



Emergency Response Council

*Agreements on a
Nationwide Plan for Interoperable Communications*

Summer 2007



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OUR NATIONWIDE COMMUNITY

Our community consists of practitioners and policy makers representing a diversity of public safety disciplines, jurisdictions, and levels of government who serve on the Emergency Response Council (ERC). The ERC exists to share best practices, provide input to all levels of government, and further progress on interoperable communications for the Nation.

At the June 2007 ERC meeting, participants, and invited guests represented the following agencies and organizations. (Bold typeface indicates representation on the Executive Committee—the ERC’s governing body).

American Association of State Highway and Transportation Officials (AASHTO)

American Public Works Association (APWA)

Arizona Division of Emergency Management

Association of Public-Safety Communications Officials International (APCO)

Arlington County Fire Department

Canadian Police Research Centre

Capital Wireless Integrated Network

Center for Homeland Security

City of Carlsbad Police Department

Chicago Fire Department

Colorado Department of Energy

ComIT - City of Virginia Beach

Community Oriented Policing Services (COPS) – Department of Justice

Contra Costa County Fire District

Department of Homeland Security (DHS) Office of the Chief Information Officer

DHS - Office for Interoperability and Compatibility

DHS - Office of Emergency Communications

Department of Interior

Department of Safety and Homeland Security, State of Delaware

Englewood Department of Safety Services

Fairfax County Fire and Rescue

Federal Communications Commission (FCC)

Federal Partnership for Interoperable Communications (FPIC)

Forestry Conservation Communications Association (FCCA)

Governor’s Office of Commonwealth Preparedness (Virginia)

Illinois State Police

Interagency Board (IAB)

International Association of Chiefs of Police (IACP)

International Association of Fire Chiefs (IAFC)

International Municipal Signal Association

Lakes Region Mutual Fire Aid

Las Vegas Metro Police Department

Los Angeles County Fire Department

Los Angeles County Sheriff’s Department

Maryland Department of Transportation

Major Cities Chiefs Association (MCC)

Major County Sheriff’s Association (MCSA)

Metropolitan Area Communications Center (MetCom - Denver Metro Area)

Miami-Dade Police Department

Michigan Department of Health EMS Communication

Montgomery County Council

National Association of Counties (NACo)

National Association of State EMS Officials (NASEMS)

National Sheriffs’ Association (NSA)

National Association of Telecommunications Officers and Advisors (NATOA)

National Governors Association (NGA)

National Institute of Standards, Office of Law Enforcement Standards (NIST/OLES)

National Public Safety Telecommunications Council (NPSTC)

National Telecommunications and Information Administration (NTIA)

New York Fire Department

New York Police Department (Operations Division)

New York Statewide Wireless Network

Ottawa Police Service

Palo Alto Police Department

Prince William County, VA

Project 25

Purdue University

San Diego County Sheriff’s Department

San Diego State University Research Foundation

SEARCH, The National Consortium for Justice Information and Statistics

Seattle Fire Department Special Operations/Communications

Space and Naval Warfare Systems Center, Norfolk

State of California, Department of General Services

Telecommunications Division Town of Parker, CO

Telecommunications Industry Association (TIA)

Texas Department of Public Safety

Tualatin Valley Fire and Rescue (Oregon)

Utah Communications Agency Network

US Northern Command (NORTHCOM)

Vail Police Department

MESSAGE FROM THE EMERGENCY RESPONSE COUNCIL

Today, technology transmits news, entertainment, and information in real time and on devices smaller than ever imagined. At the same time, many public safety officials cannot exchange information day-to-day or during crises. The inability of our Nation's public safety responders to communicate with each other on demand, in real time, and when authorized risks their safety and the safety of the people they strive to protect. Responders and the public continue to be compromised if leaders do not take action to strengthen interoperable communications across the Nation.

In the last two decades, the partnership between the public safety community and the Federal Government has elevated the awareness of interoperability and given more definition to the solutions required to gain progress nationwide. On June 14, 2007 in Denver, Colorado, at the summer Emergency Response Council meeting, leaders from this community joined together to lead the country beyond awareness to coordinated, immediate action.

Our ERC forged agreements on decisions essential to advance interoperable communications nationwide. Together, we agreed on the principles, initiatives, and actions necessary for a Nationwide Plan for Interoperable Communications to successfully guide and drive efforts at all levels of government. This Plan will help local, state, regional, tribal, and Federal practitioners make planning, investment, and procurement decisions for interoperability with confidence.

Now, we are sharing this Plan with our departments, agencies, localities, states, regions, tribes, governance groups, associations, Federal partners, and many others involved with emergency response, recovery, prevention and preparedness. Everyone needs to know how they can share in this work. All who join in this effort will now have clear direction on how they can affect interoperable communications. We know that, as individuals, we may not have the authority to implement a Nationwide Plan for Interoperable Communications. However, together, with a commitment to these principles and actions, we can and must activate change across our Nation.

Lives are at risk everyday because of the lack of interoperability. If we do not act now, interoperability challenges will continue to put the lives of emergency responders and those awaiting help at risk. We cannot afford this. Working together to strengthen interoperable communications nationwide is a challenge we willingly accept, we will not postpone, and we intend to achieve.

– The Emergency Response Council–A Nationwide Community

EXECUTIVE SUMMARY

The Emergency Response Council (ERC) met in Denver, Colorado on June 14, 2007 to forge agreements on a Nationwide Plan for Interoperable Communications. This was the first time a group of public safety practitioners led an effort to draft a Nationwide Plan for Interoperable Communications. We believe the agreements set forth in this Plan must spur all levels of government and all public safety services to act differently, or interoperability challenges will continue to plague our Nation.

We initiated this process at the December 2006 ERC meeting hosted by the Office for Interoperability and Compatibility (OIC) in the Department of Homeland Security (DHS). At this meeting, the ERC charged two teams of practitioners to develop guiding principles for a Nationwide Plan prior to the June ERC meeting. The OIC and the newly created Office of Emergency Communications (OEC) supported the work of these teams. Through the dedication of these volunteer practitioners, the teams were able to formulate principles, and to set forth critical actions essential for any nationwide planning effort on interoperability.

During the June meeting, the teams presented their principles and actions for the ERC to debate, upgrade, and ultimately validate as those components required to implement a Nationwide Plan. By the end of our meeting, we reaffirmed our shared vision for a "system of systems," we agreed on 12 guiding principles, and we outlined 22 key actions that must be focused on immediately.

To achieve the "system of systems" vision, we agreed all levels of government and public safety must use our guiding principles to drive partnerships, design systems, forge agreements, and allocate resources for interoperable communications.

While the principles are fundamental tenets that can be used to guide all interoperability efforts, we also agreed there are key actions practitioners across the Nation must implement now in the following initiative areas:

- 1. Leadership & Coordination:** Clear leadership structures to link all levels of government and to coordinate resources must be put in place. Otherwise, emergency responders will continue to suffer from misdirection and inefficient use of resources
- 2. System Design & Interconnects:** Each system must be designed with integrity so it can interoperate with other systems when needed and as authorized, but have the ability to adapt to future technologies as they are developed.
- 3. Standards & Certification:** For systems to interoperate seamlessly, technical standards must be in place, as well as a certification/testing program to verify these standards are correctly implemented in equipment and products.
- 4. Standardization & Accreditation:** Standardization of protocol, procedures, and accreditation must be in place for responders to establish consistency of operations and common skill sets for personnel across the Nation.

Although we seek the continued support of our Federal partners, such as OIC and OEC, this is our statement of what we believe is required to advance interoperability. We are choosing to commit our time and focus our energies to implement this Plan because we believe this is what it will take for nationwide interoperability to become a reality.

THE INTEROPERABLE COMMUNICATIONS LANDSCAPE

The interoperability challenge is not new. The public safety community has wrestled with this challenge for decades. We believe the only way to succeed is to move forward toward a shared vision and seize the current opportunity to bring about positive change.

Our Vision¹

There is an integrated system of systems, in regular use, which allows emergency response personnel to communicate (via voice, data, and video) with whom they need on demand, in real time, and as authorized.

- Emergency responders can respond anywhere, bring their own equipment, and operate on any network immediately, when authorized.
- Emergency responders have the networking and spectrum resources needed to function properly.

The system of systems approach will allow public safety agencies the flexibility to select equipment that best fits technical requirements and meets budget constraints while still achieving interoperability. When implemented, a system of systems approach makes it possible for distinct systems that different emergency response agencies own and operate to communicate with each other without requiring the agencies to purchase the same equipment from the same manufacturer.

Our Successes

Over the past decade, much has been done to move the country toward this vision.

- Collectively, we have partnered with the Federal Government to do such things as:
 - Define interoperability and the challenges of interoperability through the National Task Force on Interoperability.
 - Create consistent ways to improve interoperability beyond technology only, through tools like the SAFECOM Interoperability Continuum.²
 - Measure the state of interoperability to show progress and the work that remains.
 - Gain focused funding for interoperability through Federal grant programs and coordinated grant guidance.
- Individually, we have influenced our communities and associations to begin incorporating interoperability into daily response efforts and in emergency response planning efforts.
- Across the Nation, we have seen localities, regions, states, and tribes innovatively improve their communications by building systems that dynamically meet the needs of the end user and that effectively use advances in technology.

Yet we know there is still much to be done.

¹ Our vision was developed at the 2003 SAFECOM/AGILE Joint Program Planning Meeting in San Diego, CA.

² The Interoperability Continuum is a graphical model that SAFECOM and the practitioner community use to determine progress on the use of technology, governance, standard operating procedures (SOPs), training, exercises and usage.

Our Time for a Nationwide Plan Is Now

Currently, too many still assume public safety responders across the Nation are already interoperable. We know public safety often cannot communicate with parts of its own agencies—let alone communicate to agencies in neighboring cities, counties, or states. Ineffective communications continue to risk lives of responders, and can mean the difference between life and death for those awaiting assistance. We have worked to save lives and improve interoperability for decades. We recognize now is the time for a practitioner-driven Nationwide Plan for Interoperable Communications.

This is because:

- Public safety has gained momentum and has made progress to the point where it is now possible to move the Nation to act together for strengthened interoperability.
- Congress is focused as never before on understanding and setting a true path for interoperable communications.
- DHS has two offices to address interoperability; these offices are partnering with the practitioner community to develop solutions.
- Local, state, and Federal governments are creating grants for interoperability and allocating line items in their budgets to improve and maintain their systems.
- All levels of government are beginning to use the SAFECOM Interoperability Continuum to address all elements of interoperability beyond technology alone.
- Additional spectrum will soon be available to public safety first responders.
- Natural disasters continue to highlight the critical need to adequately equip public safety first responders.

Our Stand for Change

We believe the agreements in this Plan must spur all levels of government to act as a united front. Otherwise, interoperability challenges will continue to plague our Nation. Government organizations must do the following:

- Congress must determine whether or not new legislation is required.
- DHS must continue to partner with public safety practitioners and interoperability experts to implement agreements for a Nationwide Plan.
- Federal response and recovery agencies must work together and seek input from states and localities to align Federal resources with their needs.
- States must implement these agreements by seeking input from local organizations to integrate their needs into state solutions. States must work with end users to ensure state resources reach regions, tribes, and localities.
- Localities must implement these agreements with their neighbors to ensure they are planning and working together before they buy equipment.
- Associations must enroll their members into these agreements and champion them as an ideal way to approach nationwide interoperability efforts.
- Individual public safety officials must do their part to “own” these agreements, commit to them, and act on them daily.
- We must educate the public that its way of life, property, and safety are at risk if these agreements are not put into effect.

OUR GUIDING PRINCIPLES

Prior to our ERC meeting, Chief Jeff Johnson from Tualatin Valley Fire and Rescue in Oregon, and Deputy Chief Dennis Cobb from the Las Vegas Police Department in Nevada, joined together to lead teams to develop guiding principles for a Nationwide Plan. As a community, we validated these principles as fundamental ones for forging partnerships, designing interoperable systems, educating policymakers, and allocating resources. The principles are:

1. Interoperability begins with—and its greatest value is realized in—daily use by local users. Still, it works within a unified and actionable regional, tribal, state, and Federal interoperability framework.
2. Interoperability is both a technical connection and an effective shared understanding.
3. Ongoing support by elected and appointed officials at all levels of government, combined with stable and predictable management, funding, operations and maintenance, are essential for sustained interoperable communications.
4. The burden of Federal interoperability with local, regional, state, and tribal agencies is on the Federal Government. The Federal Government must coordinate its interoperability efforts, and partner with users at all levels, to ensure Federal agencies can interoperate with local, regional, state, and tribal agencies.
 - The burden of state interoperability with local, regional, and tribal agencies is on the state governments.
5. Mission-critical voice is primary; data is secondary, but very important.
6. Daily use of nationally recognized common resource names, languages, and command structures creates trust and value for their use in actual incidents.
7. Resilient interoperability requires people to flexibly adapt to the different elements along the Interoperability Continuum.
8. Grant funding authorizations and conditions from states and the Federal Government are prioritized to support cooperative efforts over the strengthening of stand-alone systems. Agencies struggling with the issue of operability should strongly consider the long-term benefits of joining regional interoperability initiatives.
9. Neighboring agencies should collaborate in the planning and acquisition of a communications system.
10. Public safety will identify opportunities at all levels of government to deploy or use shared systems.
11. Users should continue to plan a migration path to a shared system, but seize unplanned opportunities now.
12. All levels of public safety, policymakers, industry, and the public will be educated on the ways interoperable communications can save lives, money, and property.

OUR INITIATIVES & ACTIONS

As the teams led by Chief Johnson and Deputy Chief Cobb developed our principles, they also provided insight on four key initiatives necessary for real progress in interoperable communications. Once the initiatives were defined, we defined and validated the critical actions to make each of these initiatives successful.

Initiative: Leadership & Coordination

Within a system of systems, no single entity is completely in charge of the entire communication system. Independent communication systems are designed and managed at all levels of government. Clear leadership structures to link all levels of government and to coordinate resources must be put in place, or emergency responders will continue to experience misdirection and inefficient use of resources.

Actions

1. Within 12 months, states will identify designated resources and a single point of contact (such as a dedicated interoperability coordinator) to help with and coordinate statewide interoperable communications efforts through the sharing of relevant information with local and regional levels.
 - States formally recognize locally defined regions (intra-state and inter-state), and designate interoperability coordinators for those regions. The coordinators work within their designated region on communications efforts.
 - The interoperability coordinator role at the state and regional level is established with consistent guidelines and the authority to act on decisions. The guidelines for this role will outline how to facilitate governance groups and coordinate communication efforts, while still allowing each state or region to address its unique needs.
2. Within 12 months, one group at the Federal level has the authority and technical/operational expertise to facilitate cooperation of all Federal agencies, programs, and offices working to improve interoperability.
3. Within 18 months, grant money for interoperability is allowed for training or staffing of positions focused on communications interoperability.
4. Within six months, there is one widely accessible national Web site for interoperability tools and best practices that includes a robust, interactive portal to share ideas and information.
5. Within 24 months, a cohesive software tool is in place to inventory and analyze all dimensions of the public safety systems, beyond just the voice technology components. Capabilities for all lanes of the Interoperability Continuum will be inventoried and updated with this software tool in a comprehensive way. The database from such a tool is secure. This tool allows state and local agencies to access their own system data and the data of other systems, as authorized and as needed.

Initiative: System Design & Interconnects

The communication technology landscape is ever evolving due to emerging technologies coming into use as well as aging systems that need upgrading. A completely formed public safety system of systems is elusive, yet we must continue to define a robust and reliable one. To do this, each system today must be designed with integrity so it can interoperate with other systems when needed and as authorized, but have the ability to adapt to future technologies as they are developed.

Actions

1. Within 12 months, the public safety community at the local, state, tribal, and Federal level has further defined the technical and operational components of a public safety system of systems concept. Planners and builders of interoperable communications systems know if they are part of a larger system of systems.
 - Within six months, the Federal Government adopts this definition of system of systems
2. Within 18 months, the public safety community has access to objective resources (other than vendors) to assess the needs of users and help them develop their own requests for procurement.
3. Within 24 months, the public safety community develops guidelines for inter-state interoperability, including tribes and territories
 - Within six months, the Federal Government adopts these guidelines for states to use as they define their operational need for interoperability in areas across state borders and between state agencies. The states are responsible for working collaboratively to address the criteria for their inter-state connections. This respects the established work that localities have done.
4. Within 24 months, the Federal Government equips Federal agencies with the capability to interoperate with what the local, tribal, and state emergency response communities are using. Federal agencies collaborate with states and localities on how interoperability with the Federal level will be accomplished.
5. Within 12 months, a document describing the various migration paths from legacy systems to Project 25 (P25) is distributed nationwide.

Initiative: Standards & Certification

Different types of equipment and products are available for interoperable communications. For systems to interoperate, technical standards must be in place, as well as a certification/testing program to verify those standards are correctly implemented in equipment and products and to verify the claims of manufacturers.

Actions

1. If the Federal Communications Commission adopts a plan that includes a nationwide public safety broadband network, within six months the national public safety licensee, controlled by the public safety community, will put in place a standard that meets public safety's requirements.
2. Within six months, funding is provided to increase the participation of local and state governments in the standards development efforts (e.g., standards being developed by the Telecommunications Industry Association, the Organization for the Advancement of Structured Information Standards (OASIS), the Institute of Electrical and Electronics Engineers, Inc. (IEEE)).
3. Before 2008, a P25 Compliance Assessment Program (CAP) is in full operation. Related conformance, performance, and interoperability test reports are publicly available for both trunked and conventional equipment implementing the Common Air Interface (CAI).
 - Within 12 months of completion, agencies leverage this program when procuring P25 equipment.
 - Within 18 months, CAP expands to include conformance, performance, and interoperability tests for the P25 Inter Sub-System Interface (ISSI).
 - Within 24 months, the program is self-supporting.
4. Within 12 months, a standards profile exists for Voice Over Internet Protocol (VoIP) that is specific to public safety gateways and cross-band repeaters.
5. Within 6-12 months, the Web sites with the Authorized Equipment List (AEL) and Standardized Equipment List (SEL) provide certification information for all communications equipment along with testing information (i.e., tested to what standards, where, by whom, etc.).
 - Within six months, basic P25 CAP information is on the Responders Knowledge Base (RKB) Web site, and is accessible to public safety.
 - Within 12 months, a robust P25 Web site provides critical information and allows for effective decision making by those who access this information.
6. Within 24 months, the public safety community is educated on completed Standards Development Organization (SDO)-developed standards for public safety communications. Compliant equipment is available at that time.

Initiative: Standardization & Accreditation

Some communities have highly trained personnel and comprehensive, documented processes. Other communities have few or no trained personnel and few or no documented processes. Standardization of protocol, procedures, and accreditation must be in place to establish consistency of operations and common skill sets for personnel across the Nation.

Actions

1. Within 18 months, the practitioner-developed and DHS-approved National Incident Management System (NIMS) Communications Unit Leader (COML) curriculum has been used to train an appropriate number of COMLs for every state, territory, region, and UASI-defined urban area (as defined by local users).
 - This represents the first of several positions within the communications unit for which curriculum needs to be developed
2. Within 12 months, the current channel naming nomenclature as developed by the National Public Safety Telecommunications Council is adopted as the nationwide interoperability standard.
3. Within 24 months, the standard for public safety radio communications is plain language with common terminology.
4. Within 24 months, the first multi-discipline, multi-agency class of a nationwide interoperability training program has graduated.
5. Within 12 months, all Federal interoperability technical assistance programs use a common methodology, and the personnel who provide technical assistance are trained to do this work.
 - Skill sets are defined so localities know what type of personnel are coming to work on their systems (such as technical, operations, or policy experts).
 - Methodology is consistent yet flexible to meet user needs.
 - There is a clear methodology by which states and localities can request Federal technical assistance related to issues of voice and data interoperability.
6. Within 36 months, public safety accreditation organizations partner with practitioners to certify communication and interoperability protocol, procedures, and training curriculum across the Nation.

OUR COMMITMENTS

The principles and actions in this Plan, agreed to at the ERC meeting, are not just words—they are agreements that must be fulfilled to strengthen interoperability nationwide. As a united community, we are committed to act on our pledges to stand by our Nationwide Plan for Interoperable Communications. Although we know much work remains, this is the true path forward to a “system of systems.”

To fully realize our vision for a system of systems and to enact our Plan, each person must take action to do his or her part. At the ERC meeting, members publicly pledged to take such actions as:

- “I will draft an article for County News that goes to 22,000 people with an explanation of our Plan and an affirmation that NACo supports it and stands for it.”
- “Next week in Salt Lake City at the National Sheriffs’ Association, I will distribute our agreements and tell participants that I support this work.”
- “Next week at the State EMS Officials meeting, I will present this Plan and let them know that I endorse it and stand for it.”
- “I will post our principles, initiatives, and actions on the NPSTC Web site.”
- “I will present our agreements to the Nebraska Regional Operational Board, and ask for a personal meeting with the Lt. Governor in order to ask our Governor to enroll.”

Members of the ERC have already started to mobilize support for our principles, initiatives, and actions with localities, states, regions, tribes, associations, governance groups, Federal agencies, congressional leaders, and other partners. Through continued commitment, the ERC will continue to drive forward our Plan to improve interoperable communications and to generate support from throughout the Nation to implement related actions as soon as possible.

Lives are at risk everyday because of the lack of interoperability. If we do not act now, interoperability challenges will continue to put at risk the lives of emergency responders and those awaiting help. Working to strengthen communications nationwide is a challenge we willingly accept, we will not postpone, and we intend to achieve.

We all pledge to work tirelessly to implement this Nationwide Plan for Interoperable Communications, and to we uphold our agreements with integrity. By working together, real progress towards nationwide interoperability will become a reality.

EMERGENCY RESPONSE COUNCIL - NEXT STEPS

This summer, practitioner action teams, comprised of ERC members and other nominated practitioners, will detail how this plan will be implemented. These action teams will report their recommendations to the Executive Committee (EC) in September 2007; the EC is the governing body of the ERC. The EC will provide direction on next steps to the public safety community as well as provide input to the Federal Government on the leadership and resources needed to further nationwide interoperability efforts.

APPENDIX

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