



*The Post Election Landscape for Public Safety Communications:  
2007 Predictions and Recommendations*

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STEVEN JONES: I'm going to go ahead and begin. Hi, good afternoon. My name is Steven Jones. I'm the executive director of the First Response Coalition. Thanks to everybody for being here today.

For those of you not familiar with the First Response Coalition, the FRC is a 501(c)(3) nonprofit organization consisting of both first responders and concerned members of the community. The FRC works to promote the needs of America's first responders in the areas of communications interoperability and data and information preparedness.

As recent tragedies have reminded us, first responders too often lack the basic ability to communicate with each other during emergencies. In addition, first responders are rarely equipped with the advanced technologies they need to access critical information which would allow them to make a more – a safer and more effective emergency response.

The FRC strives to ensure that decision makers at all levels of government attach a high priority to public safety issues such as access to broadband and advanced communications technologies and is committed to ensuring that first responders are provided with the resources they need to better protect our communities.

The purpose of today's event is to talk about what specific goals can be achieved in 2007, and the ways in which public safety, government and industry can all work together in the coming year to improve emergency communications. We are very fortunate to have a number of experts with us here today to talk about the communications challenges that first responders face and to share with us their valuable insights.

Following the roundtable discussion, we're going to be serving light refreshments next door and invite you to take that opportunity to interact not only with the panel, but also with others in attendance here today.

Before we delve into 2007, I think it would be a good idea to just briefly review some of the progress that was made on emergency communications interoperability during 2006. Most significantly, in 2006 the 109th Congress passed and the president approved or signed into law legislation that set a firm date for making additional spectrum available to public safety. As part of the transition to digital television, 24 megahertz of spectrum will be allocated for the exclusive use of public safety when broadcasters vacate those parts of the 700 megahertz spectrum they currently occupy. While the 24 megahertz of spectrum may not be available until as late as 2008, that which will be freed up will effectively double the amount of public safety spectrum in the 700 megahertz band.

The impact for first responders will be significant. The new public safety spectrum will be available to increase capacity where no additional spectrum is currently available, and the added capacity could enable first responders to expand

communications capabilities to data and other wideband applications. Moreover, as part of the DTV transition, a \$1 billion grant fund will be established for public safety interoperable communications from the sale of spectrum slated for commercial use.

Arguably the transition to DTV represents the most significant development in first responder communications during 2006, but a number of other important developments are worth mentioning as well. When Congress passed the fiscal year '07 DHS Appropriations Act, they included in it language from Congressman Dave Reichert's 21st Century Emergency Communications Act. Although that act dedicates no funds exclusively for communications interoperability, it does establish an Office of Emergency Communications within the Department of Homeland Security to address first responder communications issues. The legislation directs the new office to, among other things, develop a national emergency communications plan to ensure that first responders and government officials can better communicate during emergencies, and it also directs the office to establish a timeframe for deploying nationwide emergency communications systems.

And at the FCC, the Public Safety and Homeland Security Bureau was established, consolidating into one department a number of competing and redundant programs concerned with first responder communications. The new bureau will be responsible for all FCC activities pertaining to public safety, homeland and national security, emergency management, and related issues.

Although progress has been made, obviously much more work remains to be done. For example, the Department of Homeland Security has yet to complete its national interoperability baseline survey, a stock-take of the nation's communications capabilities. It's distressing to think that over five years after September 11, we still don't have a clear picture of what our nation's communications capabilities are. And the recent announcement that DHS would like to ensure that first responders in major cities are interoperable by the end of 2007 and that all states have interoperability by the end of 2008, while laudable, has yet to be supported with specifics. It remains unclear what level of interoperability DHS is seeking by those dates or how the attainment of these very worthwhile goals will be supported by the federal government.

And so, as you can see, we have much to talk about today -- much more, in fact, than we can cover in an hour. But again, we are very lucky to have with us a number of experts who can cut right to the issues and illuminate for us what specific goals they think can be achieved in 2007 to improve emergency communications.

They are, in alphabetical order: Robert Crouch, assistant to Virginia Governor Tim Kaine for commonwealth preparedness. He is responsible for coordinating commonwealth strategy and initiatives related to all-hazards preparedness. Mr. Crouch is here today also representing the All-Hazards Consortium, a 501(c)3 nonprofit organization of regional state governments, universities and industry, developed to support homeland security and emergency management efforts.

Tony Frater, deputy director of the Department of Homeland Security's Office for Interoperability and Compatibility. The OIC is assisting in the coordination of interoperability efforts across the DHS, and OIC programs and initiatives address interoperability and compatibility issues.

David Furth, who is the associate bureau chief at the FCC's newly created Public Safety and Homeland Security Bureau. As mentioned, the bureau is responsible for all FCC activities pertaining to public safety, homeland and national security, emergency management and related issues.

To my immediate left, Jenny Hansen, who is the next-generation E911 coordinator with the U.S. Department of Transportation. Jenny is in her 26th year in the field of public safety and has been involved in many public safety issues, including efforts with local, state, federal and tribal agencies around the country.

Christine Kurth, I don't believe has made it here yet. I don't see her. No? Nonetheless, she is the deputy staff director at the Senate Commerce Committee. She's responsible for coordinating the legislative work at the committee, where she focuses on communications policy. She was heavily involved in drafting the DTV transition -- I'm sorry, DTV legislation and also the Senate communications bill.

To my right, Robert Strayer is counsel to the Senate Committee on Homeland Security and Government Affairs. He handles first responder interoperable communications issues for Senator Susan Collins from Maine. Rob also participated in the committee's investigation of the response to Hurricane Katrina.

And to my far right, Tom Tolman, who is the program manager and principal investigator of Public Safety Communications at the National Law Enforcement and Corrections Technology Center in Denver, Colorado. Tom has over 30 years combined managerial and technical expertise in all aspects of 911 public safety radio communication systems and operations. He has authored several popular reports on public safety communications and is the recipient of the APCO International Presidential Award and the National Institute of Justice National Law Enforcement and Corrections Technology Award for outstanding contributions in the field of public safety communications.

We are incredibly lucky to have you all here today, and I thank you again for your time. Thanks so much.

If anyone in the audience would like additional information about these individuals, we've made their comprehensive bios available on the back table.

So without any further ado, I'd like to go on ahead and get right into this. I would like to ask each panelist to, within three minutes, summarize what they think are the three most important points of first responder communications going into 2007.

Mr. Crouch, as we'll be doing this in alphabetical order, I would ask that you be the first to honor us with an introduction and your insights. And I'd remind you to please speak clearly into the mike. This is being transcribed.

MR. CROUCH: Thank you very much, Steve. It's a pleasure to be with my fellow panelists this afternoon, as well as this audience.

My office, the Office of Commonwealth Preparedness within the governor's office, is responsible for interoperability coordination within the commonwealth of Virginia. We have identified three issues that we think need attention in the coming year.

One is coordination. We like to use the term "we need interoperability within our interoperability." Virginia was recently recognized by the National Governors Association as having developed a best-practice governance model. Our commonwealth interoperability strategic plan initially adopted three years ago has been used as a model for other states by DHS. And so we think that we have some things to offer our colleagues throughout the nation in that regard in terms of governance, but clearly from the local level to the federal level, that coordination, among agencies and among levels of government and with the private sector, is an area that needs increased coordination and attention.

Secondly, funding. We know that local and state agencies in particular are very dependent upon federal sources of funding, especially in terms of building out interoperability, both voice and data. And clarification of some of those issues, as DHS and Congress continue to wrestle with DHS funding sources and funding avenues, is important. We would suggest more dedicated funds strictly for interoperability purposes, and certainly a very strong linkage with the first responders, stakeholders in determining the best method for getting those out to the states and localities.

And finally, spectrum, which is a very topical issue right now. And it's our view, as with many in our state Interoperability Executive Committee, which is made up of an array of stakeholders that advises our work at the state level, is recommended expansion of this for the public safety sector.

Thank you.

MR. JONES: Thank you.

Would you like to go on ahead and take a stab at it, Tony? Three minutes? Can you do it in three minutes? Three most important points about first responder communications in 2007, please.

MR. FRATER: Sure. Thanks again, Steve, for setting up this opportunity to come here and speak. It's a -- obviously it's a really important topic.

Three minutes, three subjects. I would say the three things that I think are going to be very interesting -- two from the first responder's perspective: statewide planning and the maturity of P25 standards, and finally the baseline, which will be useful both to first responders and I think to public officials and public policy makers.

Statewide planning, as many of you know, was a requirement as part of last year's homeland security agreement policy program, and it asked that states develop statewide plans by the end of 2007. And so the emphasis there is on the statewide plan, much like Virginia's, not just a state plan. And so it needs to be -- incorporate all of the relevant stakeholders from within the state.

SAFECOM has been working very closely with a working group of first responders. We worked previously in the state of Virginia -- we're proud of that -- and learned a lot about statewide planning. And so we put together a group of practitioners to develop what criteria should be part of a statewide plan. And that should be published before the end of the year.

And so to help states put together statewide plans, we're going to work with our partners at Grants and Training to provide tools, templates and some technical assistance to help states and the localities in the states achieve those goals. And we're also working with NGA to hold a workshop in the spring to help states who are still working on it.

As I mentioned, the maturity of P25 -- it's been a dream for a long time, and it's slowly, slowly starting to become reality. As I think some of you are starting to see increasingly -- equipment on the market that's marketed as P25 compliant or P25-plus. And as many of you know, the standards aren't done yet, and so as a result, we're working with partners at NIST to develop a certification process so that -- a self-certification process so that manufacturers can go through a self-certification process with their equipment with first responders, emergency responders, present, just to validate that the process was followed and is valid. And so that should bring some relief to folks who are procuring equipment.

And lastly, as Steve mentioned, the national baseline is just about ready. It's going to be a phenomenal tool for first responders, both as a way of looking at -- they can take a self-assessment and look at where they are compared to the rest of the nation. So that will be very informative. But I think it will be equally informative to the policy officials who are trying to understand the capacity for interoperability across the nation. And we've got a wealth of data. We're really -- we were very, very overwhelmed by the response rate that we got. And thank you to everybody in the associations that helped get the word out. We really got a great response. It's the largest interoperability survey ever of this population.

For those of you who are familiar with the continuum, it answers questions based on the continuum -- and so follows governance, technology, usage, SOPs and training exercises -- and builds the concept of interoperability around those elements of interoperability. And so that should be released very, very soon.

That's – those are, I think, three big ones.

MR. JONES: Wonderful. Thanks so much. I appreciate it.

Mr. Furth?

MR. FURTH: Thank you, Steve.

I'm very happy to be here on behalf of the commission and the Public Safety and Homeland Security Bureau. As Steve mentioned, the bureau was established in September of this year. I think it's important to emphasize, though, that the commission even prior to the creation of the bureau has been involved in public safety issues -- very deeply involved in public safety issues for quite a lot longer.

The significance of the bureau is that it brings into one -- essentially under one umbrella within the commission all of the activities that the commission has historically been involved with that involve public safety, and it's really allowed us to bring new focus and new energy to tackling the issues that we all have to deal with.

In terms of three points, I think what I would point to would be maybe three areas that the bureau is going to be focusing on in the coming year; not just specific policy issues but more generally the way in which the bureau wants to work with others in the public safety community. One key component of that is in fact outreach -- it's working with other agencies at the state and local level, at the federal level, really throughout the public safety community; also working with commercial providers, equipment providers -- everybody who's involved in the delivery of public safety services, whether it's on the first responder side, dealing with interoperability issues, or on the consumer side, dealing with E911 and emergency alerts. The commission has responsibility for both. So outreach to the public safety community and working with other agencies that are involved in tackling these issues.

The second is the technical expertise that the commission can bring to bear on a number of issues. We have a lot of technical expertise within the agency. We do a great deal of work with respect to looking at networks and reliability issues, collecting data so that we can better evaluate how to respond to crises. We all learned the hard way from Hurricane Katrina that there was still -- there's still a great deal of work to be done in that area, so we're looking to improve on the efforts the commission has previously made in areas such as network reliability.

And then finally, the bureau brings to bear a focus on all the policy issues that the commission's going to have to deal with in the public safety area, and we're drawing on expertise that's been in other bureaus. I personally came from the wireless bureau. I've dealt with spectrum issues for a long time. We've had other people who came from wireline, from media, from our Office of Engineering and Technology. So we've really brought together a first-class group to deal with policy issues. And there, of course, the

list is a fairly lengthy list. We are looking at E911; we're looking at emergency alert; implementing some of the mandates of the WARN Act. There are clearly a number of spectrum issues on our plate, as Steve has alluded to. We have the report from the Katrina panel, and we're -- the commission's going to be looking at implementing and studying the recommendations that came out of that report.

So we have a very full plate. And I didn't bring my crystal ball. I'm not going to make predictions here, but I can tell you that the next year is going to be, I think, a very big public safety year at the commission. We've got a lot of work on our plates, and we've hit the ground running in terms of trying to get ahead of it.

MR. JONES: That's great. Thanks so much. I appreciate it.

Jenny Hansen.

MS. HANSEN: Thanks, Steven. Thanks for the opportunity to speak. I'm going to try to get out of my "calling all cars" monotone dispatcher voice and speak up a little bit.

I'm Jenny Hansen. I'm the project coordinator for next-generation 911 project at USDOT. There are handouts on the front table describing the connection between USDOT and public safety, let alone enhanced 911. But an overview of the project that we're working on: It's a two-year effort that was -- the award was given, actually, yesterday to the team represented by Booz-Allen Hamilton, and some of those members are represented here today. And there are three milestones for this project, and on a pretty aggressive schedule. So our crystal ball comes by way of a deliverable schedule that we will keep this team on task.

The first one is to develop a national architecture and IP platform for 911 call routing. And this is in I3 and beyond, in that particular sense, and there's nothing today that's providing that level of service in an IP format. We're bringing together public and private groups at the drawing board, if you will, by way of developing the technology along with public safety and the scientists at the drawing board as they move into the future.

The second milestone is to develop and build a proof of concept and demonstrate it successfully. Now as this is a research and development project at USDOT, it could be demonstrated in a laboratory somewhere, but for all intents and purposes, we really want to put something on the ground and prove it successful. I equate this often to the federal government drawing the picture on the jigsaw puzzle box to show what can work and how it looks with respect to when this is all over. The millions of dollars that local and state government are putting into their infrastructures -- here's where we're headed.

The third aspect or milestone of this project is equally important, and it's to develop a migration plan for existing 911 centers to be able to "plug and play" into this architecture, if you will. This will help them in a number of ways, by articulating what

they need to the respective city and county commissions by way of equipment -- how many T1 lines, for example -- and ultimately what their bottom line would be to be able to participate in that infrastructure.

With that said, the three things that I would dovetail on a number of these items that the gentlemen have provided earlier is that collaborative effort. My first year working on this project has been really a U.S. tour with public and private agencies identifying, one, the work that's been done already so that we don't have to reinvent any wheels as we move forward into the future with this technology; but, two, to start brokering meetings and create partnerships that have never been done before. And that's especially true among private and public stakeholders -- with the industry, with the IP providers, for example, and public safety communities and federal government. And what I find really fascinating is the left-hand and right-hand communication between federal agencies. We're about to hold a federal agency partner meeting on January 23rd, inviting all of the agencies that have a hand in or could possibly touch this architecture down the road -- those with current projects underway. DHS has about four or five that I can think of off the top of my head projects -- SAFECOM was mentioned earlier -- some of those efforts that an IP platform can accommodate. We start looking at our scope of 911 call routing as narrow, but when we think of an IP packet, a packet's a packet. It can handle voice, video, data, all of it. So let's start looking at an opportunity to measure twice and cut once when we look at public safety improvements in technology and usage.

The funding issue is critical, as we all know. The funding models, especially in public safety and more importantly in 911, have all been built off of old architecture -- old that's still in use, but when we start talking about analog systems that Ma Bell built since its inception that we're still going to use and need. And there are a lot of "haves" and "have-nots" in this country -- I think that will always be true to a degree -- but I think we should look at providing a minimum standard of care and technology, and funding models, as we grow into the future, are going to be critical.

Legislation, not just federal but state legislation -- sometimes one out-powers or overrides the other and really conflicts with it. We should offer full autonomy at the local and state level from a regulatory sense, as well -- ultimately from an operational sense it should be practitioner-driven -- but to have a role in development of the legislation.

One example on the federal level is the telecom re-write. Public safety should be a significant piece of that re-write and looking into the future and not obsolescence with growth in technology and movement of the rules as we start moving forward. Spectrum comes in to play as well in that legislation, not just in protecting the infrastructure for the first responder, but now looking at federal laws that protect the operational level of the first responder. One recent law that you'll see on some public service announcements includes the "move-over law." Those types of things that operationally protect the first responder all tie into why legislation really needs to keep a focus on a priority in public safety.

MR. JONES: Thank you, Jenny. I appreciate that.

Hi. Welcome. Could you please do me a favor and within three minutes summarize what you think are the three most important points for first responder communications going into 2007?

MS. KURTH: I'd be happy to.

First of all I'd like to apologize for being late. As you know, we're trying to wrap up a couple little details on the Hill right now, so things are pretty active up there. And hopefully by the end of today and tomorrow maybe we'll see some surprises of some even -- things that are positive for public safety getting passed. So we'll keep our fingers crossed on that.

I'm -- I work on the Senate Commerce Committee for Senator Stevens, and as most of you know, public safety has been a focus of this past Congress for the members of the Commerce Committee starting with the -- in the first part of Congress with the DTV legislation. And in the second part, we were working on the communications bill, which has not been signed into law, and as you know, time ticks away. It obviously won't be signed into law by the end of the year.

But regardless of that, there are things that were brought up in the context of DTV and also in the communications bill that will carry over to next year that need attention of the committee and Congress, which we hope that all of you will be able to participate in giving your ideas on how we could continue to move -- try to move some of the things that we tried this year or tweak them or do some new innovative ideas.

One of the things is, dovetailing off of the WARN Act that was signed into law earlier this month -- or actually last month by the president. And that was something that Senator Stevens worked very closely with Senator DeMint, who was the sponsor of the WARN Act. And it was, as most of you may know, it was part of the port security bill. And so because of that, he worked very closely with Senator Collins, and then also with the House counterparts to make sure that that could be included as the final package for the port security. But due to lots of jurisdictional complications and trying to get that bill done before the end of -- before September 30th, before Congress adjourned to go out campaigning, we weren't able to get the whole -- the full complement that was originally intended in the original WARN Act, and we only were able to streamline it down to the FCC focus. And because of that, Senator Stevens ensured Senator Collins that he would be working closely with her and her staff next year to finish off the -- round out the WARN Act with the -- what would be the intent for FEMA's participation with this new law.

And Senator Stevens is also lucky enough to be on the Homeland Security Committee. He's looking forward to working together with the chairman and ranking over there next year on that piece. So that's one thing that we'll be focusing on that's, you know, finishing off something that we've already started.

Secondly, we would want to still continue what we had started as far as with the DTV. As most of you know, as part of the DTV legislation proceeds from the auctions will partially be spent for public safety. One of that is a billion dollars for interoperability. And as part of the Senate Communications, we flushed out the committee's intent on what the senators thought would be appropriate use of that money and how it should be spent. But as I mentioned, that bill's -- time's ticking away, and that bill's not going to get signed into law by the end of the year, so we hope to finish -- start off with that again next year.

And I'd like to thank all of you, because I know a lot of you in the room were very active in letting your members know about the importance of at least that part of the bill and trying to get support for bringing it to the floor. And we really appreciate that and look forward to working with you next year.

But just to recap for those of you that weren't involved in that legislation, part of that -- the funding was intended to go towards the need of equipment, which you all are very aware of. Secondly, the senators thought it was important to have some focus on planning, coordination and training. And then third, there was a focus on something called -- which we called the "strategic technology reserve" to make sure that there were caches set around the country in regions, and then some funds going directly to states to make sure that we can avoid as much as possible the situation in -- during the -- Hurricane Katrina, where some folks weren't able to get access to interoperable equipment and emergency communications equipment because they were cut off from the rest -- essentially from the rest of the country. And so the thought pattern with that portion of the bill was that there would be some physical strategic reserves, but then most of it would actually be kind of a virtual reserve so that you're not just stockpiling equipment that's going to be antiquated after a certain amount of time. So that was the thought pattern with that portion of the bill.

And then we also tried to ensure that the funds that are set aside in the DTV legislation could be awarded as soon as possible, and that was a key component of that part of the bill, to make sure that all the folks on the ground received the needed funds, because I know that the funds are very much needed. So that will be another focus that we hope to have Congress pay some attention to.

And the third item is, we still have on -- which some of you may have been involved in -- the VOIP 911 bill that is still hanging out there, and so that would be something that we would still want to focus on and get some attention and get it signed into law as soon as possible, because as many of you are familiar in your communities, more and more consumers are starting to use Web technologies through the traditional VOIP companies, and it's a serious problem if they're not able to get connected to the PSAPs. And so we -- from the Commerce Committee's perspective, being interested in technology and in advancing communications in innovative ways -- we want to encourage that, but we also want people to be safe. So that's going to be a high priority as well -- another thing to finish off what we started.

MR. JONES: Thank you, Christine. Appreciate it.

Rob, in a very quick three minutes, three most important points for first responders in 2007.

MR. STAYER: All right.

MR. JONES: Thank you.

MR. STRAYER: I'll try to do that. Thanks, Steven, and thanks to the First Response Coalition for hosting this event on this very important topic.

I'm Rob Strayer. I work for Senator Collins on the Senate Homeland Security Committee. She's currently the chairman, for another month or so.

I should preface my remarks by saying that these are my own views. They're not necessarily those of Senator Collins or the committee.

I think it's becoming more and more apparent that there's a problem with governance that probably -- it's a larger problem than the technology issues that we're facing in interoperability. When we looked at the problems after Hurricane Katrina, we had a full investigation, and that led us to develop some legislation that would focus on communications and interoperability. And on the House side you had Chairman Reichert working on a separate bill, but our bill focused on some slightly different issues, and in the end those two bills came together through a conference process and language was added to the Fiscal Year 2007 Appropriations Act that addressed -- there's more structural issues within DHS, I always say, and primary among those was governance. We created a new Office of Emergency Communications. And also in that process of reforming FEMA, we put a lot of emphasis on reforming the regional structure of FEMA. FEMA has 12 different regions around the country, and the idea was to develop those regions better so that they can better focus on the problems that each of those regions of the country and those states that are there face in a catastrophic disaster and the type of problems that they're likely to see in the future.

As part of that regional focus, we've established regional emergency communications coordination working groups. The working groups should involve state, federal, local officials, as well as experts in the industry, to try to develop some interoperable communications solutions. And they'll do annual reports, and the idea is to have the -- there will be regional administrators of FEMA that will help focus on achieving communications capabilities that will eventually work toward more interoperability in each of the regions.

The second focus that the committee has had is on creating a national plan for emergency communications, and a key component of that is really developing a sort of open architecture, an open system of standards that is not proprietary and that allows

multiple vendors to take part and is something that allows us more flexibility today than proprietary systems that often can't communicate with one another. So part of our emphasis in the legislation was to have this Office of Emergency Communications directed to actually report back to us on how they're going to speed and expedite new standards that are open to have someone that we could hold accountable for that and have oversight hearings on that. So it's something that we'll likely see, I think, in the next Congress. While Senator Collins won't be chairman anymore -- it will be Senator Lieberman, and they've worked closely on all of these communications issues in the past, so I think that a lot of the views that Senator Collins has, Senator Lieberman has as well, and we'll probably be having some oversight hearings on communications and the open standards.

And the third area that we've really focused on is -- the Senate version of the language that ended up being inserted into the appropriations bill had specific grants for interoperable communications -- had dedicated grants. And part of the criteria for those grants was that the applicants were either states -- so you'd have a large area, a state itself -- or you must have had the largest metropolitan area as an applicant -- the largest -- sorry, the largest city in a metropolitan area as an applicant. That way you would be assured that when you were creating systems that there would be some sharing among at least a large population center, and that -- the money would be used to develop a system that would be effective at assisting many people that way.

Other focuses I think that are likely to happen in legislation are on equipment that goes beyond just the first responders but more broadly to people that respond to disaster. There's emergency management agencies that need to transmit text and data to hospitals; other types of information that can be transmitted need broadband-type capabilities that aren't, you know, obviously present in a narrowband environment. So looking at grants that might help build a more robust data communications environment as well is something that we'll probably be looking at emphasizing.

And just one other example of why data is very important: I mean, there's many people that live near -- many first responders near the borders of the United States, and as we look to ensure better border security, one of the key things to do is be able to identify people in the field that would want to hide their identity that might be a terrorist or might have other criminal background that would have false identification. Well, really the only way to ensure that person -- that they are who they say they are is through collecting biometric data. So if you have excellent interoperable broadband communications in the field, then you're able to transmit whether you're state, local or federal agent, you can transmit that information back to a database and find out if this person's biometrics match up -- you know, fingerprints or picture match up with who they say they are or who might be on a potential watch list.

MR. JONES: Thank you, Rob. Thanks very much.

And Tom, if you could just be ever so brief in your three points, I'd appreciate it.

MR. TOLMAN: Even more brief?

MR. JONES: So we can keep moving forward.

MR. TOLMAN: I get a minute and a half out of my three minutes?

MR. JONES: That would be great. (Laughter.)

MR. TOLMAN: Well, thank you, Steven. I appreciate also the opportunity to be here and look forward to the rest of the event here.

This perspective that I bring -- title says here, "Program Manager/Principal Investigator" -- is the university's world of research, research scientists, and hosted at the University of Denver. And I've been involved with this buzz word called "interoperability" for 10 years now, starting off as the co-author of the original study, "Law Enforcement Interoperability Study," that was launched 10 years ago -- well, nine and a half years ago, and then following up with a Fire/EMS study and a partnership with a group called PSWN at the time -- Public Safety Wireless Network Group. And the team that I had out there were made up of -- our viewpoint perhaps might be a little different. There's a lot of similarities, but the research and the contacts that we have deal with the state and locals, and even as a former practitioner myself.

Three key points: For a number of years I've been saying -- the last three years -- "This is the most important year; this is the most important year." I've got to say, coming up will be the most important year -- critical. In the area of spectrum there's a huge amount of decisions and activity going on that's already been mentioned. The 800 re-banding which started out as a problem, which has now become actually a great opportunity -- something that was a problem in terms of interference has now become a great thing for public safety when it's completed; the 700-band allocation -- reallocation, which was also mentioned earlier -- getting a date certain; also the possibility of another block of 700-spectrum called the commercial spectrum -- whatever decisions come out of that one, I can tell you the state and local public safety community is really watching that one closely. And there's a growing well of support at the state and local level as well as some of the associations about the -- what may become of that.

Four-dot-nine is another piece of spectrum that the commission led a while back that has yet to see its future. Also what was mentioned is standard -- standards development, and particularly the P25, that it remain flexible and open and the architecture and the capabilities -- '07 is an exciting year, especially with some major decisions coming in the first part of '07. It's been on an accelerated rate, especially in the last 10 or 12 months.

So the technology -- we know that the industry, the commercial services is actually now a driver with multimedia services, cellular development, and as was mentioned, Voice over IP. These technologies are finding their way into the public safety arena.

Number two -- and maybe we have a consensus here -- is funding, always funding. In that original study when we polled over 3,000 agencies, that was the -- one of the number one things in our top five impediments to interoperability -- funding was. And we're -- the state and local community is following very closely this 1.x billion (dollars) -- I know it started out at 1.2 (billion dollars), but it's now 1.0 (billion dollars), I guess -- and how that ties to collaboration. That's being watched.

And third is, 10 years ago was an original report called the PSWAC, the Public Safety Wireless Advisory Committee Report that came out on September 11, 1996. That one was kind of the launch point. That was the first real collective voice of state and local public safety community calling out what their needs were -- in particular, primarily spectrum. It was mentioned that DHS has a baseline study. We are funded primarily through Department of Justice, National Institute of Justice, and are carrying on a follow-on study that we did -- the original study that we did -- the Law Enforcement and Fire/EMS study which we had less than a 4 percent error rate. And the -- we have a team of research scientists -- senior research scientists that are making sure that what we report, again -- 10 years after -- will be as accurate as we can possibly make it. That will be coming out in September of '07.

And so I guess the third point is the research that's going on with DHS and also the research that we're conducting will get an accurate snapshot of what the real deal is out there.

MR. JONES: Thanks so much, Tom. Appreciate it.

Thank you all for your initial insights.

I would like to open the roundtable discussion with the following question. And Ms. Kurth, I would like to address this to you initially, and then invite other participants to weigh in.

Legislation to improve interoperability, either through grants or other programs, is introduced nearly every year in Congress, but first responder communications remains severely fragmented. What are the prospects for a comprehensive interoperability bill in 2007, and what opportunities exist for the new congressional leadership to advance interoperability?

MS. KURTH: Well, I think that the prospects are probably good in the sense that there have been certain pieces of legislation that have been introduced that I think had wide support by the public safety community as a whole, and so kind of already were tested with a lot of the members on the committees and also over in the House. The good thing about public safety is that it's something that it's of interest to be a bipartisan measure and it's not a partisan issue. So regardless of who, you know, maintains the leadership in the House and the Senate, I think that's something that you can see both sides working very closely on next year.

Fortunately, we had a little bit -- some test with that already this year with the port security bill -- you know, it can be kind of deemed as a public safety bill for obvious reasons, and we had a practice run already at that with kind of herding all the cats, as you might say. Rob and I worked closely on that during the conference, because there were a lot of different jurisdictional issues we had to deal with and with the parliamentarian and with different personalities and just trying to feel -- even it's a lot easier in the Senate. You don't realize how many committees there are and how many -- you know, competition there is over there. So I think that we'll have a good sense of that and maybe find a way that we can all start coordinating with all the various committees in the House early on in the process -- would be important so we don't, you know, run into roadblocks later on.

MR. JONES: Rob, what would be your sense of that? Would you echo that, or would you like to add more to that?

MR. STRAYER: Yeah, pretty much would just echo that. The only thing I would add to it is I think some of the jurisdictional problems on the House side are almost worse. There's more committees over there that have jurisdiction over grants.

MS. KURTH: That's what I was talking about. Yeah.

MR. STRAYER: And right now, I mean, you sort of drag in the overall issues of how to apportion homeland security grants all together, and there are several committees that are -- the House has their own version of a bill; the Senate's passed their version, and it's sort of stalled out and there's probably not going to be any resolution this Congress.

So it could get sort of swept up in that broader debate about how to apportion homeland security dollars, it might make it somewhat difficult. But in a way, you know -- like you said, it's a nonpartisan issue, and interoperability is something that I don't think necessarily you need to say is going to rural states or more populous states. So I think there's a pretty good prospect for something moving. And especially on the House side -- it's one of the top two priorities of the incoming chairman, Benny Thompson, over there on the homeland committee.

MR. JONES: Bob Crouch, are there particular actions we can take in 2007 to get government players at the local, state and federal level to coordinate their efforts towards achieving interoperability?

MR. CROUCH: Well, I think we've heard much of that already. From the state perspective, I'm very encouraged by what I've heard from my fellow panelists. I think each of the initiatives that have been addressed are very promising. The National Governors Association recently created a Homeland Security Advisers Council, made up of those who hold positions comparable to mine throughout the states. I think that become a valuable vehicle for getting input from the states. The FEMA regional groups that have been mentioned -- I look forward to seeing those built out, because that's very

much the approach we and other states have taken internally trying to build better coalitions within the regions, within our states.

One that you mentioned, the All Hazards Consortium, earlier, Steven -- one of the efforts that several of us had in this Washington National Capital Region -- actually more focused on the quad-state region of Pennsylvania, Maryland, West Virginia and Virginia, where Interstate 81 intersects in the Winchester area on the Virginia side and Charlestown and that area -- was an interoperability proposal that we submitted last year to DHS. Unfortunately, it did not receive funding, frankly, because the DHS funding mechanism really didn't account for a multistate regional submissions. We understand in the next round of DHS grant funding that they will very likely -- we've gotten encouragement that they will be encouraging regional multistate projects of that type.

So, I think all of those initiatives can be very helpful. But within the states, certainly, it's our responsibility to encourage our localities and jurisdictions to work together with regional proposals and the build out in concentric circles.

MR. JONES: Tony Frater, would you like to weigh in on that or expand on it?

MR. FRATER: Sure. I think a great part of 2007 are going to be the statewide plans. Virginia, as Bob mentioned, is really kind of the leader in that. But many of the rest of the states are in various states of progress in terms of developing a statewide plan. And so, over the next year, it's going to be a huge national effort for states work with the major stakeholders -- the UASIs and some of the regional groups within their states -- to get together, probably some for the first time, to really talk through some of the issues and start thinking strategically about their assets and about their plans to move forward. And so, I think just having that goal and having kind of that impetus to get together and to start meeting criteria, I think, will be a great way to push forward interoperability. And at a minimum, it will get documented where people are, and so they have the understanding of where they need to go.

MR. JONES: Right, right.

Let me put this question to the legislative folks here. Do you think that an actual commitment by the president and Congress to achieve interoperability by a hard date, much as they did with the DTV transition, by a date certain would accelerate the process of achieving interoperability?

MS. KURTH: I'm not exactly sure what you mean by the question.

MR. JONES: Right -- a hard date. If we were to establish a hard date by which to achieve interoperability nationally, do you think that that would accelerate the process? Because it's been an incredibly laborious process. It's been very difficult getting parties to the table and all the other issues that have gone along with interoperability. If we called upon the president to establish a hard date, do you think -- or the president were to

establish a hard date -- that that would accelerate the process of actually getting interoperability nationwide?

MS. KURTH: I think it's a good idea in concept. I think the problem with it is that unlike the DTV hard date where you had actual dates where certain actual things have to happen -- you know, we had a specific auction date that was set into law -- with saying you must have interoperability at a certain date, it's not tangible. And I think some folks will argue that, you know, we have achieved interoperability at a certain point, and others will say it's not enough. A good example of that is what Rob had mentioned before about making sure that we are able to transmit data and not just, you know, talking over the phone.

And so, what will be the definition of interoperability, and when do you know if you've really achieved it?

MR. JONES: Right. I think that's an excellent point. Rob, did you want to comment on that?

MR. STRAYER: That's exactly right, and that's how you define interoperability. But I think it's a good move that Secretary Chertoff made to, you know, set a goal, at least, of saying interoperability for UASI cities by end of '07 and for states by '08. But it depends on how you define that word "interoperability."

MR. JONES: Ambitious, yeah, but very laudable. I think so, too.

Tony Frater, when we're talking about interoperability, there are large numbers associated with just about every proposal or every proposed interoperability solution -- potentially billions of dollars. Yet today, we have a complex, and at times it's an inefficient system, of delivering federal monies to local first responders. In 2007, what is the best way to allocate government funds to first responders to ensure that money actually gets to the local level? And will Congress and the DHS revamp interoperability grant procedures?

MR. FRATER: Well, I'm not a grants training person. I work in a different part of DHS, so I wish they were here to answer that. I think SAFECOM, as many of you know, does put out grant guidance. One of the first deliverables of the SAFECOM program was to look at all the different grant programs that exist. I mean, if you remember maybe just four or five years ago, there was the COPS program and there was a program at FEMA and there was a DHS grant program. And each of them had different requirements and pushed their applicants to go in different directions. And so, one of the first things SAFECOM did was ask there to be commonality between all the grant programs.

And so, I think a first step in making it easier for the state and locals was just that: making the grant programs unified so that they're not all going in different directions. So, I think -- I know that DHS right now is in the midst of releasing the 2007 homeland

grant policy. And I know that there's some lessons learned from each of the past years, so I'm sure that there will be some updates.

MR. JONES: Right, right. Did anybody else actually want to jump in on that and comment on that? Okay.

David Furth, thanks so much for being here today. In the somewhat near future, first responders will receive, as I mentioned, another 24 megahertz of spectrum as part of the transition to digital television. Do first responders have enough spectrum? If so, is there maybe a more efficient way to use the spectrum that first responders already have and still achieve interoperability?

MR. FURTH: Well, first of all, just as a technical matter, actually the 24 megahertz has already been allocated to public safety. Congress has done that. And so in fact, there are some public safety agencies that are using the spectrum in areas where there isn't currently a broadcast or an analog broadcaster on the channels. I think it's 63 and 64 and 68 and 69. If you don't have an incumbent on one of those channels, that spectrum is open and available for use by a public safety now. Now, the larger -- and that's, again, that's a decision the Congress has made in terms of allocating the 24 megahertz.

I mean, the larger question of does public safety have enough spectrum, it's not really a very simple question, because you can't look at spectrum in a vacuum. You have to look not just at spectrum and the available resources and the potential uses. You have to look at technology. You have to look at cost. And one of the things that I find interesting about this discussion is that when we talk about interoperability, part of what is happening is that the definition of interoperability is still very much an issue that we need to discuss, and discuss in some detail. Because you might think of interoperability as being something like simple voice, the ability of two first responders on different channels being able to speak to one another.

Well, we've incorporated that for a long time into our spectrum planning -- in 800 megahertz and in 700 megahertz. We designate in our spectrum plans interoperability or mutual aid channels that can be used, and then we set standards for making sure that radios will be able to use those channels, so that first responders that have those systems can talk to one another. But increasingly, what we're talking about really is a much broader concept of interoperability that's driven by technological change, and it's about things like broadband. It's about things like data and video and the ways in which public safety can potentially take advantage of those to really improve the delivery of service to Americans.

And there again, that is something that the commission is looking at with reference to that 24 megahertz spectrum. We initiated a rule-making last March to look at the question of whether some of that 24 megahertz should be dedicated to broadband, because the current band plan doesn't provide for broadband. And so, that's a question that's currently in front of the commission, and it's going to be one of our priority issues

for the coming year. And it's in that context that we're going to be looking at these types of issues that you've raised.

MR. JONES: Right.

MR. CROUCH: Steven, I would agree that the definition is a moving target. In fact, in Virginia, we not only regard it as voice and data but also culture. We've recently, with Governor Kaine's encouragement and support, stepped out to officially endorse moving to common language as opposed to 10 codes. Our state police, sheriffs, fire chiefs associations endorsed that, Virginia State Police endorsed it, and it's gained very wide acceptance after a little initial resistance in the law enforcement and first responder community -- but just another illustration regarding the width of the definition perhaps.

MR. JONES: Jenny, I see you nodding your head there, and maybe you wanted to add a little more to that?

MS. HANSEN: This is where definition will lend itself to creating those relationships and the pre-planning efforts at the roundtable. I think the technology piece is the easy piece here. It's here; it will grow. The industry does a great job of selling the newest, best, smallest, do-everything device in the world. It's being able to interoperable, again, at that roundtable. And I think the institutional challenges that we face, the politics at the roundtable between the different communities, are the ones that we have to start bridging that gap and start making more feasible even if it's by way of money.

One comment on the grant issue and public safety -- it would be helpful, having been in that role, in coordinating statewide radio and 911 programs to look at the development and requirements of grants, not just the improvement of how those expenses are made but the A to Z. Just one quick example: When you talk about radio infrastructure, a microwave site, for one example, costs about \$250,000 to build if you start from scratch. And because of the restrictions of a typical grant in homeland security, let's say, much of that is unallowable expenses. If you want to pull some power to a site where it hasn't had power before or if you want to actually build a pad or an actual four-walled, constructed trailer to actually house and keep secure the equipment that you're putting in, the electronics, you're talking about \$150,000 that the local government has to bear. And for that reason alone, that regional infrastructure that they intended to build, they have to stand away and step back. Instead, they go back and buy the beekeeper suits and the Level A suits and things that really don't lend themselves to looking into the future and working together. So, the restrictions really have to be looked at, I think, from a practitioner standpoint in the ability to get things done.

MR. JONES: You mentioned technology and, Tom, I want to ask you a question about technology. Many officials, including DHS Secretary Chertoff, have said that the technology to achieve interoperability exists today. What are some of these technologies? And what are some of the advantages and disadvantages?

MR. TOLMAN: Well, that's one of the good things that are happening, in my opening comments, with those seven that, as a result -- and we're in a process here. It didn't just start last year. This has been going on for 10 years. And it always seems to take a disaster to move things along, such as September 11th, the Katrina situation, in reactive fashion with funding and also vendors getting creative with new technologies.

Probably the most exciting -- what's happening, again, and this is what we're hearing in the field -- the state and locals -- is the mesh or ad hoc networking has its genesis in the military technology. Some of the military technologies which is what the ad hoc frequency hopping is really getting a lot of press. There's discussion about software-defined radio, which has had a good start then kind of sandbarred there for a while, and had some starts and stops. But cognitive radio, which is a more intuitive type of technology radio that isn't complete -- not as far advanced as software-defined radio, but it senses its environment -- may have more impact before SDR, or software-defined radio. Certainly, the IP technology voiceover IP is exploding out there. We can't keep up with all the new announcements of this company and this company and this technology coming out with voiceover IP. And then, the patching -- get the patch -- that we've heard so much about. Different companies have come out of the woodwork. Some of them, in my opinion, not so good and a lot of other ones that are doing very well. So, interlinking or whatever you're going to call that, and then the technology -- carrying it over the broadband networks. Those are the big four.

MR. JONES: How does a local agency actually -- how can they decide what is a "good" -- in quotes -- technology? What would be the best fit for them? As you mentioned, there's new technologies coming out every other day. What resources are available to them to help them make those decisions?

MR. TOLMAN: There's a combination. There's no single answer to that but really a combination. The ongoing test beds -- we know that the federally funded test beds and demonstrations are something that's always been going on and will continue on into '07 and into other years. And that's a good thing, although the funding to carry that out doesn't really match the 18,000 law enforcement agencies in 48 or 50 -- depending on where you get your figures -- on the fire or EMS side. So, then you have the vendors coming in and saying here's what we have. And that's okay, but there does need to be some checks and balances. In our original study, one of the discoveries that we came across was that out of the 18,000 on the law enforcement agencies, 75 percent of the nation's agencies have less than 25 sworn officers. And on a graph that we had, it showed a huge majority of a minority of small agencies. So, there's a lot of small agencies that are not in the know of what we're talking about. It -- (audio break, tape change) -- that works to a point, too.

MR. CROUCH: Steven, if I might add to that.

MR. JONES: Sure.

MR. CROUCH: I think that's where a state government's process can be of assistance. And what we did in Virginia during the Warner administration was create a state interoperability coordinator -- Chris Essid who has worked closely with Tony -- and is really my expert in my office on these subjects. But that's a single point of contact for vendors but also for local departments and agencies. And as was just pointed out, many of those, they don't have the personnel resources within their department and sometimes within their rural county to research these things. But having this central state point of contact that works within a partnership can provide that expertise. And our governance structure includes a state advisory committee that's very broad in terms of stakeholder participation but also a somewhat smaller State Interoperability Executive Committee that has representatives of the Fire Chiefs Association, police chiefs, sheriffs, the Virginia Municipal League which represents the cities, the Virginia Association of Counties, as well as relevant state agencies -- our IT agencies, state police among others. So, we have found that to be very helpful and feel that our local partners find it to be a very useful tool. Not that they achieve identical interoperable solutions, but they do achieve compatible interoperable solutions.

MR. FURTH: I'd just chime in. I agree, I don't think there's a single answer to the information question -- that information gap question -- but I think that's also an area where we see a role for the new bureau to be a clearing house for information for technology expertise so that we can help to inform the public safety community -- that myriad of agencies out there -- that have these questions about some of the options that they have. So, we see that as one of our critical missions.

MS. HANSEN: I have a point to that, too. I think it depends on the legacy equipment. We're not talking at all about a forklift change out of equipment -- that's the most infeasible thing that we could think of putting on a local or state government -- but using the equipment and moving forward. And with respect to the spectrum, too, even the paging frequencies where the smaller agencies around the country with little law enforcement or primarily fire department, they'll always rely on those pager systems. And how many of us carry pagers anymore? Not many, but if you're in the public safety sector you do, so you have to look to the FCC to protect those frequencies -- the spectrum -- but also make best use of it. And from a statewide governance perspective, an SIEC is a good start. There are many states around the country -- Alaska, Michigan, Montana -- that have followed suit.

MR. TOLMAN: Could I slip in one additional comment?

MR. JONES: Sure.

MR. TOLMAN: I agree with all the additional comments here. Tagging onto what David also said is one of the wisest things that the commission did was to establish and maintain what's called the RPCs, or regional planning committees. The commission divided up 55 regions, primarily based on population. That was established in the mid to late '80s, dealing with the first deployment of the 800 megahertz spectrum when it was first deployed. And during the NCC, which is the National Coordinator Committee that

was also very wisely assembled to identify the needs and requirements of the 700 band as it was to come forth, agreed and tweaked it a little bit but most importantly kept the regional planning committee chair people. Some of them work dual roles. They work with what's called the SIEC -- State Interoperability Executive Committee. They wear both hats. The point is that that structure is working out very, very well -- very wise.

MR. JONES: Great, great. Well, as I think is evident, we do have a great panel assembled here today. And I know that we have a number of experts and interested folks out in the audience as well. And I wanted to make sure that we had time for Q&A.

So, on that note, we're going to open it up to audience questions -- sir.

Q: Christine, you mentioned perhaps some public safety -- hello? Perhaps some public safety things that might get done (in a couple days?) because those others were in the new session. (Inaudible.)

MS. KURTH: Well, one of those is one that I mentioned. Everything that we're mentioning in the recent weeks are things that, you know, we hope to continue next year, but we really hope to get them done now. And one of those I mentioned was the VoIP 911 legislation. I would be nice to get that taken care of and signed into law. And we'll see what happens with that.

Q Will that be a -- (inaudible).

MS. KURTH: At this point, I think that my personal feeling is that anything that's going to get done is going to have to be by unanimous consent and not be tagged onto the continuing resolution or anything else at this point. This is a little bit different than some other years that we're used to. Things -- you never know when they go in. I think at this time, that's what's going to have to happen. But fortunately, like I had mentioned before, the fact that, you know, public safety is a, you know, a bipartisan issue, I think there's more chance of, you know, public safety issues getting done by the end of the year than maybe some other issues that members want to get done.

Q And when you mention the new session, some of the follow-on issues -- one is getting that one billion (dollars) -- making that available sooner. The idea that the money would be available sooner than having to wait until the auction and borrow against it --

MS. KURTH: Right. Well actually, the DTV legislation already gave borrowing authority, so that's already in place and then signed into law. It's just that it would basically require the Department of Commerce to make available those funds, you know, at a date certain. Right now, there's no requirement that the money be spent by a certain amount of time, and that's what that would do.

MR. JONES: Sir.

Q Yeah, it's been said, I think, a couple of times that the basic capability for, you know, interoperability of voice communications is already there. It's just a matter of getting it out there. But what are some of the next sort of reach goals for technology? Is it IPv4, IPv6, interoperability, convergence, single-number portability, something I haven't mentioned?

MR. TOLMAN: I'll start off. I think that the ones that you named -- yes, it's a combination. There's no single technology that's going to be the single answer. However, having said that, I believe that there are emerging technologies that are going to have a larger impact, that are going to be more embraced. Again, the voiceover IP and there's issues on the 911 side that are being worked, and I believe that was mentioned on location. In 911 location, someone that has a cell phone dials 911. The commission, we know, is working through their legislation to tighten that circle up when that happens. That's just one.

Again, the ad hoc networking -- the unlicensed concept really seems to be taking off, again, from the perspective of the field. The 802.11 that we've heard so much about -- the wireless laptops unlicensed, you don't need a license to operate that. That concept seems to be working well. This new block of spectrum in what's called 4.9 that's already been allocated and, coincidentally, from an engineering perspective, is the largest reallocation of spectrum that the commission has given the 4.9 -- so combination.

MS. KURTH: And I think the challenge for public safety is an opportunity, and it's going to have to work shoulder-to-shoulder with industry as we move into those various aspects of convergence and not always being in a catch-up mode.

MR. JONES: Other questions -- going once, going twice -- yes, sir.

Q Yes, I'd like to ask with respect to the research side but also the legislative and policy, what enrichment are we enjoying based on experiences in the EU, for example, with respect to their evolution in first responder interoperability? Or should we feel confident that we are leaders here, and we have the technology and the will and the experience and so on? I just keep wondering what best practices and best experience might be enriching our evolution.

MR. JONES: Jenny, I see you shaking your head -- or nodding your head -- so maybe you can address that first.

And then, Tom, I know that you're probably well versed in this as well.

MS. HANSEN: From an operational standpoint, we're working with Columbia University and NYU -- a number of standards panels and the impact. And members from the EU and global community, if not public and private, are involved in that process. Because look at the global impact of an IP platform itself. You have your IP device that you'll dial 911 today, and you visit France, and you're in Paris, and you have an emergency, and you dial instinctively 911, because that's what you know when you have

an emergency that's what you do. Intuitively, this device is going to have to translate into 112 and then travel into the PSAP du jour in Paris seamlessly and within seconds, like you would expect here. The impact of the protocols in that addressing scheme in the IP format is pretty significant. And as global and mobile as we are as a community, no matter who we are, we need that device to work.

So, in essence, they're working together. And really, the U.S. is spearheading that effort, by way of Columbia, to identify the addressing protocols. But the challenge we see with respect to people getting it done I see is the governance issue. The countries are certainly quite a bit different. You know, it's night and day with respect to a government saying we're going to get this done in Europe versus in the United States just because of the autonomy at the state level and the resources we have individually as states. So, that's a significant difference. But we are, in turn, working on background protocols with the EU.

MR. TOLMAN: To the second part of your question with regard to the research and the work that we've been doing for the past 10 years, we had in our presentations, as we traveled around the country, we did a video that some of you may be aware of, "Why Can't We Talk? When Lives Are At Stake" where we followed up with several hundred interviews calling out and asking on a case-by-case basis. One of the key issues -- and this is what's going to be interesting in the DHS assessment as well as our follow-on study -- is we had a top five impediments to interoperability. And number three was not technology -- and this is 3,000, 6,000, -- 6,000 polled, stratified, random sample, top research scientists, less than a 4 percent error rate -- it was territories and turf battles. And we've heard the term, call it what you will, stovepipes or whatever the impediment you want to describe it out there. Has that improved? You can have all the technology you want, but if agencies don't want to work together, you can't force it. Even a top down mandate can only go so far.

One of the responses that we had -- it was uncanny. Handwritten in is there anything we left out -- and we asked over 120 questions -- was if you're going to have mandates you better provide funding. Not funding to buy an entire system but funding to provide a jumpstart. I think the one point -- it's 1.0 billion now -- is a good thing. I suspect, though, that that's the top of the bell curve. That unless there's another major disaster that creates a surge or effective legislation that moves along, that's the big one -- the 1.0 is probably going to be the biggest one we're going to see for a long time. It's taken a number of years, but it's not all just about the technology. It's the human element.

Our late '90s word was "institutional barriers" -- what are the barriers to interoperability? And they checked off and wrote in, you know, I don't want to work with that. In fact, one entity in Texas says, "I'll do your study and I just bought an \$8,000 patch, but I've instructed my dispatchers not to use it, because I don't want to have anything to do with that other sheriff in the other county." Not an isolated case, it's still out there, but a lot of changes have happened. We know that. So, there's new incentives to move along there.

MR. JONES: It's ironic that we're all in consensus that consensus is one of the biggest impediments to -- (laughter) -- interoperability.

On that note, we are having light refreshments. I wanted to make sure that we had enough time for everybody to interact with the panelists. And I hope that you all can stay around for just a few more minutes and maybe answer some individual questions one-on-one.

Thank you, all, for your valuable insights. Thank you so much for being here and for the good work that you're all doing.

Why don't we adjourn to the reception. (Applause.)

(END)