



# Interoperability TECHNOLOGY Today

A Resource For the Emergency Response Community



Summer 2011

## GODAWGS: Leader of the (Info-Sharing) Pack

In the past, Georgia was not able to provide its emergency responders with the comprehensive view of the State's emergency information and the resources necessary to best respond to disasters. This critical need, coupled with the hard work and dedication of Georgia's response community, led to the development of the Georgia Online Disaster Awareness Geospatial System (GODAWGS), a Web-based geospatial visualization tool which significantly improved the State's ability to coordinate and respond to major incidents.

"We knew that we had a gap," said Dan Stowers, the Planning Director for the Georgia Emergency Management Agency (GEMA). "We knew we didn't have a tool that did what we needed it to do." Like many states do during a disaster, Georgia tried to extract vital information from sometimes even hundreds of independent and disparate sources including National Weather Service feeds, current road closure information sites, flood gauges, and shelter databases, among others. "The State had piloted expensive and complicated systems that didn't provide the flexibility our responders needed," Stowers continued.

### Participation Yields Results

Georgia's recent participation in the U.S. Department of Homeland Security's (DHS) Virtual USA (vUSA) initiative exposed the State's emergency response leaders to other statewide information-sharing systems and experiences: Virginia's system, the Virginia Interoperability Picture for Emergency Response (VIPER) in particular, made an impact—inspiring Georgia to put a plan in place. "We tailored the positive strides made by other states to specifically address Georgia's information-sharing needs," Stowers said.

Georgia's GODAWGS is compatible with GIS (geographic information system)-based tools in use by most state agencies. Ultimately, when all information feeds are brought into GODAWGS and are combined with the static GIS data layers GEMA currently has or will build, the agency's ability to coordinate disaster responses will be significantly improved.

The willingness to share information is only half the battle when it comes to effective emergency response collaboration and coordination, as Stowers and Georgia are well aware. Georgia's participation in vUSA has shown that challenges exist when operators cannot clearly define what information they want, and technical experts cannot find compatible platforms

to display all the necessary data. vUSA—housed within the DHS Science and Technology Directorate's First Responders Group—enables information sharing across jurisdictional boundaries through existing and emerging technologies. As Stowers explained, "The greatest benefit from our participation in vUSA is that we are able to observe how other jurisdictions are solving these problems and capitalize on best practices."

For other states interested in developing or refining their information-sharing systems, Stowers offered a key suggestion: Get involved in vUSA. "See what neighboring states or states in other regions are doing. No one system will ever be a one-size-fits-all answer to solve every state's problems. But by getting involved, we learned a significant amount of information from the Commonwealth of Virginia through the work they did with VIPER. This prevented us re-inventing the wheel in many areas and has allowed us to accentuate the positive features they developed," he said. Stowers added that Georgia also benefitted from best practices shared by Alabama, Florida, Louisiana, and Texas.

Relationship building is another critical component to Georgia's success; the State is working closely with its counterparts in Federal Emergency Management Agency Region IV, especially Florida and Alabama, which have similar platforms to GODAWGS. "The personal relationships we have established with the folks in these states allow us to freely exchange ideas and lessons learned, which ultimately help us protect the citizens of Georgia," Stowers said.

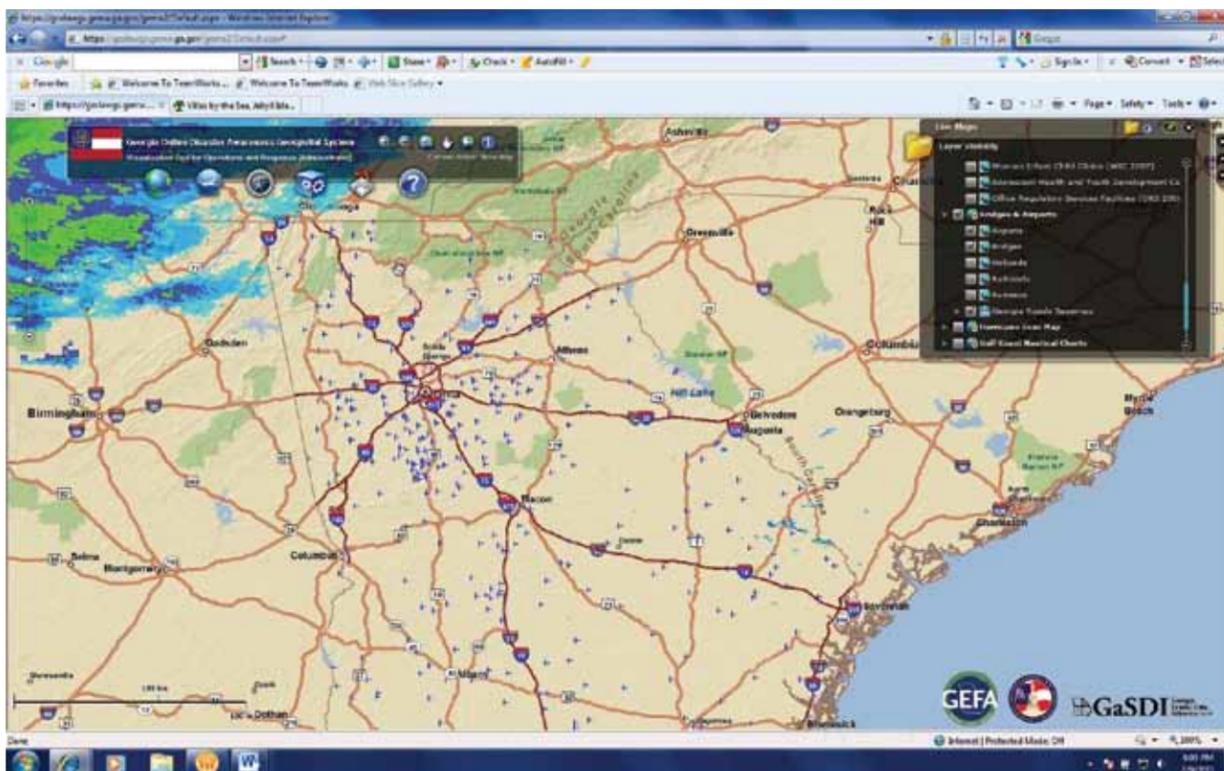
In addition, Stowers advised states not to be discouraged by a potential lack of funding for these types of efforts. "Most states will initially say, 'We don't have the resources for this,' but when you really go into the nuts and bolts and resources available within each discipline, the resources really do come together." That was a key lesson for Georgia: Acquiring the data was actually more challenging than acquiring the funding. **Continued, see "GODAWGS" page 3**

## What's in a Name?

The name GODAWGS was suggested by GEMA partners at the University of Georgia's Carl Vinson Institute of Government Office of Information Technology Outreach Services. Stowers said that it seemed fitting to name the System GODAWGS as a friendly competition with a counterpart in Florida that developed a similar system called SERT-GATOR. "Anyone that follows college football knows that the University of Georgia Bulldogs and the University of Florida Gators have a long-standing rivalry that extends far beyond the annual football game," Stowers said. In this case, though, Georgia has no rivalry with Florida Emergency Management, just a deep respect and a cooperative partnership to develop common operating platforms that help to protect lives and property.

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## About Interoperability TECHNOLOGY Today

**Interoperability Technology Today** is published by the Science and Technology Directorate's First Responders Group (FRG) 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. FRG interoperability programs address both data and voice interoperability.

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

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

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## UPCOMING EVENTS

### Events & Conferences

**IACP LEIM Conference**

San Diego, CA  
June 13 - 15

**National Sheriff's Association Conference**

St. Louis, MO  
June 18 - 21

**ESRI Annual Conference**

San Diego, CA  
July 11 - 15

**APCO**

Philadelphia, PA  
August 7 - 12

**NEMA Conference**

Des Moines, IA  
August 12 - 16

**TCIP Conference**

Washington, D.C. area  
August 3 - Sept 1



### DIRECTOR'S MESSAGE

By Bob Griffin

Having served in a variety of fire/rescue and emergency management roles in both Arlington and Loudon counties in Virginia, I am proud to bring my local "on the ground" experience to my role as the Director of the new First Responders Group (FRG) in the U.S. Department of Homeland Security's (DHS) Science and Technology (S&T) Directorate. I am honored to continue the outstanding work initiated by Dr. David Boyd, whose expertise in interoperability and information sharing helped shape national policy—significantly improving how emergency responders receive and share information today.

The FRG was created as part of Under Secretary Tara O'Toole's reorganization of S&T in late 2010, with the distinct goal of strengthening Homeland Security Enterprise and first responder capabilities to protect the homeland and respond to disasters. An initiative of the S&T Strategic Plan, the FRG will work to increase S&T's understanding of first responders and take on the responsibility of working to meet responder research and science needs. This will be done through the FRG's three distinct entities: the Office for Interoperability and Compatibility, the First Responder Technologies, and the National Urban Security Technology Laboratory.

As the new Director, I believe that true success will come through working together with you—the first response community and partners—to identify requirements and accelerate the successful delivery of useful products to the field. Given reduced budgets and an increasing demand for services, the challenges we face are great. Therefore, it is important that we work together to address the key issues that have prevented us from achieving the progress we would ultimately like to reach. I aim to address these issues head on, regardless of how difficult or complex they may seem.

Of top priority to me is addressing the challenge of reducing technological barriers to data sharing. It is all about creating the "pipes" through which data will flow and complementary systems will be integrated - not a sexy undertaking, but one critical to making any system successful. The FRG is currently working with practitioners and stakeholders from across the Nation on information-sharing initiatives to help solve these problems. Virtual USA, the Unified Incident Command and Decision Support system, the Next generation Incident Command System, and other complementary information-sharing systems are currently in development. The FRG is also working with the DHS Office of the Chief Information Officer to form critical partnerships that can help these systems become easily integrated with future generations of DHS infrastructure, such as the Homeland Security Information Network. This will allow for data sharing that is seamless and invisible to the end user, and is based upon an identity management approach.

I believe that if we're going to maximize the investments of our Nation's first response agencies at every level, it is critical that we continue to embrace and apply the mentality that one size does not, in fact, fit all when it comes to effective data sharing. The FRG's initiatives embrace the philosophy that information starts at all levels of government, and therefore entities should retain ownership of their data and be able to decide when and with whom they will share that information. This model allows for entities to maximize investments they have made in existing systems while ensuring data is refreshed and up to date. The FRG will continue to support the movement away from the concept that a single system alone is going to meet the needs of every agency or jurisdiction, but instead successful data sharing will come through a balance of relationships, technology, and governance.

In my eyes, enabling successful coordination through improved information sharing, and providing for increased operational capability through new technologies, will help bring a more robust national response and recover capacity. The FRG is increasing first responder access to information on best practices and standards while creating high-impact technologies and knowledge products that facilitate the safety, effectiveness, and ease with which first responders do their work.

Important challenges still face us, and I ask for your partnership and participation in conquering these challenges. Once these new information-sharing systems are in place, new challenges will surely arise. For example, how do we make sense of the large quantities of newly-available data? How will sharing data in real time force changes in operations? How do we create systems that are flexible enough, yet also secure enough, to allow propriety data to be shared by non-governmental organizations and the private sector during a disaster?

I look forward to tackling these critical issues with you while also celebrating our successful steps toward making our Nation a safer place.

## R-Tech Tackles Top-Priority Needs

The ability for first responders to communicate their needs and participate in the testing and evaluation of new solutions is critical to the success and safety of the responders themselves, as well as the citizens they serve every day.

The First Responder Technologies (R-Tech) program, within the Science and Technology Directorate's First Responders Group, aims to protect America against terrorism and all hazards by identifying the highest-priority needs, finding solutions, and putting these solutions directly in the hands of America's first responders—including fire, emergency medical services, law enforcement, explosives ordnance, HAZMAT, and search-and-rescue workers.

R-Tech does this through three key initiatives: the First Responder Communities of Practice platform, the TechSolutions program, and regional information-sharing pilots.

The First Responder Communities of Practice Web site (<https://communities.firstresponder.gov>) is a secure networking platform where first responders and other homeland security professionals can discuss common interests and address important issues. Vetted members of the site join and create communities focused on issues and topics of interest, network with peers from across the Nation, collaborate on policies and procedures, share information, and exchange success stories.

R-Tech's TechSolutions program works to identify and prototype the highest-priority technologies that will deliver a solution to first responders in 12 to 15 months at a reasonable cost. The priorities are identified through communication directly with the first response community through R-Tech's First Responder Communities of Practice and FirstResponder.gov Web sites.

In partnership with local, tribal, state, and Federal agencies, as well as the vendor community, R-Tech supports regional pilot programs to develop a technical system and operational guidelines for sharing incident response information through existing systems and geospatial platforms. The pilot programs are focused on deploying this capability within the homeland security and emergency management communities.

For more information about the R-Tech programs, visit [www.firstresponder.gov](http://www.firstresponder.gov).

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## Big-Time T&E in the Big Apple

Nestled in the heart of the West Village in New York City lies the National Urban Security Technology Laboratory (NUSTL), whose mission is to test, evaluate, and analyze homeland security capabilities. Specifically, NUSTL serves as a Federal technical authority promoting the successful development and integration of homeland security technologies into operational end-user environments. A component of the U.S. Department of Homeland Security (DHS) Science and Technology Directorate's First Responders Group, NUSTL leverages its strategic location in New York City to serve tri-state first responders, as well as the homeland security community nationwide.

Adam Hutter, the Director of NUSTL, says that partnerships are key to the success of the Lab's efforts. He counts "becoming trusted partners with state and local emergency response agencies in New York City" as one of NUSTL's most significant accomplishments. And he is speaking about a broad partner base—including several DHS components, the Port Authority of New York and New Jersey, the New York Police Department, and the Brookhaven and Lawrence Livermore National Laboratories, among others.

NUSTL's staff of 33 employees are responsible for field and lab-based services, including developmental and operational testing and evaluation (T&E); data collection campaigns; demonstrations and pilots; assessments with end-user groups; and independent verification and validation. NUSTL's team, comprised of both scientists and engineers, provides what Hutter refers to as "the local Federal perspective." Since its establishment in the 1940s, the Lab has performed myriad critical functions in support of securing America's cities.

Hutter adds that NUSTL's greatest—and most exciting—challenge is the continued "maturation of the Lab as a T&E Lab," which includes transforming NUSTL from a Lab focused primarily on research and development to T&E. As Hutter explains, there will be cultural challenges throughout this transition such as re-training staff and having the team embrace the new mission.

From bridging the gaps between responders and developers to planning and executing pilots and demonstrations using New York City as an urban test bed, NUSTL looks forward to another 60 years of "Service Through Science."

## OIC Joins Forces with First Response Community to Alert and Warn the Public Using Social Media

Gunman on the loose near Federal building. Avoid neighborhood. Police on the scene. Twitter alerts like this from the District of Columbia Police Department may soon draw more attention than status updates from friends and acquaintances. Yet when one hears the term "social media," they may not immediately think of criminal activity, natural disasters, terrorist attacks, flu epidemics, or other emergency situations. The term social media may elicit thoughts of Facebook friend requests, YouTube videos, Twitter celebrity updates, and instant-messenger conversations. But social networking services are not only outlets for communicating about users' upcoming weekend plans or a recent vacation: they are crucial channels for alerting and warning the public.

The U.S. Department of Homeland Security's (DHS) Office for Interoperability and Compatibility (OIC), housed within the Science and Technology Directorate's First Responders Group, is transforming how the emergency management community incorporates social media into their alerts and warnings protocol.

In support of this effort, OIC engaged approximately 100 members of the first responder community nationwide. Based on their input, OIC is developing and will soon publish guidance pertaining to:

- Usage: detailing how, why, and when practitioners use social media to disseminate alerts and warnings
- Community Awareness: describing how citizen situational awareness is developed, sustained, and changed following an alert or warning via social media
- Governance: for developing a common governing structure for integrating social media
- Resources: for how to coordinate with appropriate information technology resources, platforms, and tools to meet the technical and functional requirements
- Partnerships: detailing coordination with neighboring jurisdictions and relationships with commercial representatives

Further, OIC engaged academia at DHS' Centers of Excellence at Rutgers University, Rensselaer Polytechnic Institute, and the University of Southern California to conduct behavior and analysis research for social media use during emergencies. Additionally, the Johns Hopkins University Applied Physics Laboratory is developing software for a prototype technology that converts Common Alerting Protocol messages to forms easily disseminated via social media channels.

OIC's work in this area is enabling the first responder community to share best practices on how to better use social media as a public alert and warning channel and creating a forum for continued discussion.

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### "GODAWGS" continued

Stowers advised those starting development of statewide information-sharing systems: "You are just asking for information from many different groups. Have your plan in place, identify your stakeholders, and know what it is that you want to do. When you are able to build some kind of platform for the data, you will be that much farther along in the planning process."

### Opportunities and Benefits

GODAWGS and the vUSA information-sharing Prototype allow all entities with decision-making responsibilities access to current situational information for proper analysis and effective resource placement and management. The Prototype provides emergency responders with the ability to decide what information to share, how to share, how long to share, and with whom to share. GEMA—the facilitators of GODAWGS—relies on the hundreds of organizations that bring information together to the common operating picture. "We don't store, create, or maintain the data," Stowers said. "We just consume it and put it in one central location." In addition to the excellent response GODAWGS has received from the user community, Stowers finds it personally rewarding to see the system used in actual emergency response scenarios. Recently, Georgia experienced a suspected hazardous material leak. "We were able to use some of the features in GODAWGS to quickly identify schools and other vulnerable entity HUBZones within seconds."

Stowers—along with Georgia's response community—looks forward to future success stories of GODAWGS' use to better coordinate efforts in support of a safer Georgia.

# Identifying Solutions in an Evolving Video Environment

When first responders use video to increase their situational awareness of an incident, a clear and accurate image makes a huge difference in enabling a quicker, more effective response. Video applications are emerging as essential components for seamless communications among first responders. Responders need to make more informed purchasing decisions on video systems to best meet their operational needs. As video technology evolves, so have the array of purchasing options, which has led to an increasingly complex procurement environment for first responders. Furthermore, there is a growing divide between those who actually use video systems and those who manufacture them. This gap in communication has created numerous challenges for agencies and organizations planning to purchase video equipment.

To strengthen communications and information sharing between responders and manufacturers, the U.S. Department of Homeland Security's Office for Interoperability and Compatibility (OIC), in partnership with the U.S. Department of Commerce Public Safety Communications Research (PSCR) program, formed the Video Quality in Public Safety (VQiPS) Working Group in 2008. The VQiPS Working Group provides a forum in which a diverse range of stakeholders can educate each other about their work, discuss common challenges, identify best practices, and collaborate on future video solutions. The Working Group builds the capacity of users who can make informed technology investments and practical decisions to help keep the Nation's communities safe and protected. The Working Group strives to provide clarity and direction in an ever more complex environment. By providing response agencies with the right resources, tools, and information, the Working Group will empower responders to purchase and employ video technology in mission-critical environments.

## Ensuring a Practitioner-Driven Approach

Since 2009, OIC and PSCR have hosted three VQiPS Workshops to provide stakeholders with the opportunity to develop tools and resources that will enable greater clarification of video quality. Last year, members of the VQiPS Working Group convened in Boulder, Colorado to review and upgrade an initial draft of the VQiPS Video Quality User Guide. The VQiPS Project developed this guide in response to responders' requests for access to easily understandable information about common practices, technical guidelines, specifications, and standards related to core video systems. In an effort to provide responders with tangible

resources, the VQiPS Video Quality User Guide helps agencies clearly describe their video quality needs and provides basic guidance for the selection of key video system components. To ensure a truly practitioner-driven approach, all members of the Working Group provided input and feedback on the content and design of the document, resulting in an updated VQiPS Video Quality User Guide that includes their insights and upgrades.

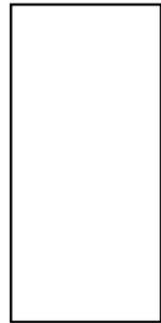
## Bringing Stakeholder Voices Together

This year, the VQiPS Working Group hosted the fourth VQiPS Workshop in Boulder, Colorado on February 16-18, 2011. The Workshop brought together more than 60 participants to discuss ways to improve how video technologies serve the homeland security enterprise. The Workshop allowed responders from local and state levels, representatives from academia and non-profit entities, Federal partners, and manufacturers to coordinate their efforts in defining video quality requirements. The Working Group also reviewed a draft version of a Web tool that complements the VQiPS Video Quality User Guide. The Web tool will be an interactive resource to help users better define and articulate their needs—ultimately enabling users to make more informed decisions when selecting video systems and components. During the Workshop, participants used the tool and provided feedback to the Web tool design team. The feedback gathered will ensure that the tool contains the information and features that users need.

Over the course of the Workshop, participants heard progress reports on the activities and accomplishments of the Working Group. To further increase information sharing, the Workshop also convened seminars to give panelists an opportunity to present snapshots of their daily operations from three different perspectives: first responders, operations centers, and transportation and critical infrastructure. These unique perspectives shed light on the wide and varied use of video technologies throughout the user community.

## Looking Ahead

To ensure the continued momentum of the Working Group, the participants discussed future scenarios using video applications in the homeland security enterprise. As the VQiPS Project evolves, the Working Group will continue to look for ways to educate consumers and provide resources to help the community define and articulate their video technology needs.



Science and Technology Directorate's  
First Responders Group  
U.S. Department of Homeland Security  
Washington, DC 20528

The image shows the cover of a report titled "Interoperability Technology Today: A Resource For the Emergency Response Community". The cover features the Department of Homeland Security logo and the text "Science and Technology". The title "Interoperability Technology Today" is prominently displayed in a large, stylized font. Below the title, there is a list of key features and topics covered in the report, including "GODAWGS: Leader of the (Info-Sharing) Pack", "R-Tech Tackles Top-Priority Needs", "OIC Joins Forces with First Response Community to Alert and Warn the Public Using Social Media", "Big-Time T&E in the Big Apple", and "Identifying Solutions in an Evolving Video Environment". The cover also mentions "Summer edition 2011" and "This edition features...". A red-bordered box at the bottom right contains a note: "Please note that, moving forward, all Interoperability Technology Today articles will only be available online. Please visit [www.FirstResponder.gov](http://www.FirstResponder.gov) to register and to view the latest emergency response-related news. FirstResponder.gov provides local, state, tribal, and Federal first responders with easy access to Federal Web services, as well as information on resources, products, standards, testing and evaluation, and best practices—all within a collaborative environment."

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