



Interoperability TECHNOLOGY Today

A Resource For the Emergency Response Community

Fall 2008



Law Enforcement Achieves First with Interstate Exchange of Driver License Photos

For the first time, law enforcement officers can exchange driver license photos across state lines within seconds via the Nlets (International Justice and Public Safety Information Sharing Network) network. The initiative to make this unprecedented capability a reality began in January 2007, when Nlets launched the Nlets Interstate Sharing of Photos (NISP) project in partnership with the American Association of Motor Vehicle Administration (AAMVA), several states, and the National Institute

“Drivers whose licenses have been suspended or revoked frequently carry no identification or claim to have none in their possession when they encounter a law enforcement officer. Numerous times in these situations, I have used the DMV images to determine that the driver I stopped was not the person whose name he gave me. Two cases stand out in my mind where drivers attempted to use the name and identity of their brother or another family member when they were stopped. Both were charged with giving fictitious information to a law enforcement officer and one was charged with the felony charge of Identity Theft because it was used to avoid legal consequences.”

— North Carolina Sheriff Deputy

of Justice (NIJ), which is sponsoring components of the project in coordination with the U.S. Department of Homeland Security’s Science and Technology Directorate.

Owned and governed by the states, Nlets is a not-for-profit organization that provides users with a computer-based message switching system that links local, state, and Federal law enforcement and justice agencies for the purpose of information exchange. Law enforcement officers have been using Nlets for more than 40 years to access text-based driver and vehicle data. In 2007, more than 784 million messages were carried over the Nlets network—an average of more than 65 million messages per month. On average, 40 percent of Nlets transactions are for registration queries, and 25 percent are for driver queries.

While law enforcement officers can access text-based driver and vehicle data on-scene, until recently, they could not access driver license photos. To retrieve photo identification imagery, law enforcement officers relied on poor-quality faxes from other agencies. NISP is extending Nlets capabilities to enable law enforcement to query and retrieve driver license photos across state lines. “What’s so intriguing about this story is that everyone thinks that law enforcement has always had this capability,” says Nlets Program Management Director Bonnie Locke.

The real-time exchange of driver license photos is a critical capability for criminal justice agencies. Access to out-of-state driver license photos represents an important information resource for criminal justice agency personnel that contributes to the safety of individual officers, and the public. It also reduces the amount of time, effort, and resources spent by agencies in positively identifying individuals and in resolving problems created by the use of false identities.

There are a variety of circumstances in which the availability of driver license photos proves valuable. In some instances, the availability of a driver license photo can confirm whether the person standing before a law enforcement officer or court is who they say they are. In other instances, the driver license photo can reveal that a person is attempting to use someone else’s name or identity. A driver license photo also can be useful during searches for suspects or missing persons.

Confirmation of identity through a driver license photo avoids the need to detain an unknown person for identification purposes. It allows an officer to release, or cite and release, those who simply forget their driver license. It also helps resolve a situation in which someone insists, “I am not the John Smith you are looking for.”

To ensure that the technology successfully meets the needs of officers on the frontlines, Nlets launched phase one of the NISP pilot in North Carolina, Oregon, South Carolina, and Virginia. Approximately 200 law enforcement officers in each of these states participated in the pilot. “In keeping with Nlets’ user-driven approach, NISP has included end users on the front end of its pilots,” says Deborah Johnson of Nlets’ public relations firm WalshCOMM.

Today, law enforcement officers in Alabama, Indiana, Massachusetts, Minnesota, North Carolina, Oregon, and Tennessee are able to exchange driver license photos across state lines in real-time. NISP also is working with its west coast counterpart, the State, Regional, and Federal Enterprise Retrieval System. The partnerships among the participating states and agencies have been pivotal to the success of the initiative, says NISP Project Manager Randy Brenner. “The cooperation from the states has been phenomenal,” says Brenner. “Several states—particu-



larly North Carolina, Oregon, and Tennessee—have stepped up to be mentors to other states joining the initiative. The importance of officer safety is clearly a priority for the states.” AAMVA shares this vested interest in public and officer safety, says NIJ

“Our communications center received a call Thursday at 8:32 a.m. from the Human Resources director of a local company. The caller advised that a female employee had recently been assaulted twice by her ex-boyfriend. She was now at work and the ex-boyfriend was calling her continuously. He communicated threats and advised he was going to her workplace. The Human Resources director placed the company on lockdown due to this threat. The officer that responded to the call advised that the domestic situation could still escalate due to a domestic violence order that had just been issued for the ex-boyfriend. The officer advised that it would greatly benefit officers if the driver license photo could be sent to their mobile data terminal to give them a visual picture of the suspect, not just physical descriptors that are normally sent out in the broadcasts.”

— North Carolina Sheriff Office

Coordinator George Ake. “AAMVA has been a true partner in this groundbreaking pilot project,” he says.

The second and third phases of the NISP pilot will expand the driver license sharing technology to more states, Federal agencies—including Customs and Border Protection, and Immigration and Customs Enforcement—and organizations such as the National Center for Missing & Exploited Children. By the end of 2008, at least three additional states will be working toward being operational; this number will continue to grow exponentially across the next several years. Future phases of the project will work to expand photo exchange capabilities to include booking photos, corrections photos, mug shots, and fingerprints.

For additional information about NISP, please contact Nlets Program Management Director Bonnie Locke (blocke@nlets.org), NISP Project Manager Randy Brenner (rbrenner@nlets.org), or NIJ Coordinator George Ake (george@txsheriffs.org).

CONTENTS

| | |
|--|---|
| Interstate Exchange of Driver License Photos | 1 |
| Director’s Message..... | 2 |
| The North Advances Interoperability | 3 |
| A Whopper of a Good Idea in South Carolina | 4 |
| City of Beverly Hills UNITES to Advance Interoperability | 5 |
| Situation Reporting in Real Time | 5 |
| In Your Own Words | 6 |
| Spotlight | 7 |



About Interoperability TECHNOLOGY Today

Interoperability Technology Today is published quarterly by the Science and Technology Directorate's Command, Control and Interoperability Division (CID) at no cost to subscribers. Its mission is to provide the emergency response community, policy makers, and local officials with information about interoperability initiatives nationwide, best practices, and lessons learned.

CID interoperability programs address both data and voice interoperability. CID is creating the capacity for increased levels of interoperability by developing tools, best practices, technologies, and methodologies that emergency response agencies can immediately put into effect. CID is also improving incident response and recovery by developing messaging standards that help emergency responders manage incidents and exchange information in real time.

Through a practitioner-driven approach, CID creates and deploys information resources—standards, frameworks, tools, and technologies—to enable seamless and secure interactions among homeland security stakeholders. With its Federal partners, CID is working to strengthen capabilities to communicate, share, visualize, analyze, and protect information.

Subscriptions: *Interoperability Technology Today* is available at no cost. If you are not currently on our mailing list, visit <http://www.safecomprogram.gov> to subscribe by clicking on the Contact Us link.

Address Correction: So that you do not miss an issue of *Interoperability Technology Today*, please notify us of any changes in address or point of contact. Visit <http://www.safecomprogram.gov> to update your contact information by clicking on the Contact Us link.

Article Reproduction: Unless otherwise indicated, all articles appearing in *Interoperability Technology Today* may be reproduced. However, a statement of attribution, such as, "This article was reproduced from the fall 2008 edition of *Interoperability Technology Today*, published by the U.S. Department of Homeland Security's Command, Control and Interoperability Division," should be included.

Photo Credits: Photos and graphics used in this edition of *Interoperability Technology Today* include iStock.com.

CID would like to acknowledge its practitioner-comprised Editorial Review Board for the valuable input it provided in reviewing article content for this edition.

Disclaimer: Contents of this newsletter do not necessarily reflect the opinions, views, or policies of the U.S. Department of Homeland Security; the Science and Technology Directorate; CID; nor the U.S. Government.



Homeland Security

UPCOMING EVENTS

Events & Conferences

115th Annual International Association of Chiefs of Police Conference and Exposition

November 8-12, 2008
San Diego, California
<http://www.theiacpconference.org/about.cfm>

International Association of Emergency Managers 56th Annual Conference

November 15-20, 2008
Kansas City, Kansas
<http://www.iaem.com>



DIRECTOR'S MESSAGE

By Dr. David Boyd

Partnerships and collaboration continue to be critical common denominators across the Command, Control and Interoperability Division's (CID) technology initiatives and projects. CID recently worked with emergency responders, Federal agencies, and industry representatives to field technology projects that address the use of Voice over Internet Protocol (VoIP) communications and the integration of wireless radio and broadband systems.

VoIP

To connect radio systems, emergency responders rely on bridging solutions. These solutions are increasingly using Internet-Protocol-based connections to transmit voice communications across radio systems. This emerging technology is known as Voice over Internet Protocol (VoIP). Although VoIP is based on standards, the technology lacks a single standard adopted by all manufacturers. As a result, there is no guarantee that one manufacturer's VoIP-based equipment will successfully interface with another's, even though they may both use standards. To address these compatibility gaps, CID is assisting in the development of VoIP specifications in partnership with emergency responders, industry representatives, and the National Institute of Standards and Technology's Office of Law Enforcement Standards. Each VoIP specification will identify the standards and settings necessary for VoIP-based devices to connect with one another. Bridging systems with interfaces built to these specifications will help one emergency response agency seamlessly connect its radio system to another agency's system over a network—regardless of the manufacturer.

ROW-B

To communicate, many agencies are using traditional wireless radio systems—known as land mobile radio (LMR) systems—and separate wireless broadband systems. The wireless broadband service is often supplied by a commercial cellular service provider. Because the LMR and broadband systems serve specific and different needs, they were not designed to communicate with each other. The lack of interoperability between these two systems may compromise emergency response operations when emergency responders using a broadband system are unable to communicate with emergency responders employing an LMR system.

To address this capability gap, CID launched the Radio Over Wireless Broadband (ROW-B) research project. Through this research project, CID is working with local government officials, Federal partners, emergency response agencies, and an industry partner to connect existing LMR systems with advanced wireless broadband technologies, such as Push-To-Talk over Cellular. Push-To-Talk over Cellular technology allows for walkie-talkie-type communication over a cellular phone network. This smart phone technology effectively allows a single user to reach multiple users through talk groups on the cellular network. It effectively simplifies the process of coordinating groups by reducing the need to place several calls; as a result, critical response time is saved.

The ROW-B project also leverages Geographic Information System (GIS) technology. GIS technology refers to a host of applications that identify locations based on a map, the location of other vehicles or equipment, and the location of other emergency responders. GIS databases display these locations on maps that include important information, such as roads, buildings, and fire hydrants. This technology enables emergency responders to access the locations of critical resources—such as equipment and personnel—in real time and to form dynamic talk groups based on proximity.

Common Vision

While addressing interoperability challenges from different angles, VoIP and ROW-B project partners share a common goal: To ensure that emergency responders nationwide can communicate with each other on demand. CID's partnerships with the emergency response community, Federal agencies, and manufacturers have been fundamental to the success of these technology projects and will continue to be essential as we face new challenges and opportunities for progress.

Additional information about the VoIP specifications initiatives and ROW-B project is available at <http://www.safecomprogram.gov>.



U.S. Neighbors to the North Advance Interoperability

Canada and the United States share the longest common border in the world—5,522 miles that span Alaska, Washington, Idaho, Montana, North Dakota, Minnesota, Michigan, Ohio, Pennsylvania, New York, Vermont, New Hampshire, and Maine. With operations along the international border requiring support from multiple Canadian agencies and their U.S. counterparts, interoperability is essential. While Canada's emergency response leaders have long understood the importance of interoperability, the increasing focus on cross-border communications recently put interoperability in the spotlight.

To advance interoperability progress in Canada, the Canadian Police Research Centre (CPRC) has joined forces with the Canadian Association of Chiefs of Police, the Canadian Association of Fire Chiefs, and the Emergency Medical Services Chiefs of Canada to form the Canadian Interoperability Technology Interest Group (CITIG). Launched in April 2007, CITIG brings together nearly 300 representatives from emergency response, industry, academic, government, and non-governmental organizations to collaboratively improve interoperability in Canada. "To successfully impact interoperable communications, it is important that responders on the frontlines and their public safety partners have a voice," says CITIG Project Manager and Ottawa Police Service Inspector Lance Valcour. "We envision CITIG serving as public safety's collective voice on interoperability matters."

In November 2007, CITIG became the first international, non-voting member of the National Public Safety Telecommunications Council (NPSTC). "Working with Canada is a natural step for NPSTC," says NPSTC Executive Director Marilyn Ward. "We will be watching the progress of CITIG with great interest, and of course, we'll look for ways to actively and constructively participate in this worthwhile endeavor." CITIG is considering modeling its governance structure on that of NPSTC, which is a federation of organizations.

CITIG's first initiatives aim to build a strong foundation so that the Group can effectively address interoperability challenges. The focus of these efforts is on establishing a forum for Canada's emergency response and communications leaders to communicate and exchange ideas. With these initiatives, CITIG also intends to respond to regulatory issues that impact Canadian emergency response communications and provide a test bed for interoperability projects.

“To successfully impact interoperable communications, it is important that responders on the frontlines and their public safety partners have a voice.”

Contrary to what its name might imply, CITIG's vision reaches far beyond technology. The Group champions a comprehensive approach to interoperability—spearheading projects that address not only technology, but other major factors critical to interoperability. For these projects, CITIG referred to the Department of Homeland Security's Interoperability Continuum, which targets five elements of interoperability: governance, standard operating procedures, technology, training and exercises, and usage. Using the Interoperability Continuum as a blueprint, CITIG recently funded eight projects—three focused on the development of a national strategy and five focused on local and regional communications improvements.

CITIG represents an important step for interoperability in Canada. "When you look at the great strides in communications technology and you see the work being done in the United States and beyond, it's clear that we have a significant opportunity to impact the state of Canadian public safety interoperability," says CPRC Executive Director Steve Palmer.

Additional information about CITIG is available at http://www.cprc.org/e_about.html.



A Whopper of a Good Idea in South Carolina

In South Carolina, interoperability starts at Burger King. Four counties—Abbeville, Anderson, Oconee, and Pickens—are advancing regional interoperability with partnerships formed across the dinner table.

A concept known as Interoperability Starts at Burger King is bringing together local emergency response leaders over meals with the goal of maintaining and strengthening relationships. “If one agency does not want to work with another agency, no amount of grant dollars or equipment is going to change that,” says Deputy Chief of Operations and Communications Preparedness for Anderson County Public Safety/Emergency Services Matthew Littleton. “Relationships between agencies are no different than a marriage—you’ve got to have open communication. In the South, we do everything over meals. Interoperability Starts at Burger King is simply about relationships and getting people together for an open dialogue.” Emergency response leaders representing disciplines across the four counties regularly meet for meals and converse on matters ranging from war stories to interoperability.

The partnerships among agencies in Abbeville, Anderson, Oconee, and Pickens counties have resulted in the agencies sharing important resources, including grant dollars, training, and equipment. In 2006, the counties formalized their cooperative efforts with the establishment of the Western Piedmont Regional Emergency Management Task Force. “By sharing regional assets, we bridged each individual county’s shortcomings—significantly improving the region’s emergency preparedness and response operations,” says Littleton. Today, the Task Force serves more than 400,000 people across 2,348 miles.

Last year, the strengthened relationships among the counties proved valuable during the trial of Steven Bixsby, a man who shot two law enforcement officers in 2003. The trial required testimony from multiple Abbeville law enforcement officers—leaving Abbeville agencies shorthanded. Because of strong working relationships and mutual aid agreements among the Task Force counties, law enforcement officers from neighboring counties were able to carry out daily operations for the Abbeville officers participating in the trial.

Statewide Progress

The achievements of the Western Piedmont Regional Emergency Management Task Force are indicative of interoperability progress across the state of South Carolina. Interoperability first topped agendas of South Carolina’s leaders in September 1989, when Hurricane Hugo devastated the state—taking at least 70 lives and causing more than \$13 billion in damages. “Hurricane Hugo became the defining moment in South Carolina’s history for the development of a statewide interoperable radio communications system,” says Palmetto 800 Megahertz (MHz) System Contract Administrator George Crouch. “As agencies poured into the devastated areas, the UHF, VHF, and low-band radio systems used by emergency responders had little to no level of interoperability. Most agencies were on their own as they tried to provide assistance to the devastated areas.”

In response to these communications challenges, in 1992, South Carolina formed an emergency response communications partnership with county governments and a statewide for-profit utility company. Initially, the statewide for-profit utility company owned and operated a statewide radio system. This system would ultimately become the infrastructure backbone of the South Carolina Palmetto 800 MHz trunked radio system (known as the Palmetto 800 Network).

Just as Hurricane Hugo was an impetus for early interoperability efforts in South Carolina, 1999’s Hurricane Floyd was a major factor in accelerating the build-out of the Palmetto 800 Network. The hurricane triggered the second largest evacuation in the Nation’s history. During evacuation operations, agencies with radio communications on the statewide system were able to communicate with each other. Despite these advances in interoperability, many of the local government agencies that were not on the statewide system were still unable to communicate. “While Hurricane Floyd demonstrated—for the first time—how effective a common standards-based statewide radio could be in coordinating large-scale emergencies, events, and disaster recovery, it also taught South

Carolina that greater participation in the statewide system was needed at the local level and that additional work was needed in developing common mutual aid radio channels and talk groups,” says Crouch. These communication complications renewed efforts to fully develop the Palmetto 800 Network.

In 1992, the South Carolina statewide radio system was launched with 16 initial sites. South Carolina partnered with county and municipal governments and major public utilities to share infrastructure and communications resources. With so many stakeholders involved, the Palmetto 800 Network is a true shared system. As a self-supporting system, user fees—which are charged per month and per radio—pay for the operation of the statewide system. In June 2001, a Schaumburg, Illinois-based radio manufacturer joined the partnership operating the Palmetto 800 Network. As one of the Nation’s largest shared statewide radio systems, the Palmetto 800 Network has more than 23,300 voice users; 9,400 interoperability users; and more than 1,054 data users. Users represent more than 400 local, state, and Federal agencies in South Carolina and Augusta, Georgia. Users include emergency responders, power utility providers, the South Carolina National Guard, hospital staff, county emergency operations center staff, and members of all levels of government.

User-Driven Approach

Comprised of system users, the Statewide 800 MHz Trunking Advisory Committee provides oversight of the Palmetto 800 Network. “The Advisory Committee and its dedicated members are one of the key success factors in South Carolina’s interoperability and the Palmetto 800 Network,” says Crouch, who is a charter member of the Advisory Committee. “Never have I worked with such a dedicated group of individuals.” The Advisory Committee represents every emergency response discipline and level of government as well as various industry members and power utility providers. Twice a year, all of the system users are invited to Columbia, South Carolina, to participate in a meal and discuss Palmetto 800 Network updates, strategies, and policies. “As South Carolina continues to work to advance interoperability, the partnerships and working relationships among system users will continue to be critical,” says Littleton. “From the Western Piedmont region, we’ll continue to champion the same type of open dialogue statewide that works in counties here across the dining table.”

Best Practices from Interoperability Starts at Burger King

- **Pick up the phone and call an agency leader with whom you may not have an ideal working relationship and suggest meeting to talk.**
- **Recognize that conversations do not have to be work-focused. Any open dialogue is a step in the right direction.**
- **Check egos and badges at the door.**
- **Avoid entering a conversation with an agenda.**

City of Beverly Hills UNITEs to Advance Interoperability

The small land mass—5.7 square miles—of Beverly Hills, California, coupled with the disproportionate population it serves—more than 250,000 during the day and 35,000 during the night—presents local emergency responders with unique challenges. With a limited number of personnel—140 sworn officers—and a high volume of dignitary visits, partnerships and regional coordination are critical to the success of Beverly Hills' emergency response operations. Local responders work with their state and Federal counterparts—including the California Highway Patrol, the Federal Bureau of Investigation, and the United States Secret Service—as much as, if not more than, any other locality along the West Coast.

With a high demand for mutual aid operations, Beverly Hills has championed a regional approach to interoperable communications. “We see the challenge of security today as a shared burden—one that no entity alone can shoulder,” says Beverly Hills Police Commander Theresa Taylor. “The City of Beverly Hills' philosophy has been that, in this day and age, we cannot keep information to ourselves.”

In keeping with this philosophy, Beverly Hills launched the Unified Network of Interoperability Technology Enhancements (UNITE) project. UNITE is a multifaceted program intended to serve as a highly effective anti-terrorism resource that crosses multiple disciplines, enables collaboration with allied agencies, and enhances interagency coordination and communication. “We see the UNITE project as providing the umbrella framework that will facilitate interoperability and information transfer across all levels of government—local, state, and Federal,” says Taylor. The \$25 million project design is based on a management platform that will readily interface and enable the sharing of vast amounts of tactical data among allied agencies. Cutting-edge technology links intelligence and communications systems to identify emerging security threats and to allow real-time exchange of data, video, and voice communications. The project is partially funded by an \$893,000 grant from the Department of Justice.

One of the key components of UNITE is the expansion and enhancement of the City's Closed Circuit Television (CCTV) and Automated License Plate Recognition (ALPR) systems. Beverly Hills has deployed CCTV video cameras at key locations throughout the community; most of the cameras are located at critical infrastructures, including a popular retail boulevard. The cameras have specialized software that recognizes and alerts the City's law enforcement personnel to any unusual activity within the viewable area. The Beverly Hills ALPR system consists of infra-red cameras mounted on patrol cars that capture license plate information and alert patrol officers of stolen vehicles, wanted persons, America's Missing: Broadcast Emergency Response—also known as AMBER—alert vehicles, and vehicles belonging to registered sex offenders. ALPR has already proven highly effective in apprehending suspected criminals.

In terms of audio communications, UNITE incorporates the Interagency Communications Interoperability System (ICIS). ICIS is a cooperative effort by six cities in Los Angeles County—Beverly Hills, Burbank, Culver City, Glendale, Montebello, and Pomona—to share a common radio network. Established in 2003, ICIS is a shared system. In order to provide regional coverage, each city purchases its own system and links it to the systems of other cities. The interconnected systems create a regional footprint that provides agencies with wide area coverage. “ICIS allows our public safety agencies to interoperate with every other agency on the system—talking to responders 25-50 miles away just like they are next door,” says Taylor. “The value of ICIS is even more than this technology. It represents a joint, collaborative effort made up of agencies and localities that are truly committed to working together.”

UNITE is creating a virtual tool that allows emergency responders and partner agencies to access audio, video, and other real-time data from a single portal. The tool will enable responders to gather comprehensive information about an emergency situation at a glance. The portal will provide authorized responders with enhanced situational awareness via real-time information both on a day-to-day basis and in response to a major emergency incident.

“Beverly Hills is working to be the safest city in America,” says Taylor. “We have forged the partnerships and possess the desire and technological capital to make this happen. Ultimately, our hopes are to traverse what we have achieved on a small scale and make it a replicable model for localities nationwide.”



Situation Reporting in Real Time

Emergency responders are now steps closer to the seamless exchange of data that will result in enhanced incident command and response. To address the data information sharing capability gap identified by the emergency response community, the Office for Interoperability and Compatibility (OIC) Practitioner Steering Group developed the Emergency Data Exchange Language (EDXL) Situation Reporting Standard (EDXL-SitRep). This data messaging standard provides information to practitioners about the current situation, particular incident, or event; it also identifies what is needed in an actionable form prior to, during, and in recovery from an incident. Once implemented by emergency responders nationwide, the EDXL-SitRep will enable more efficient decision making, coordination, and use of resources during emergencies.

The EDXL-SitRep is one of several data messaging standards included in OIC's suite of EDXL standards. Data messaging standards enable emergency responders to share critical data—used in their own applications as maps, situational reports, and alerts—seamlessly across disparate software applications, devices, and systems. The effective exchange of this data is essential for emergency responders to successfully respond to day-to-day incidents and large-scale emergencies.

Typically, information gathering and sharing during emergency scenarios is conducted manually. This approach requires the physical entering of information into computer systems and often necessitates the re-keying of situation data into several systems. As a result, it can be difficult—and sometimes impossible—to share information across agencies and jurisdictions at the local, tribal, regional, state, and Federal levels. The EDXL-SitRep will overcome current incident sharing obstacles by standardizing the way only valuable and usable incident data is transmitted from a variety of sources, including citizens, emergency responders, and government officials.

When using the EDXL-SitRep, the on-scene incident commander and emergency responders have access to information about the specific situation, the current responses by other agencies or jurisdictions, and the deployed resources—delivering a full operational picture of the incident. The EDXL-SitRep will ultimately enhance the emergency response community's incident command capabilities by facilitating increased information sharing, reducing errors related to manual data entry, maximizing the use of emergency responders, and saving invaluable time.

OIC is currently working with the international consortium—the Organization for the Advancement of Structured Information Standards (OASIS)—on the official adoption of the EDXL-SitRep. OASIS will ratify the standard after the Public Comment Review committee conducts a review based upon public and practitioner input.



IN YOUR OWN WORDS • • • • •

By Charlottesville (Virginia) Fire Chief Charles Werner, Beaverton (Oregon) Mayor Rob Drake, and National Association of State Emergency Medical Services Officials Program Advisor Kevin McGinnis

Navigating Interoperability's Changing Tides

It is clear that we are at a turning point in nationwide interoperability. The intersection of several factors—additional spectrum, cumulative interoperability progress, congressional support, the availability of interoperability grants and Federal resources, and recent natural disasters—represents a crossroads for progress.

As leaders of the U.S. Department of Homeland Security's (DHS) SAFECOM program Executive Committee (EC), we are committed, as ever, to ensuring that national interoperability initiatives are aligned with the priorities and requirements of emergency responders on the frontlines. Since their creation in 2003, the SAFECOM EC and Emergency Response Council (ERC) have represented the voices of emergency responders, public safety association leaders, and local policy makers from all disciplines, jurisdictions, and levels of government. This practitioner-driven approach is the cornerstone of the SAFECOM program, which is working with emergency responders and Federal partners to lead groundbreaking interoperability initiatives.

Today, the SAFECOM program is a bridge between two DHS interoperability offices: the Science and Technology Directorate's Office for Interoperability and Compatibility (OIC) and the National Protection and Programs Directorate's Office of Emergency Communications (OEC). OIC supports SAFECOM-related research, development, testing, evaluation, and standards while OEC supports SAFECOM's development of guidance, tools, and templates.

Traditionally, DHS has been committed to advancing voice communications interoperability—considered by emergency responders to be the most fundamental and essential communication mode among dispatchers, incident commanders, and responders. Today, the ability to exchange emergency data—such as a map, a video image, or an alert—is increasingly critical to the success of field operations. In response to the new role data exchange plays in operations, OIC established the Practitioner Steering Group (PSG). A cousin of the SAFECOM EC and ERC, the PSG is made up of representatives from major emergency management associations. PSG members are working with OIC and Federal partners to advance data communications through standards acceleration and the development of data tools.

Together, OIC, OEC, the PSG, and the SAFECOM EC and ERC have made significant progress in addressing the multi-dimensional communications challenges facing agencies nationwide; this is evident in the increasing number of jurisdictions that are using SAFECOM tools to strengthen interoperability. Hanging from the walls of emergency response departments across the Nation, the Interoperability Continuum is helping agencies and policy makers track interoperability progress across five critical factors: governance, standard operating procedures, technology, training and exercises, and usage. The new edition of the

Continuum features an updated technology lane that includes stages of data communications interoperability in addition to voice; this new version is intended to help agencies map their progress in the field of data interoperability.

SAFECOM is equipping agencies with a figurative toolbox of diverse guidance documents, methodologies, and templates to improve each of these areas. These replicable tools capture the expertise, lessons learned, and best practices shared by SAFECOM EC and ERC members.

SAFECOM also has a long history of helping localities advance statewide interoperability. Developed with input from the SAFECOM EC and ERC, the program identified the components essential to a successful communications interoperability plan. These criteria helped states navigate the statewide planning process required by the FY 2007 Homeland Security Grant Program and Public Safety Interoperable Communications Grant Program. Today—for the first time—the Nation's 56 states and territories each have a statewide interoperability plan. The staying power of these plans will be critical because statewide interoperability is an ongoing process—not a one-time investment.

To build upon recent statewide interoperability progress and the data collected by SAFECOM's landmark 2006 National Interoperability Baseline Survey, the program is leading assessments of the Nation's current interoperability capabilities, gaps, and challenges. The National Communications Capabilities Report (NCCR) provides a snapshot of current interoperability capabilities as well as a framework for evaluating emergency response communications across all levels of government. The National Emergency Communications Plan (NECP) complements the NCCR by identifying interoperable communications gaps and challenges nationwide and providing a strategic plan to address them. While many emergency response plans have been developed, the NECP is the first overarching, nationwide strategy that specifically focuses on improving emergency communications continuity, operability, and interoperability across all levels of government and in partnership with the private sector. By providing a clear representation of national capacities and vulnerabilities, the NECP and NCCR will help emergency response leaders and elected officials make informed decisions about strategies for improving interoperability; they will also help leaders target resources to the areas of greatest need.

These important initiatives represent mile markers—not the finish line—in our efforts to advance interoperability nationwide. The partnerships between the emergency response community, public safety associations, industry, and agencies across all levels of government will continue to be pivotal as we work to meet the needs of today and prepare for the challenges of tomorrow.

Additional information about the SAFECOM EC and ERC as well as program initiatives is available at <http://www.safecomprogram.gov>.

On the Front Lines of History with Steve Souder

At 4:00 p.m. on April 4, 1968, Steve Souder reported for his first day as the primary radio channel dispatcher at the District of Columbia Fire Department (DCFD) Communications Center. A few hours later, Dr. Martin Luther King, Jr. was assassinated in Memphis, Tennessee—igniting riots across the Nation, including in D.C. As the primary dispatcher on duty, Souder directed more than 250 fire units for more than 36 hours using only one channel. The experience was a turning point in a fire service career that would put Souder on the frontlines of history many times.

A fourth-generation firefighter, Souder spent countless childhood days at the local firehouse. He eventually joined the DCFD as a firefighter when he was 21 years old. Forty years later, Souder has served not only as a firefighter and dispatcher at the DCFD Communications Center, but also as Administrator of the Arlington County (Virginia) 9-1-1 Public Safety Emergency Communications Center and as Director of the Montgomery County (Maryland) 9-1-1 Emergency Communications Center. Today, Souder serves as Director of the Fairfax County (Virginia) Department of Public Safety Communications.

Souder's commitment to improving interoperability began in the field more than two decades ago. At 4:00 p.m. on January 13, 1982, Souder was the primary dispatcher on duty at the DCFD Communications Center when Air Florida Flight 90 crashed, shortly after taking off from Ronald Reagan Washington National Airport in a snow storm. The airplane crashed into the traffic-jammed 14th Street Bridge and into the frozen Potomac River—killing 5 vehicle drivers and 74 airplane passengers and crew members. Thirty minutes later and less than one mile away from the plane crash site, a Washington Metro train packed with passengers derailed in a tunnel 100 feet beneath the National Mall—injuring 25 and killing 3.

"These simultaneous disasters were a perfect storm," says Souder. "The communications challenges we encountered during the two responses revealed the need for significant improvements to cross-agency and cross-jurisdictional communications capabilities. "At the plane crash site, fire-rescue units from D.C. were unable to communicate with their counterparts from Arlington, Virginia, and Ronald Reagan Washington National Airport. Similarly, law enforcement agencies were unable to communicate with each other—let alone with other disciplines. This was evident in the lack of communication among fire units on the ground and a law enforcement helicopter unit hovering above the Potomac River searching for plane crash victims. Neither fire-rescue nor law enforcement units were able to communicate with rescue boats heading to the emergency scene. Meanwhile, at the site of the train derailment, responding agencies above ground could not talk to responding units 100 feet underground. "The compromised communications during these disaster responses helped identify the need for additional public safety spectrum and made 'interoperability' a buzz word," says Souder.

Nearly 20 years later, interoperability dominated headlines again. On September 11, 2001, Souder was Administrator of the Arlington County (Virginia) 9-1-1 Public Safety Emergency Communications Center; he was among the emergency response leaders tapped to manage the terrorist attack at the Pentagon. "On September 11, 2001, all of our efforts to improve interoperability over the previous two decades culminated in successful operations and communications among multiple responding units," says Souder. "The partnerships that made that progress possible will continue to prove critical as we prepare for the challenges ahead."

Q&A with Steve Souder

Q. What are your most memorable moments during operations responding to the Dr. Martin Luther King riots; the Air Florida Flight 90 crash; and the September 11, 2001, attack on the Pentagon?

A. During the riots, plane crash, and train crash, I had the strong feeling that there had to be a better way for public safety agencies to communicate with each other via radio systems at major incidents as well as during daily incidents. During the attack on the Pentagon on September 11, 2001, I knew that the efforts of many people had created an interoperable solution and system that was being put to its maximum test—and it worked exactly as planned.

Q. In the 30 years separating these emergency situations, what changes did you witness in the ability of emergency responders to communicate and coordinate during disasters?

A. During the 26 years since the crash of Air Florida Flight 90, D.C. area jurisdictions and public safety departments have achieved a system of systems. There are now 18 independent interoperable public safety radio systems serving 16 jurisdictions and 2 regional agencies—covering approximately 5,651 square miles and serving 5,329,418 residents. This system of systems was put to the test on September 11, 2001, when terrorists commandeered and crashed American Airlines Flight 77 into the Pentagon at 9:37 a.m., just half a mile from where Air Florida Flight 90 crashed 19 years earlier.

Q. In your view, what are today's major interoperability challenges?

A. Technology has been developed that allows for radio interoperability. But technology is not the only component of an efficient and effective public safety interoperable communications system. You need the following 10 components as well:

- Strong formal and informal working relationships among public safety agencies
- Uniform programming and identification of channels/talk groups in area departments participating in initial aid and mutual aid agreements
- Uniform naming of field unit type designators
- Uniform numbering of field units by jurisdiction and assignment
- Uniform use of plain English terminology during radio communications
- Regular tests/exercises by and between participating agencies
- Formal written procedures of operation
- Collaboration on short-, mid-, and long-range planning
- Commitment to think smart, act smart, and spend smart
- Active and committed support by area political and administrative leaders

Q. What lessons have you learned since becoming involved in the field?

A. I've learned that good people applying the four Rs—do the **R**ight thing, for the **R**ight reason, in the **R**ight way, at the **R**ight time—can achieve remarkable things.

Q. What do you believe are the keys to interoperability progress today?

A. Embrace a shared vision of what can be. Then plan, cooperate, and collaborate to make that vision a reality.



Interoperability TECHNOLOGY Today



Homeland
Security

A Resource For the Emergency Response Community

- **Interstate Exchange of Driver License Photos**
- **The North Advances Interoperability**
- **A Whopper of a Good Idea in South Carolina**
- **Beverly Hills UNITEs to Advance Interoperability**
- **Situation Reporting in Real Time**
- **Navigating Interoperability's Changing Tides**
- **Spotlight on Steve Souder**

Fall edition 2008

"This edition features ..."

Command, Control and Interoperability Division
Science and Technology Directorate
U.S. Department of Homeland Security
Washington, DC 20528

PRESORTED STANDARD
U.S. POSTAGE PAID
ANNAPOLIS JUNCTION, MD
PERMIT NO. 2538