



Research Brief

November 2005

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We Need to Talk: Governance Models to Advance Communications Interoperability

The Challenge of Interoperability

The inability of public safety officials to readily communicate with one another too often results in unnecessary loss of lives and property as seen in our nation's recent experience with hurricanes Katrina and Rita and their aftermath. Collaboration and coordination is important for government to deliver needed and life-saving services to the public and voice and data communication is integral to these cooperative efforts. The September 11, 2001 terrorist attacks on America and the delayed response in the Gulf graphically illustrate the need for interoperable radio communications between first responders, law enforcement and emergency management officials from every level of government.

Who needs to talk? Besides emergency first responders and law enforcement, there are a number of other state, local and federal agencies that need to be able to talk to one another. Transportation, public health, utilities, and public works to just name a few. However, these entities are still plagued by communications interoperability problems. The inability to communicate is a problem that is **technical** (due to limited and fragmented radio spectrum and proprietary technology), **political** (due to agencies and jurisdictions and different levels of government competing for scarce dollars, inhibiting the partnership and leadership required to develop interoperability) and **cultural** (agencies natural reluctance to give up management and control of their communications systems) and must be addressed on all these levels. A well defined interoperability governance model provides the structure needed to bring the players together and promote an environment that helps bridge the gaps created by these obstacles.

Interoperability Defined – Interoperability has different meanings depending on the context, however, in the public safety arena the term is generally understood to mean “the ability for public safety agencies and public services to talk to one another via radio communications systems and/or share information with one another accurately, on demand, in real time, when needed, and when authorized.”¹

Even in our current post 9/11 political environment where there have been numerous calls for improved interoperability and federal legislation to free up spectrum for public safety use, there still has been little progress. The aftermath of the recent Gulf hurricanes has refocused the necessity for state, local and federal agencies to make interoperability a reality. While Congress investigates the causes of the communication breakdown in New Orleans, and while public officials point fingers at each other, a major issue is being overlooked. The public expects their lives and property to be protected by their governments, local, state, or federal, without distinction as to who is ultimately responsible. Solutions to this national issue can only be achieved through cooperation between all levels of government.

¹ **Source:** NASCIO's Interoperability & Integration Committee. Influences from the National Task Force on Interoperability.

More than Just a Technology Issue

Although incompatible and aging communications equipment and the availability of radio spectrum are key reasons why public safety agencies can't talk to each other, these technical elements cannot be adequately dealt with until the larger issues of limited funding, lack of planning, and the lack of coordination and cooperation are addressed. Interoperability requires more than equipment – open systems standards, critical incident management, training, and operational policies and procedures that govern interoperable communication systems need to be in place as well.

Keys to Successful Interoperability

Governance – State chief information officers (CIOs) recognize the need for better and more refined governance regarding interoperability. The principles of shared decision making, accountability, business applications and infrastructure must be part of the architecture. Interoperability must also be addressed as part of a coordinated, multi-jurisdictional response plan that involves law enforcement, firefighters, emergency medical services (EMS), emergency management, public utilities, transportation, and public health. To date, many successful efforts have involved individual states working cooperatively with SAFECOM² to develop interoperability governance plans to get all the necessary players together. In other cases, states have developed their own models or worked cooperatively with multiple states as in the case of the National Governors Association (NGA) Policy Academy on Wireless Interoperability.³

Governing body – States should begin by establishing some type of interoperability oversight body to coordinate efforts and provide reports and recommendations to the governor and legislature. These oversight bodies could be established under a state's homeland security agency, directly under the governor's office, or as independent ad hoc committees with representation from all jurisdictions that have a stake in coordinated communications.

Authority – The oversight body should be sanctioned by the governor, by executive order or under statute to give it proper authority. The questions of where the authority is coming from, why are you doing this, who says you can do this, as well as chains of command, should all be clearly articulated in a charter.

Partnerships – States should also recognize the benefit of establishing a partnership with entities that already have planning structures in place, such as SAFECOM, or establishing a mutual aid agreement with a neighboring state. Also, in an enterprise view of interoperability, a partnership with an established solution provider is another key to success that cannot be overlooked.

Benefits to Successful Interoperability

Better coordination among responding agencies – The benefits to developing a successful interoperability communications plan are self evident. Better coordination among responding agencies will increase the likelihood that in the event of a natural or man-made disaster, all entities responsible for delivering lifesaving services will function in a more coordinated manner, thus saving more lives and minimizing damage to property.

² **SAFECOM** is the overarching umbrella program within the federal government that oversees all initiatives and projects pertaining to public safety communications and interoperability. The program is managed by the Department of Homeland Security, and is housed within the Science and Technology Directorate. <<http://www.safecomprogram.gov/SAFECOM/>>

³ The **NGA Policy Academy on Wireless Interoperability**, within the NGA's Center for Best Practices, and in association with the U.S. Department of Justice's (DOJ) National Institute of Justice (NIJ), selected five states to participate in the Wireless Interoperability Policy Academy to provide expertise, information, and resources needed to prepare a plan for statewide wireless interoperability.

Political benefits – When emergencies are dealt with smoothly and efficiently – lives are saved, power and utilities are restored quickly – political fallout like that seen following hurricane Katrina will be greatly minimized. When public officials can look straight into the camera or at a board of inquiry and say confidently that everything that could have been done, was done, and first responders testify that they had adequate uninterrupted communication with all agencies that were necessary, then any shortcomings of an emergency operation can be addressed as lessons learned or factors beyond human control.

More efficient law enforcement and fire protection – With all the talk of the importance of communications interoperability for the mitigation of natural or man-made disasters, the day-to-day practical benefits to law enforcement, fire and emergency response personnel cannot be overlooked. Every day, members of these communities risk their lives to protect the public from criminal activity and other dangers. The need for more efficient interoperable communications in high-speed chases that may cross jurisdictions, or extreme crimes like the March 1997 North Hollywood bank robbery and shootout that was witnessed live on television, or multi-alarm fires that may require the coordination of several fire departments from multiple districts or even across state lines, illustrate the need for these entities to have reliable multi-jurisdictional radio communications.

State Examples of Interoperability Governance Models/ Plans

A number of states have already embarked on coordinating their communications interoperability efforts with federal, state, local and tribal organizations through the development of governance models. Below are profiles of three states, **Maryland**, **Nevada** and **Iowa**, that have developed successful governance models and plans to address communications interoperability.

Maryland's plan involved the formation of a work group and project team to bridge the gap between the various partners in the state. In an effort to improve public safety communication systems, processes, and infrastructure in Maryland, the state formed a Public Safety Communications Interoperability Governance Work Group (GWG), consisting of state, county, and municipal government officials to oversee the state's initiative to provide voice and data communications across agencies, departments, and government levels. An Interoperability Project Team (IPT) consisting of professional public safety representatives from state, county and municipal agencies supports the GWG. This collaboration was brought about by cooperation between the Maryland Municipal League, the Maryland Association of Counties and Maryland state agencies.

Public Safety Communications Interoperability in Maryland

[Overview of a report of Maryland's Interoperability Project Team (IPT) to the Public Safety Communications Interoperability Governance Work Group, December 28, 2004]

To determine the current status of public safety communications technology and interoperability within Maryland, the IPT conducted a User Needs Survey of key agencies, counties, and municipalities. Responses were received from 11 agencies, all 23 counties, and 28 municipalities. Survey responses show that the need to improve communications interoperability, training, governance, security, and operational standards (including a common vocabulary) exists throughout Maryland, and that agencies at all levels of government are attempting to address these needs in many ways. To view the full report, survey findings and recommendations, go to <<https://www.nascio.org/nascioCommittees/interoperability/MD-IPT-RPT-R2C31.doc>>.

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Nevada's communications interoperability plan, mandated by the "Nevada Homeland Security Act," is modeled, in part, on the work of SAFECOM, and has specific technical recommendations. Nevada's current effort started in December 2002. At that time, the first Nevada Government Communication Conference was held. Two common themes became clear: a) a statewide forum for discussion of communication issues was needed; and, b) a communications interoperability plan for Nevada should be developed. Reflecting these themes, Governor Kenny Guinn directed the state chief information officer to assemble a representative committee and begin developing a plan. The Nevada Communications Steering Committee (NCSC) was created and began working. Subsequent to this, the Nevada Homeland Security Commission and a specific requirement for a plan was created in law by the 2003 Legislature. The NCSC has since worked with the commission. The plan was required for implementation by October 1, 2005 pursuant to the Nevada Revised Statute.

Nevada Model for Addressing Communications Interoperability

[Nevada's plan was developed through the Nevada Communications Steering Committee (NCSC) in coordination with SAFECOM]

Nevada's process is fundamentally a broadly representative steering committee driving consultants, reviewing and acquiring feedback, and adapting results. NCSC representatives are from fire, law enforcement and medical/health disciplines, from urban and rural locals, and from city, county and state agencies. NCSC meetings have been held monthly under Nevada open-meeting laws. The Nevada Department of Information Technology (DoIT) provides administrative support. In 2003, the NCSC successfully applied for a U.S. Department of Homeland Security (DHS) planning grant. In mid-2004 a consultant was hired and began working. The consultant has developed data through survey and interview, prepared draft recommendations and participated in NCSC meetings discussing plan development.

Nevada's communications interoperability plan includes definitions, concepts and standards, and an interoperability continuum designed to help the public safety community and local, tribal, state, and federal policy makers address critical elements for success as they plan and implement interoperability solutions. The plan also includes "short-term gateways," long-term convergence, technical standards for communication systems, and an action plan that includes governance, standard operating procedures, technology recommendations and training exercises.

The Nevada Communication Interoperability Plan, as well as the activities of the Nevada Communications Steering Committee can be tracked at <<http://www.ncsc.nv.gov/>>

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Iowa has developed a statewide communications strategy, including short and long term goals, to ensure dependable, cost effective, and sustainable interoperable communications. Governor Thomas Vilsack announced on May 19, 2004, his requirement that the Iowa Homeland Security and Emergency Management Division (HLSEM) establish a task force to develop a statewide communications strategy. The resulting Iowa Communications Task Force brought together 28 individuals with differing expertise and experience to reflect perspectives from across the state, and from various first responder agency, preventer agency and communications positions. The blend of law enforcement and public safety leaders, health and EMS interests, technology and communications managers and technicians, and vendors of communications systems lent its collective expertise in identifying and addressing the complexities of communications interoperability.

Iowa Communications Interoperability Strategy

[A Report to the Governor, Submitted by the Iowa Communications Task Force, October 1, 2004]

The mission of the Iowa Communications Task Force was the development of a statewide communications strategy, including short and long term goals, to ensure dependable, cost effective, sustainable and interoperable communications. Systems supporting voice, data and video must be developed or enhanced so as to be fully utilized anywhere in the state of Iowa upon demand. This task force is reviewing existing communications infrastructure and, when possible, build upon existing resources, but always looking forward toward emerging technologies to achieve a strategic investment in our future communications capability.

The task force reached consensus on its report as a whole and the additional premise that the implementation must be approached holistically. The task force recognizes the importance of this work to determine the direction for interoperable communications systems in Iowa. Given the multitude of issues and their integrated nature, the task force submitted its recommendations as a whole. Without accepting and implementing the entirety of the recommendations, the task force felt the current fragmented system will be perpetuated. The 12 short-term recommendations and 10 long-term recommendations, taken together, focus Iowa's interoperability initiatives.

To view Iowa's Communications Interoperability Strategy report, including the short and long term recommendations of this task force, go to:

<[http://www.iowahomelandsecurity.org/asp/CoEM_FR/ComInteropStrategy.pdf#search='Iowa%20Communications%20Task%20Force'](http://www.iowahomelandsecurity.org/asp/CoEM_FR/ComInteropStrategy.pdf#search='Iowa%20Communications%20Task%20Force)>

Contact Randy Goddard, Chief Communications Engineer, Iowa Homeland Security and Emergency Management Office; Ph: 515-323-4238; E-mail: Randy.Goddard@HLSEM.state.ia.us. Website: <http://www.iowahomelandsecurity.org/>.

What CIOs Need to Know

- 1) Establish a state oversight board, working group or team made up of representatives from all branches and levels of government to oversee the process.
- 2) Develop a statewide plan for achieving public safety wireless communications interoperability.
- 3) Keep your statewide team on track by establishing well-defined goals and keeping the lines of communications open.
- 4) Prepare for seen and/or unforeseen challenges that you may be confronted with as the process goes forward.
- 5) Meet with the governor's office regarding your state team's interoperability work on a regular basis.
- 6) Be prepared to educate the appropriate legislative committees regarding your state team's interoperability activities.
- 7) Establish contact with neighboring states that may be working on similar efforts and coordinate with them whenever possible.
- 8) Utilize other federal, state and local resources available to you and learn from others' experiences.
- 9) Monitor federal legislation, congressional hearings and reports related to issues that affect communications interoperability, including spectrum availability and funding. Information on federal and congressional affairs can be found on NASCIO's *Washington Watch* webpage <<https://www.nascio.org/washwatch/>>.

Where Can I Find Additional Resources?

There are several other initiatives currently underway in the states and at the federal level to address the challenges associated with achieving true communications interoperability.

SAFECOM

SAFECOM is the overarching umbrella program within the federal government that oversees all initiatives and projects pertaining to public safety communications and interoperability. The program is managed by the Department of Homeland Security, and is housed within the Science and Technology Directorate.

<<http://www.safecomprogram.gov/SAFECOM/>>

Capital Wireless Integrated Network (CapWIN)

A partnership between the state of Maryland, Commonwealth of Virginia, and the District of Columbia, was created to develop an interoperable first responder data communication and information sharing network.

<<http://www.capwin.org/>>

Homeland Security Presidential Directive 8 (HSPD-8)

On December 17, 2003, President Bush issued HSPD-8 to establish policies to strengthen the preparedness of the United States to prevent and respond to threatened or actual domestic terrorist attacks, major disasters, and other emergencies by requiring a **national domestic all-hazards preparedness goal**.

<www.ojp.usdoj.gov/odp/assessments/hspd8.htm>

Target Capabilities List: Version 1.1, U.S. Department of Homeland Security, Office of State and Local Government, Coordination and Preparedness, May 23, 2005 – (Provides section on interoperable communications).

<http://www.ojp.usdoj.gov/odp/docs/TCL1_1.pdf>

National Governor's Association (NGA) Policy Academy on Wireless Interoperability

The NGA Policy Academy on Wireless Interoperability, a joint effort between the NGA Center for Best Practices and the U.S. Department of Justice's (DOJ) National Institute of Justice (NIJ), selected five states to participate in the Wireless Interoperability Policy Academy. Through the Academy, NGA experts are working with high-level state teams from **Georgia, Idaho, Louisiana, Nevada, and Wisconsin** to provide expertise, information, and resources needed to prepare a plan for statewide wireless interoperability.

<<http://www.nga.org/portal/site/nga/menuitem.9123e83a1f6786440ddcbeeb501010a0/?vgnextoid=93d31a37ab8e4010VgnVCM1000001a01010aRCRD&vgnnextchannel=4b18f074f0d9ff00VgnVCM1000001a01010aRCRD>>

Oregon's State Interoperability Executive Council (SIEC)

Oregon's SEIC develops recommendations for policy and guidelines, identifies technology and standards, and coordinates intergovernmental resources to facilitate statewide wireless communications interoperability with an emphasis on public safety.

<<http://egov.oregon.gov/SIEC/>>

Virginia's Statewide Communications Interoperability Planning (SCIP) Methodology

SAFECOM assisted the Commonwealth of Virginia to enhance interoperability through the development of a strategic plan for improving statewide interoperable communications called the SCIP Methodology. Created as an approach for other states to consider before the state planning process, the SCIP Methodology describes a step-by-step process for developing a locally driven statewide strategic plan for enhancing communications interoperability.

<http://www.safecomprogram.gov/SAFECOM/library/interoperabilitycasestudies/1223_statewidecommunications.htm>

Project 25 (P25)

P25 is the standard for interoperable digital two-way wireless communications products and systems produced by the joint efforts of the **Association of Public-Safety Communications Officials, International (APCO)**, the **National Telecommunications and Information Administration (NTIA)**, and the **National Association of State Telecommunications Directors (NASTD)**, and standardized under the **Telecommunications Industry Association (TIA)**.

<<http://www.project25.org/>>

Association of Public-Safety Communications Officials, International (APCO)

APCO is the world's oldest and largest non-profit professional organization dedicated to the enhancement of public safety communications.

<<http://www.apcointl.org/>>

National Telecommunications and Information Administration (NTIA)

The NTIA, an agency of the U.S. Department of Commerce, is the Executive Branch's principal voice on domestic and international telecommunications and information technology issues.

<<http://www.ntia.doc.gov/>>

National Association of State Telecommunications Directors (NASTD)

NASTD represents telecommunications and technology professionals from the 50 states and the private sector.

<<http://www.nastd.org/>>

Telecommunications Industry Association (TIA)

The TIA is the leading U.S. non-profit trade association serving the communications and information technology industry.

<<http://www.tiaonline.org/>>

National Task Force on Interoperability (NTFI)

In response to the success of the National Public Safety Wireless Interoperability Forum in October 2001, the National Institute of Justice, Office of Science and Technology, funded the creation of NTFI to foster the improvement of cooperation among federal, state, and local government and public safety agencies through the encouraged development and use of interoperable communications systems.

<<http://www.ojp.usdoj.gov/nij/topics/commtech/ntfi/welcome.html>>

NTFI Publications <<http://www.ojp.usdoj.gov/nij/topics/commtech/ntfi/publications.htm>>:

When They Can't Talk, Lives Are Lost – Brochure designed to provide public officials with easy-to-comprehend information on interoperability.

WHY CAN'T WE TALK? Working Together To Bridge the Communication Gap to Save Lives – This publication serves as a catalyst for public officials to begin continuing dialogues with public officials in their localities, regions, and state to develop collaborative solutions.

Supplemental Resources – The case studies and articles contained in the Supplemental Resources are based on the experiences of members of this task force who shared their knowledge and lessons learned.

National Emergency Number Association (NENA)

NENA's mission is to foster the technological advancement, availability, and implementation of a universal emergency telephone number system.

<<http://www.nena9-1-1.org/>>

National Institute of Standards and Technology (NIST)

Founded in 1901, NIST is a non-regulatory federal agency within the U.S. Commerce Department's Technology Administration. NIST's mission is to strengthen the nation's innovation, trade, public safety and security, and jobs.

<<http://www.nist.gov/>>

NIST Office of Law Enforcement Standards (OLES), Public Safety Communications Standards Program is developing standards for voice, data, image, and video transfers, drawing on existing standards, discussions with end users regarding their requirements, and participation in IT and wireless standards committees.

<http://www.eeel.nist.gov/810.02/public_safety.html>

National Governor's Association Issue Brief – *Strategies for States to Achieve Public Safety Wireless Interoperability*

<<http://www.nga.org/cda/files/0903INTEROP.pdf>>