



Interoperability Today

A RESOURCE FOR THE PUBLIC SAFETY COMMUNITY

DIRECTOR'S MESSAGE

National Baseline Survey Will Present Interoperability "Snapshot"; Provide Direction for Future Efforts



This quarter, the Director's Message is from Dr. Charles E. McQueary, Under Secretary for DHS's Science and Technology Directorate.

On behalf of the Department of Homeland Security's (DHS) Science and Technology Directorate, I am pleased to announce that SAFECOM has initiated a landmark effort to obtain a statistical baseline measurement of public safety communications interoperability in the United States. A working group comprised of public safety practitioners from law enforcement, fire and emergency medical services, along with elected and appointed officials, is assisting SAFECOM to design and implement this assessment, known as the National Interoperability Baseline Survey.

The survey, to be completed within six months, will help to:

- identify where interoperability improvements need to be made;
- identify steps that can be taken to achieve specific interoperability objectives;

- direct funding for public safety communications;
- focus interoperability improvement efforts; and
- establish a baseline against which progress can be measured moving forward.

In the coming months and years, we anticipate state, regional, or local public safety and municipal agencies will use the instrument and baseline data as they conduct their own assessments of interoperability capabilities and improvements.

Please look for future updates in the next edition of *Interoperability Today*, and on the SAFECOM Web site, www.safecomprogram.gov.

Sincerely,
Dr. Charles E. McQueary
 Under Secretary for Science and Technology

INTEROPERABILITY INSIGHTS

Building Confidence in P25: Assessment Program Will Help Ensure Compliance

Interoperability Insights keeps readers up to date on priority interoperability issues at the federal level.

The Project 25 standard (P25) – the standard for interoperable digital two-way wireless communications products and systems – began in 1989 to provide specific, detailed criteria for the design

of public safety communications systems. Simply put, all P25-compatible equipment would be seamlessly interoperable, regardless of the manufacturer.

A significant factor in procurement decisions, many local, state, and federal agencies specify P25

standards for purchases of new radio communications systems and equipment. However, in recent years there have been many documented complaints from the public safety community regarding P25 equipment not meeting standards. For example, one user with a brand new P25 radio said that he had to make 28 keystrokes on the radio's keypad in order to make a

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Homeland Security



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unit-to-unit call. Another stated that despite being provided with several new P25 digital radios by one manufacturer, the audio quality of the first radio he unpacked was so bad that he didn't bother unpacking the rest.

The Problem

While many communications products available to the public safety community claim adherence to P25 standards, that claim has been based solely on the manufacturers' "certification" of their own products. There are currently no formal processes to ensure that equipment complies with P25 standards.

On behalf of the Federal Partners for Interoperable Communications (FPIC), the National Institute of Justice's (NIJ) CommTech Program, and the



Department of Justice (DOJ) Office of Community Oriented Policing Services (COPS), the Institute for Telecommunications Sciences (ITS) in Boulder, Colorado, conducted conventional voice interoper-

ability testing and evaluation on a number of P25 units over the last two years. The results were startling. ITS identified numerous radios either that lacked the required P25 features or incorrectly implemented them. The performance testing also identified non-compliant radios within the existing federal inventory that had been certified as P25-compliant by their manufacturers.

P25 Conformity Assessment Program

In order to improve the rate of P25 compliance, NIST, in conjunction with its federal partners including SAFECOM, is developing a P25 Conformity Assessment Program – the first step in what will ultimately be an established 3rd party certification process for P25 equipment. The program will ensure that the first responders who rely on and government entities that require P25 acquisition through federal grants can be confident that communications equipment designated P25-compliant actually meets the standards.

Components of the program will include:

- SAFECOM grant guidance requiring that P25 products purchased with federal funds meet the requirements of the conformity assessment program.
- 3rd party testing by NIST-accredited independent laboratories to evaluate compliance with P25 standard.

- Establishment of a formal supplier's "Declaration of Conformity" to P25 standards, with a listing of results ultimately made available to the public safety community at large (a sort of "Consumer Reports" of P25 equipment).

The initial phases of this program will be completed within the next 9 to 12 months, with preliminary implementation to begin by the end of 2006.

NIST expects this assessment program will bridge the gap between manufacturers and users and will ensure that the initial goals of P25 – reliable, interoperable communications and increased competition in the marketplace resulting in more choices and lower equipment costs – will be fulfilled.

The Office of Law Enforcement Standards (OLES) helps law enforcement, corrections, and criminal justice agencies ensure that the equipment they purchase and the technologies they use are safe, dependable, and effective. The Office focuses on the development of performance standards, which are promulgated as voluntary national standards. For more information, visit <http://www.eel.nist.gov/oles/> or call 301-975-2757.

SPOTLIGHT

Spotlight On Gary L. Edwards

**Chief Executive Officer,
National Native American Law Enforcement
Association (NNALEA)**

When it comes to safeguarding the United States, Gary Edwards, Chief Executive Officer of the National Native American Law Enforcement Association (NNALEA) envisions concentric rings of protection. The critical ring, and first line of defense, is represented by the nation's borders, where over 40 Native American tribes are located.

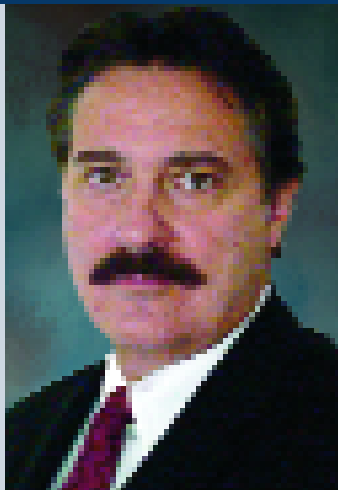
"The tribes near the borders are our eyes and ears," said Edwards. "Interoperable communications between federal, state, local, and tribal public safety officials is more than a regional necessity – it is a vital component of America's homeland security system."

As Chief Executive Officer of NNALEA, Edwards advocates for Native American law enforcement officers and provides training, technical assistance, and vital homeland security information to tribal communities. Edwards, of Cherokee descent, helped to establish NNALEA in 1993 with fellow Native American law enforcement officials. One of the organization's key missions is to promote communications between tribal and non-tribal law enforcement agencies.

"Native American law enforcement officials have not always had a seat at the table," said Edwards. "Considering the important role they play in defending the homeland, a more inclusive, national dialogue with tribal public safety communities can make a significant difference."

The need for improved interoperability between tribal and non-tribal public safety officials was the reason that the Department of Homeland Security (DHS) funded the Indian Country Border Security and Tribal Interoperability Pilot Project. Beginning in March 2004, NNALEA and The National Congress of American Indians (NCAI) teamed up to work on this pilot program, which focuses on assessing current tribal public safety communications capabilities.

According to Edwards, disparities in training, equipment, technical assistance, and even salaries,



exist between tribal public safety officials and their non-tribal counterparts. Edwards believes that until now, there hasn't been a comprehensive look at the public safety needs of tribal communities, making it difficult to effectively tackle disparities and improve communications.

Under the Project, NNALEA and its partner NCAI are working with several government agencies to survey 40 tribes across the country. The Project will create a snapshot of public safety communications and other homeland security capabilities at the tribal level, identifying both existing capabilities as well as gaps. An overview of tribal best practices will also be produced along with survey results. All of this information will be provided to the participating tribes for strategic planning purposes. A final Project report will be available from DHS by the end of December 2005.

"The survey results will provide a baseline for communications capabilities at the tribal level," Edwards said. "This will in turn help direct attention to communications improvements in key areas and focus interoperability improvement efforts between tribal and non-tribal public safety agencies."

In addition to his work with NNALEA, Edwards was a Special Agent with the United States Secret Service for 28 years, rising to the rank of Deputy Assistant Director prior to retiring. Working with NNALEA is Edwards' way of continuing to serve and protect the American people.

"During World War II on the coast of Washington State, a tribe formed a watch group, sailing ships out into the ocean to spot and intercept any incoming enemy submarines," said Edwards. "Our tribes today maintain that same vigilance. Native Americans are ready, standing at the forefront, engaged in the defense of our country."

Q&A with Gary L. Edwards

Gary L. Edwards is originally from Jonesborough, Tennessee. He currently lives in Washington, D.C.

Q. What has been your biggest interoperability challenge?

A. Identifying interoperable communication solutions for tribal communities that will enable tribal public safety professionals to quickly and efficiently communicate within the national interoperable communications system.

Q. What do you think is the best interoperability solution?

A. A secure, interoperable, self-healing communications system readily accessible to public safety, first responders, decision makers, and the public for real time. Also, clear and efficient exchange of voice, data, and streaming video information to protect lives and property, preserve evidence, and mitigate economic and environmental distress to communities anywhere in the world.

Q. What prepared you for your current job?

A. The training, philosophy, and work experience gained from working for the United States Secret Service for over 28 years has made a significant impact on my approach and methodology for developing timely solutions to national, local, and international security challenges.

Q. If you weren't doing this type of work, what would you do?

A. I would be doing work that I think would make the United States, my community, and the world a safer place. From the time I was in high school, I knew I wanted to serve and protect my country and its citizens.

IN YOUR OWN WORDS

USE IT OR LOSE IT: Proper Training Leads to Effective Implementation of Interoperable Communications Technologies

By Captain Eddie Reyes

If you are prepared, you will be confident and will do the job.

– Tom Landry, NFL Coaching Legend

On a clear, cold January morning in Washington, D.C., the Presidential Inauguration is about to begin in front of the U.S. Capitol. Federal, state, and local law enforcement officials are in place throughout the region. Federal law enforcement intelligence officials report that a truck driven by two known terrorists has been seen in the National Capitol Region (NCR). A Prince William County police unit in Dumfries, Virginia, makes a visual identification of the truck, and reports it moving North on U.S. Route 1. The county police maintain a visual on the truck until a state police cruiser responds. Meanwhile, dispatch notifies the officers that the truck may be carrying an ammonium nitrate/fuel oil mixture bomb. The truck proceeds toward the Woodrow Wilson Bridge, a major link between Maryland and Virginia. Fire, EMS, and HAZMAT personnel are notified.

While this is only a hypothetical scenario, it still begs the question – are we really prepared? Not just in the NCR area, but across the country. Do our nation's first responders have the ability to communicate across disciplines, agencies, and levels of government during a similar emergency situation?

While the technology for interoperable communications is available and, for most public safety agencies throughout the country, accessible, equipment alone is not the solution. In the real world, ongoing training and exercises are critical to the implementation and maintenance of any successful interoperability solution. Do the officers know how to use the equipment? Are they familiar with the appropriate communications protocol for a multi-agency, multi-jurisdiction response?

Training and Exercises – Getting Started

SAFECOM's Interoperability Continuum identifies five elements that must be addressed to develop a sophisticated interoperability solution. As you might expect, one of the critical elements is "Training and Exercises". The Continuum tracks progress in this area, from the most basic level to the optimal level:

- **General Orientation on Equipment**
Basic user training is on agency-specific equipment
- **Single Agency Tabletop for Key Field and Support Staff**
Structured, agency-specific tabletop exercises promote planning and identifying response gaps
- **Multi-agency Tabletop for Key Field and Support Staff**
Agencies and disciplines from across a region become familiar with communications equipment, capabilities, and response protocol
- **Multi-agency Full Functional Exercises Involving All Staff**
A full-scale exercise involves multiple agencies and disciplines and including all staff who would be involved in an actual emergency response
- **Regular Comprehensive Regional Training and Exercise**
Ongoing, comprehensive, and realistic exercises address region-specific challenges and involve all personnel

Public safety agencies across the country can use the Continuum as a starting point for evaluating their current status in the area of training and exercises, to guide progress moving forward, and to help gauge improvement over time.

The Tabletop Exercise

As demonstrated by the Continuum, one tool that can help assess the level of awareness regarding local/regional communications capabilities and response protocol is a tabletop exercise. A tabletop exercise is a scenario-based working session designed to increase awareness of current local/regional interoperability capabilities and provide a gap analysis which identifies areas where additional training would be beneficial.

In September 2004, SAFECOM's RapidCom initiative teamed with the Department of Homeland Security's Office for State and Local Government Coordination and Preparedness, Office for Domestic Preparedness, Interoperable Communications Technical Assistance Program (ICTAP) and the Department of Justice's (DOJ) Metro25 Project and DOJ's CommTech Program, to facilitate a tabletop exercise with participants and observers from the NCR. Approximately 40 public safety practitioners and 20 observers representing multiple jurisdictions and public safety disciplines participated in the scenario-based exercise, which provided a valuable forum for assessing regional communications interoperability capacity, strengths, and weaknesses. The hypothetical situation described above was part of the scenario used in this tabletop exercise.

The tabletop exercise resulted in a number of valuable "lessons learned," many of which have been implemented in the NCR on a day-to-day basis, as well as in preparation for major events, such as the World War II Memorial Dedication, the 2005 Presidential Inauguration, and National Police Week. Since then, similar exercises and drills have become a frequent occurrence in the region and have made us better prepared to support the next major event.

A methodology for developing and implementing a communications-based tabletop exercise is currently under development and is expected to be released by SAFECOM later this summer.



Technology Does Not Drive Change, It Enables Change

According to the U.S. Department of Homeland Security (DHS), since September 11th, 2001, the Federal government has allocated over \$200 million to specifically address public safety interoperability. Many public safety agencies across the country have used this funding to acquire the latest interoperable communications technology. However, much of this equipment has never been tested and users have never been trained on the equipment's operation.

The leaders in the public safety community must recognize that no matter how advanced, technology is only as good as the training behind it. Interoperable public safety communications will only succeed with the implementation of regular, comprehensive, and realistic training and exercises addressing potential real-life scenarios that are specifically relevant to that region. Our nation's first responders, and our citizens, deserve nothing less.

Captain Eddie Reyes has been a member of the Alexandria, Virginia, Police Department since 1990. His interoperability work is supported by the National Institute of Justice (NIJ), the research, development, and evaluation agency of the U.S. Department of Justice, which is dedicated to researching crime control and justice issues. A member of the SAFECOM Advisory Group, Captain Reyes has worked extensively with NIJ's CommTech Program and the Metropolitan Washington Council of Governments to promote public safety communications interoperability. Most recently, Captain Reyes spearheaded communications interoperability efforts in support of the dedication of the World War II Memorial and the Presidential Inauguration in Washington, D.C. He has been interviewed as an expert on public safety communications and interoperability by numerous media outlets, including NBC Nightly News, American City and County, and Mobile Radio Technology.



PUSHING PROGRESS

The Interoperability Continuum

“Pushing Progress: The Interoperability Continuum” is featured in every issue of Interoperability Today. It showcases the achievements of organizations working to advance interoperability, and demonstrates how these groups are progressing along the elements of the Interoperability Continuum, SAFECOM’s framework for promoting and evaluating interoperability improvements. This issue addresses governance in the Metro Boston Homeland Security Region.

GOVERNANCE: Metro Boston Homeland Security Region

“Now that the Metro Boston Homeland Security Region has a formal governance structure in place, public safety stakeholders feel ready to meet any challenge. The relationships have been built, people know who they need to contact, outcomes have been defined, timelines have been set and everyone is there for a reason. There’s a sense of purpose and camaraderie.”

– David Bibo, Assistant Director
Mayor’s Office of Homeland Security

Governance is the framework under which public safety stakeholders collaborate and make informed, unified decisions to improve wireless interoperability. While establishing such a structure can be challenging, the Metro Boston Homeland Security Region (MBHSR) managed to plan, institute, and progressively enhance an effective framework between 2001 and 2005.

First Step: Boston Interop

Boston’s efforts to improve public safety interoperability began in earnest in the wake of the September 11, 2001, terrorist attacks. Up to that time, the city’s fire, police, and emergency medical services operated radio systems within their respective disciplines.

In late 2001, Mayor Thomas M. Menino brought together police, fire, EMS, emergency management, and city services personnel to create “Boston Interop,” a group charged with developing a strategy to improve the city’s interoperable capabilities. Their first step was to draft and implement a plan that integrated the radio systems of public safety and

city services, allowing them to communicate on a distinct, “interoperability channel.”

Creation of the Metro Boston Homeland Security Region

Boston Interop’s work surged dramatically in early 2003, when Boston was named host city for the 2004 Democratic National Convention (DNC). The impending convention quickly became a catalyst for improving coordination between public safety and government agencies from eastern Massachusetts, specifically, the nine cities and towns in Boston, Brookline Cambridge, Chelsea, Everett, Quincy, Revere, Somerville, and Winthrop – that make up the Metro Boston area. Virtually overnight, the MBHSR was formalized with committees and working groups created to oversee specific functions and areas.

Role of the Regional Homeland Security Council and the Communications Interoperability Subcommittee

In 2003, the Metro Boston Regional Homeland Security Council (RHSC) was created as one of five homeland security regions in the state of Massachusetts. Its governing body comprises “Jurisdiction Points of Contact” (JPOCs), appointed by chief executives from each jurisdiction. They serve as spokespeople for their jurisdictions, oversee interoperability efforts, maintain stakeholder buy-in and, collectively, deliver periodic progress reports to the Statewide Interoperability Committee.

In the summer of 2004, the JPOCs selected representatives from each of their respective jurisdictions to form another level of governance, the Communications Interoperability Sub-Committee (CIS). The CIS includes representation from agencies that hold critical infrastructure and assets, including the Massachusetts Bay Transit Authority (MBTA) and the Massachusetts Port Authority (MASSPORT). Together, the CIS members set policy, conduct planning and evaluation, and manage resources for interoperable communications. They are supported in their efforts by working groups that focus on issue areas such as technology, operations, and training and analysis.

PUSHING PROGRESS

Tips for Implementing and Maintaining an Effective Governance Structure from the Metro Boston Homeland Security Region

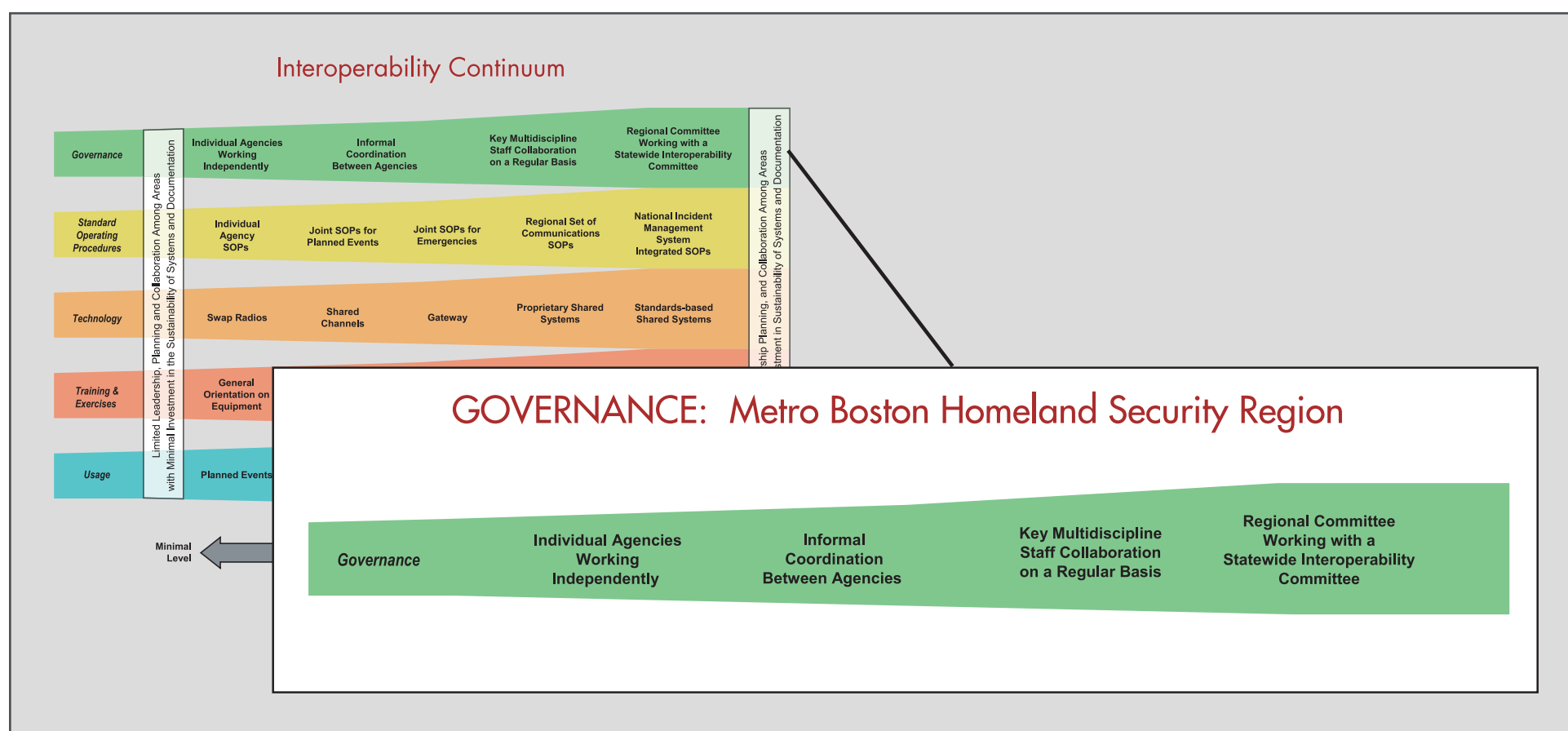
Implementation

- Involve key stakeholders early on in order to benefit from their expertise and innovation.
- Leave rank at the door – all perspectives are important to the success of a governance system.
- Be clear on your purpose, scope, outcomes, and where you derive your authority.
- Accommodate scheduling conflicts – push back a meeting in order to ensure the attendance of a critical stakeholder.

Maintenance

- Keep political leaders, superiors, and partners well informed – avoid surprises.
- Keep field people engaged and aware of on-going interoperable efforts and their role in implementation.
- Solicit assistance for the governance team, even if it means redirecting resources such as re-assigning an administrative staff person.
- Maintain a sense of urgency – keep the goal in sight.

Dave Bibo, Assistant Director, Mayor’s Office of Homeland Security, says the CIS is critical because, “it is important to have stakeholders representing critical infrastructure and assets weigh in on public safety solutions.” He considers the CIS a “major upgrade” to Boston Interop and the governance structure as a whole.



Pushing Progress • continued from page 4

Since the formation of these governing bodies, the MBHSR has focused on bringing their membership together to define their purpose and scope of work. According to David Bibo, the challenge has been getting people to think across disciplines and jurisdictions.

“It has taken many months,” says Bibo. “We needed time for all of the stakeholders to evolve from an individual approach to a collective approach to public safety interoperability.”

Since the fall of 2004, the RHSC and the CIS have met on a regular basis to collaborate on interoperability solutions for the region.

In the second half of 2004, SAFECOM’s RapidCom initiative helped the MBHSR further formalize its governance structure, so that it would be better

poised to leverage ongoing area interoperability improvement efforts, promote future solutions, and bring regional representatives and perspectives into the MBHSR. Throughout this push, the MBHSR sought input from public safety and municipal stakeholders, a move David Bibo says was pivotal to the effort’s success.

“The strength of our governance structure lies in the fact that every stakeholder participated in the process and together defined their purpose and scope of work,” Bibo said. “People feel like they have ownership, and they do!”

Looking Ahead

The CIS is currently developing a five-year strategic plan for improving regionwide interoperability.

David Bibo explains, “We must continue to engage people up and down the ranks and ensure that both leaders and people in the field are aware of and support the interoperability efforts that are being implemented. Otherwise we will lose our sense of urgency and our ability to respond to an incident in an effective and timely manner.”



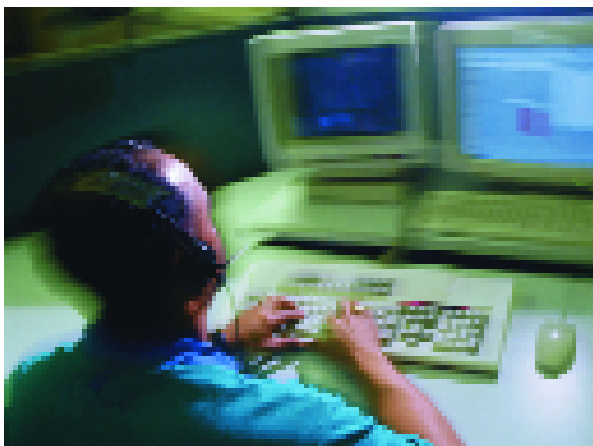
INDUSTRY REPORT

Mile High in 2005: APCO Reaches for New Heights at Annual Conference Tom Ridge To Deliver Keynote at Denver Event



The Association of Public-Safety Communications Officials – International (APCO) will hold its 71st Annual Conference and Exposition from August 21 through 25 in Denver, Colorado.

According to APCO, this event will be the world’s largest gathering of public safety officials, with former Department of Homeland Security (DHS) Secretary Tom Ridge giving the keynote address.



The four-day event is structured as a comprehensive educational forum and will feature a wide variety of presentations on homeland security and public safety communications technology. Presentations are organized under a series of program “tracks” including:

- 9-1-1 Call Taking,
- Dispatch Radio Systems,
- Funding,
- Homeland Security,
- Interoperability,
- Regulatory and Legislative Issues, and
- Technical Interest.

Sessions of particular interest to industry include:

- **SuperSession on 800 MHz Re-banding**
An opportunity to hear updates and insights on the most prominent spectrum issue affecting public safety agencies today.

- **P25 Manufacturer’s Panel Discussion**
An open session featuring panelists representing P25 equipment and systems manufacturers assembled to answer questions and address concerns.
- **VoIP E9-1-1 Case Study**
A discussion of the challenges associated with VoIP E9-1-1 delivery, a synopsis of how these challenge were successfully addressed in Rhode Island, and an overview of valuable insights for anyone interested in integrating E9-1-1 delivery into their VoIP offering.
- **Project MESA, The International Wireless Vision of The Future**
An in-depth review of Project MESA, an international effort to identify and create common specifications and, eventually, standards for the next generation of public protection and public safety wireless, high-speed, digital data transmission



systems. The presentation will focus on key technology areas that are embodied in the Project MESA process.

Presenters include representatives from Motorola, M/A Com, and EF Johnson, as well as public safety and government officials from around the world. Hundreds of exhibitors will be on hand to demonstrate the latest in public safety communications technology. For more information or to register as an attendee or exhibitor, visit www.apco2005.org.



UPCOMING

Events & Conferences

This listing includes information about upcoming events and conferences pertaining to interoperability.

International Association of Fire Chiefs Fire-Rescue International (IAFC FRI)

August 11–14, 2005
Denver, CO

Association of Public-Safety Communications Officials (APCO) Annual Conference

August 21–25, 2005
Denver, CO

International Association of Chiefs of Police (IACP): Law Enforcement Education & Technology Expo

September 24–27, 2005
Miami, FL

Technologies for Critical Incident Preparedness Conference & Expo

October 31–November 2, 2005
San Diego, CA



The U.S. Department of Homeland Security's Science and Technology Directorate serves as the primary research and development arm of the Department, utilizing our nation's scientific and technological resources to provide federal, state, and local officials with the technology and capabilities to protect the homeland. Created by the Department of Homeland Security (DHS), the Office for Interoperability and Compatibility (OIC) oversees the vast range of public safety interoperability programs and related efforts throughout DHS. Priority areas include Communications (through the SAFECOM Program), Equipment, and Training.



**Homeland
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