 alone, or roughly six per day per cellular subscriber.⁸ The same is true for Instant Messaging (IM) systems. Also, while multi-line telephone systems (MLTS) used in the enterprise environment are certainly capable of sending precise 9-1-1 location information, most do not, and most states do not require such systems to be E9-1-1 capable. Thus far, nomadic interconnected VoIP services have provided 9-1-1 services by self-provided customer registration of location and providing that information for routing via the E9-1-1 system. This location may not be accurate or up to date and causes routing errors when a customer fails to re-register his/her location when moving the device to a new location. There have been multiple public cases of 9-1-1 calls being routed to a PSAP using the customer's prior location.⁹ Automatic location determination for all of these services would rectify this gap. Policymakers should lead a focused effort to promote research and development along with policies that will facilitate accurate automatic location capabilities for these technologies.

Emerging Services Coming to Market

Too often in the past, 9-1-1 service and 9-1-1 automatic location capabilities have been a post-market afterthought. With the increasing complexities and capabilities of communications services and networks, it is more essential than ever that policymakers encourage, and require where necessary, industry groups to work cooperatively as services are developed to ensure that automatic and accurate 9-1-1 location capability is a fundamental tenet adhered to as new services come to market. Some examples include: WiFi and WiMAX enabled devices ranging from notebook computers to multimedia Internet devices; Devices with the ability to add features that have not been tested for compliance with 9-1-1; Cellular/WiFi dual-mode devices.

Service providers and the network providers have typically been one and the same. This will no longer be the case in many instances as communications devices¹⁰ become more heterogeneous. In theory, any device with voice and data inputs and IP communications capability can become voice and data "calling" devices. The same device is likely able to have multiple location detection and routing capabilities depending on the network to which it is connected. Thus, devices (including the applications downloaded on devices) will need to be able to determine or acquire their own location regardless of who provides the network connectivity. Similarly, network providers must be able to assist in enabling devices not uniquely designed for their specific network technology to acquire location and provide caller location information to 9-1-1 systems and public safety agencies. All of the issues above apply to current E9-1-1 systems and NG9-1-1 Systems. A key challenge will be to insure a proper focus on integrating services with NG9-1-1 while also being cognizant of the fact that many areas will still rely on the E9-1-1 system.

⁸ <http://www.ctia.org/advocacy/research/index.cfm/AID/10323>

⁹ http://www.apco911.org/new/commcenter911/downloads/VoIP_flavors.pdf

¹⁰ As used in this Brief, the term "devices" include a physical device and also separate software applications that are downloaded to the device that enable voice or data communications.

ACTION PROPOSED TO RESOLVE ISSUE:

- The FCC, in conjunction with appropriate public safety and industry stakeholders, should take the lead in setting out the ultimate policy goal for location information from communications devices capable of accessing 9-1-1. In doing so, the FCC should establish clear expectations of all stakeholders and require a phased-in approach, thus allowing carriers and providers to comply over time.
- Policymakers should actively encourage industry development of standards and best practices to ensure effective automatic 9-1-1 location capabilities are put in place for all technologies and services as they go to market.
- Where industry does not act, the FCC should require technically feasible automatic location capabilities. Regulations and a conflict resolution process may be necessary to compel cooperation among competitors to ensure information is appropriately shared to locate and route 9-1-1 calls.
- The national E9-1-1 Implementation and Coordination Office (ICO) should coordinate with the FCC and appropriate industry and public safety groups to faithfully execute its requirement to “analyze efforts to provide automatic location for enhanced 9–1–1 services and provide recommendations on regulatory or legislative changes that are necessary to achieve automatic location for enhanced 9–1–1 services.”
- The FCC should address the issue of accurate and automatic location of all 9-1-1 calls holistically and across technology and service types where possible. The FCC should develop a framework to treat 9-1-1 location issues for all technologies and service as a single issue to ensure the call is properly routed in a timely manner and first responders know precisely where to go to render emergency assistance.
- Policymakers should promote a baseline “future-proof” 9-1-1 regulatory framework where feasible such that general 9-1-1 requirements are widely applicable across technologies where the public would have a reasonable expectation of 9-1-1 call delivery, taking unique service characteristics into consideration as appropriate.

NUMBER: Six

SUBJECT: Confidentiality, Disclosure and Retention of 9-1-1 Call¹¹ and Other Emergency Information

OBJECTIVE: Ensuring that information delivered over Next Generation 9-1-1 systems can be appropriately delivered to Public Safety Answering Points (PSAPs) and shared with emergency response organizations while conforming to applicable confidentiality, disclosure and information retention statutes and rules

TARGET AUDIENCE: Congress and State legislatures; 9-1-1 Governing Authorities and other local rulemaking bodies; PSAPs and other emergency response agencies; National E9-1-1

¹¹ In this Transition Policy Brief, the term 9-1-1 emergency “call” refers to any real-time communication – voice, text or video and related data. The term also includes non-human-initiated automatic event alerts, such as alarms, telematics, or sensor data, which may also include real-time voice, text or video communications to a PSAP or other emergency response agency.

Implementation and Coordination Office (ICO); Department of Health and Human Services (HHS); Department of Justice (DOJ); Department of Homeland Security (DHS); 9-1-1 service providers and vendors

JURISDICTION: Federal, State, Local

BACKGROUND AND DISCUSSION: Today's E9-1-1 systems are dedicated, closed, single purpose systems. The amount of information currently delivered with a landline, voice-over IP (VoIP) or wireless 9-1-1 call is limited compared with the information that will be available through NG9-1-1 systems. Since information associated with a 9-1-1 call in today's E9-1-1 system is generally stored in a single restricted location, preserving the confidentiality of the information and retaining appropriate records as required by local or state law is a relatively straight forward process.

Next Generation (NG) 9-1-1 systems will not be dedicated, closed, single purpose systems. They will be shared systems comprised of multiple entities. 9-1-1 will be only one part of a much larger system shared with general government, private sector entities and other public safety services/agencies. The amount and types of information (voice, text or video) that may be received by PSAPs and shared with emergency response agencies will greatly surpass current E9-1-1 systems. In addition to the increased amount of data, the nature of the content of data will be dramatically different in some instances. For example, NG9-1-1 will make it possible to transmit video, still images, medical information and a host of other data with a 9-1-1 call. Additionally, the architecture of NG9-1-1 systems will significantly increase the amount of data that is contained in shared databases with data residing in the network rather than in single-purpose databases housed locally. Finally, next generation systems can allow increased security of information through role-based access control and data rights management that limits access to information only to authorized entities. Existing local, state, and federal confidentiality, retention and disclosure laws were not designed to address these types of information and systems.

NG9-1-1 will make it possible to transfer the voice and data records associated with a 9-1-1 call, and ensuing actions in response, from the PSAP to other agencies, in real-time during an emergency, and to archive them (or portions of them) in a decentralized location (or locations) off site.

NG9-1-1 will make it possible for aggregate or anonymized information to be shared outside the bounds of the parties involved in the local response to a specific emergency. Governmental agencies such as the Centers for Disease Control, state/local health departments, state or federal departments of homeland security, emergency management agencies may have a legitimate need to be aware of a situation, and to have adequate information to assess the situation, anticipate what is likely to happen next, and decide what action(s) to take.

In this environment, states and the federal government need to be careful not to unnecessarily restrict access to critical emergency information. Privacy advocates and emergency responders can almost always agree on exceptions for life-saving situations, as they have done in the federal health records law, the Health Insurance Portability and Accountability Act (HIPPA), and with

E9-1-1 location information in Section 222 of the Communications Act and comparable state laws. Similar exceptions to privacy laws for emergency purposes should be extended to all types of data. The last thing we want to do is limit the availability of information for which the NG9-1-1 system is specifically being designed to receive and share among authorized entities. Real time crash data from telematics/event data recorder systems in cars sent to 9-1-1 centers and emergency medical entities is a growing example.

Similarly, there need to be exceptions for legitimate research regarding improving end-to-end emergency response, assuming appropriate protections ensuring anonymous and aggregate use of data. For example, NG9-1-1 will make possible the collection and analysis of data from the beginning of an incident to the discharge of a patient from the hospital. Such data will enable research that will be invaluable in improving emergency response. Properly anonymized, it needs to be encouraged. In short, as NG9-1-1 systems are implemented that enable a much more data rich 9-1-1 and emergency response environment, laws should be crafted in a manner that enable the most effective real-time emergency response, as well as providing for appropriate anonymous data sharing, data mining and research.

ACTION PROPOSED TO RESOLVE ISSUE: 9-1-1 and emergency response authorities are encouraged to work with State Attorneys General, elected leaders and other stakeholders to:

- Ensure that a uniform and suitably broad definition of “9-1-1 call” is established in statutes and rules taking into account all types of information that may make up a 9-1-1 request for assistance.
- Analyze the applicability of current state confidentiality, disclosure and retention laws/rules to all types of 9-1-1 calls and call content and, as necessary, modify such laws/rules to treat all types of 9-1-1 calls and call content in a consistent manner.
- Ensure statutes and rules make clear the responsibility of all parties in situations in which 9-1-1 call information will be stored in non-local shared databases and networks.
- Ensure rules enable the simultaneous receipt of 9-1-1 call information from originators of such data by multiple emergency response agencies, as well as access to relevant information about individuals involved in emergency incidents, and the simultaneous sharing of such information among multiple authorized emergency response entities at all levels of government during and after incidents as appropriate. Sharing information with some parties in the chain of response, such as emergency operations centers (EOCs) or the Centers for Disease Control (CDC) may require anonymization of specific information in certain cases.
- Ensure that non-local agencies or local PSAP telecommunicators answering 9-1-1 calls outside of a physical PSAP (e.g. a virtual PSAP) may legally access 9-1-1 call data when necessary, while requiring adherence to appropriate confidentiality, disclosure and retention statutes and rules. This may require anonymization in certain cases.
- Require state and local 9-1-1 governing authorities to develop standard operating procedures (SOP’s) establishing rules governing who has access to 9-1-1 call information, under what circumstances, and how they may be incorporated in data rights management, identity management and access control applications.
- Provide education and awareness of confidentiality issues in an NG9-1-1 environment for users of the system. The US Department of Commerce’s National Institute of Standards

and Technology (NIST) Special Publication 800-122 provides additional information that may be beneficial.

NUMBER: Seven

SUBJECT: Next Generation 9-1-1 Liability Issues

OBJECTIVE: Ensuring that state/federal liability statutes cover all public and private entities who provide Next Generation 9-1-1 and emergency communications systems and services

TARGET AUDIENCE: 9-1-1 and Public Safety Authorities, Legislatures, Governors' Offices, Congress

JURISDICTION: State/Federal

BACKGROUND AND DISCUSSION:

Experience in the deployment of E9-1-1 has shown that a lack of legal clarity on the issue of liability can lead to delays in the provisioning of E9-1-1 service. NG9-1-1 will promote a more complex service delivery environment, with more types of services able to connect to NG9-1-1 systems, more external data sources available to PSAPs, and increased information sharing options among emergency response agencies. These technological possibilities will potentially complicate how liability protection is appropriately provided for new and future services. Service providers and emergency response agencies that are prepared to transition to NG9-1-1 systems will likely more rapidly do so with the legal certainty that their good faith efforts to improve 9-1-1 and emergency communications services will not expose them to further liability.

Recently passed federal legislation (the New and Emerging Technologies Improvement Act of 2008—PL 110-283¹²) provides liability protection for PSAPs, service providers, and their vendors consistent with existing state liability protection provided through statute, tariff or judicial decision.¹³ This protection applies to all communications services that are required by the FCC to provide 9-1-1/E9-1-1 (today and in the future), as well as for services that voluntarily provide information to PSAPs, in the absence of an FCC requirement, with approval from the appropriate state or local 9-1-1 governing authority. Thus, where there is existing state 9-1-1 liability protection, federal law now covers communications to PSAPs from new types of services enabled by NG9-1-1. This should encourage the entry of new service providers and provision of innovative data solutions that could result in more effective emergency response.

It is important to note that in some states liability protection may not be provided through a statute, but rather through the tariff of a Local Exchange Carrier (LEC). In such states, if the LEC is permitted to withdraw its tariff (which includes liability protection), and that is the only source of liability protection in the state, then no liability protection will be in place for any

¹² Available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_public_laws&docid=f:publ283.110.pdf (last accessed January 14, 2009).

¹³ 47 U.S.C. 615a.

providers or PSAPs. Therefore, it is increasingly important for states to ensure liability protection is provided through a statutory mechanism, particularly since NG9-1-1 will potentially be provisioned without the use of tariffs.

Even where current liability statutes are in place, other liability issues may still need to be addressed through state or federal statutes. For example, NG9-1-1 is designed to increase choices and opportunities to empower 9-1-1 governing authorities and PSAP Administrators to design 9-1-1 systems that enable the sharing and receipt of information consistent with local needs. One region may choose to receive all possible information (voice, text, images, and video) from all devices. Another area may choose to filter and limit receipt of certain information and to route calls differently based on unique local capabilities and needs. Differing 9-1-1 system policies and structures, enabled by standards-based NG9-1-1, is an advantage of NG9-1-1. However, it could also raise possible liability concerns if individual PSAPs choose not to receive all information (e.g., direct video communications) despite the technical availability of such information.

NG9-1-1 will also enable 9-1-1 call routing based on caller characteristics, not just the location of the call. For example, a 9-1-1 call might be made via a video-enabled device by a deaf caller whose native language is American Sign Language (ASL). Rather than route to the closest “geographically appropriate” PSAP that is not video enabled, it may be preferable to enable an intelligent 9-1-1 system to route the video 9-1-1 call to a PSAP that is video-enabled with a 9-1-1 telecommunicator prepared to respond to the caller using the caller’s native sign language.

NG9-1-1 will also enable informed dispatch decisions to be made based on information about the incident and caller available from external sources that is not possible with today’s E9-1-1 system. An example is a 9-1-1 call that arrives at a PSAP from a telematics equipped vehicle with information on the severity of a crash along with information from the vehicle occupant’s electronic health record. Based on that information, algorithms may be able to predict the probability of severe injury and suggest a certain type of response¹⁴. These capabilities are intended to result in the appropriate level of care quickly being sent to victims in need of assistance. This should lead to lives saved. However, it may also result in unintentional errors despite the best efforts of all parties involved in the response. Liability protection statutes should extend to intentional non-location-based routing capabilities and the use of incident and personal data for emergency dispatch.

Another example of a possibility created by NG9-1-1, with liability implications, is the ability to utilize a “virtual PSAP.” Today’s 9-1-1 system generally requires 9-1-1 telecommunicators to answer calls from within the walls of a physical PSAP. With a connection to a high-speed broadband network and access to the necessary software needed to connect to the NG9-1-1 system, a 9-1-1 telecommunicator can answer local 9-1-1 calls from virtually any location. This capability is particularly advantageous during disasters and high call volume situations. However, liability laws were not written with this capability in mind and may need to be updated to ensure that 9-1-1 calls being answered “virtually” in potentially non-local locations separate from the physical PSAP do not create liability exposure.

¹⁴ See <http://www.comcare.org/urgency.html>.

A final example of a potential liability issue is the ability to transfer calls and data among multiple national N-1-1/800 numbers (e.g. 2-1-1, 3-1-1, 8-1-1, 9-1-1, suicide hotline, poison control centers). The current ability to transfer calls/data among the multiple N-1-1 entities is limited, but should not be as NG9-1-1 systems are deployed and N-1-1 calls are able to be routed over shared networks. This ability should not open these entities up to liability exposure when they are making good faith efforts to get information to the right people to enable an effective emergency response.

ACTIONS PROPOSED TO RESOLVE ISSUE:

- Congress and State legislatures should review liability protection statutes to ensure that existing liability protection for PSAPs, users of technology, communications service providers and third party vendors will continue to effectively apply as new services and technologies are enabled by NG9-1-1
- Modify current liability statutes, as necessary, to be technology neutral, rather than applying to any particular technology (e.g. CMRS wireless, VoIP, traditional landline), and ensure the liability protection extends to all forms of information pushed to a PSAP or pulled from external sources by a PSAP, regardless of the platform over which information travels
- Ensure that such liability protection extends beyond the PSAP to all entities appropriately involved in the emergency response
- Modify current liability statutes, as necessary, so that the protections apply to any entity playing the role of the 9-1-1 System Service Provider (SSP), and their third party vendors, regardless of whether that SSP is a traditional regulated local exchange carrier (LEC) or an unregulated IP-based SSP
- Ensure that liability protections apply to the acquisition and use of data from external sources that do not come with the call, but that are added to the 9-1-1 call record
- Review FCC requirements that 9-1-1 calls be routed to the “geographically appropriate” PSAP to assure they do not prevent 9-1-1 calls from being intelligently routed to the “situationally appropriate” PSAP, even if it is not the geographically closest PSAP
- Ensure that “functional equivalency” requirements of the Americans with Disabilities Act, in its current forms or as modifications to the statute are made, do not have the unintended consequences of requiring all 9-1-1 calls to be treated the same, when an NG9-1-1 system can uniquely route calls from identified individuals with disabilities in a different manner than a typical 9-1-1 call (e.g. call routing based on caller characteristics and needs, rather than location-based routing)