UNITED STATES
FEDERAL COMMUNICATIONS COMMISSION

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WORKSHOP ON 21ST CENTURY	)
EMERGENCY ALERTING:	)
LEVERAGING MULTIPLE	)
TECHNOLOGIES TO BRING ALERTS	)
AND WARNINGS TO THE PUBLIC	)

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Room TW-C305
FCC Building
445 12th Street, S.W.
Washington, D.C. 20554

Thursday,
June 10, 2010

The parties met, pursuant to the notice of the Commission, at 9:06 a.m.

APPEARANCES: JAMES ARDEN BARNETT, JR.,
Chief, Public Safety and Homeland Security Bureau, FCC

DAMON PENN,
Assistant Administrator for NCP,
FEMA, U.S. Department of Homeland Security

PANEL ONE: ANTWANE V. JOHNSON, Moderator
Division Director/PM
DHS/FEMA, IPAWS

HENRY D. BLACK, Panelist
Manager, Communications Branch,
Maryland Emergency Management Agency

GREGORY COOKE, Panelist
Associate Chief, Policy Division,
PSHSB, FCC

APPEARANCES: (Continuing)

STEVE JOHNSON, Panelist
President, Johnson Telecom and
Consultant to the NCTA

BRIAN JOSEF, Panelist
Director, Regulatory Affairs at
CTIA, The Wireless Association

MARK S. PAESE, Panelist
Director, OOS, NOAA,
National Weather Service

KELLY T. WILLIAMS, Panelist
Senior Director, ETP,
National Association of Broadcasters

WADE WITMER, Panelist
Deputy Division Director, DHS/FEMA,
IPAWS

PANEL TWO: JEFFERY GOLDTHORP, Moderator
Chief, CCSAD, PSHSB, FCC

ART BOTTERELL, Panelist
Public Warning Consultant
Practitioner and Standards Architect

P R O C E E D I N G S

(9:06 a.m.)

MR. BARNETT: Good morning. My name is Jamey Barnett, and I am the Chief of the FCC's Public Safety and Homeland Security Bureau. We appreciate you taking this time to be with us today to talk about how to leverage multiple technologies to deliver emergency alerts.

And we are excited about this and the possibilities, and are eager to hear from you about this issues. I am delighted that my friend, Damon Penn, Assistant Administrator of FEMA, the Federal Emergency Management Agency, is here, and that FEMA is co-hosting this event.

I would like to thank them and their other Federal partners, the National Oceanic and Atmospheric Administration, and the Department of Homeland Security Science and Technology Directorate.

We are excited about the partnership and the collaboration that has developed among our agencies, and we are looking forward to working together on these challenging and crucial public safety communications issues.

In addition, I would like to thank our panelists, all of them, for taking the time out of

their busy schedules to share their expertise on the important questions that will be discussed at today's workshop.

I would also like to recognize and thank my own folks, Lisa Fowlkes, my deputy bureau chief, responsible for emergency alerting issues here at the FCC; Tom Beers, Greg Cooke, and Jeff Goldthorp, for their work on emergency alerting issues; and Ann Buckingham, Antwane Johnson, and Wade Witmer, for their work on emergency issues at FEMA.

I would also like to thank Debra Cline, who I think is over in the corner with Susan McClain, Rob Kinney, and Deandra Wilson, for their work on planning these workshops. It really takes a lot to pull these together.

Today's workshop is important. It is absolutely critical that members of the public have access to timely and accurate emergency alerts and warnings about impending disasters and other emergencies.

One of our top priorities at the FCC has been and continues to be ensuring that all Americans have the capability to receive timely and accurate alerts, warnings, and critical information regarding emergencies, irrespective of the communication

technologies that they use or have in hand.

The American people rely on a multitude of communication technologies in their daily lives, and increasing are relying on IP and other broadband technologies.

A comprehensive alerting system that utilizes multiple communication technologies, including broadband technologies, will have the abilities to reach more people, including those who are on the go, within a short period of time.

For example, in the event of a hurricane, alerts could be aired over broadcast, cable, satellite, and other immediate outlets, sent to wireless and wildline phones with the affected area; posted on internet feeds and websites, and issued through any other communications outlet serving the affected area.

Today's discussion will focus on how we get there. We hope that our panel discussions will touch on the following topics.

First, the status of Integrated Public Alert and Warning System, IPAWS, including mixed iteration EAS and CMAS.

Secondly, what changes to the FCC's EAS rules are necessary in a cap based world; how we can

leverage broadband technologies and the internet to distribute timely and accurate emergency alerts.

How we can ensure when a comprehensive broadband based alerting system is deployed, and State, tribal, territorial, and local government officials can and will want to use it.

And finally how do we ensure that all Americans can receive emergency alerts over this comprehensive broadband alerting systems, regardless of their capabilities or the capabilities of their technology.

Again, thank you for taking the time to be with us today, either in person -- and I would also mention that this is a nice turnout here, but we also have many people attending over the web, and we appreciate their virtual presence as well.

We appreciate your interest in ensuring that Americans have this capability to receive alerts over multiple technologies. And now I would like to turn over the podium my friend, Damon Penn, who as I mentioned is an Assistant Administrator of FEMA National Continuity Programs. So, Damon, we welcome you here.

MR. PENN: Thank you, Jamey, and thanks to you and Lisa, and your entire staff, and the FCC, for

putting this together for us, and for being such great partners throughout.

It is a real pleasure to be here, and most of all, I want to thank all of you for being here and for your participation, and especially with all of the heated e-mail that has been flowing back and forth up to this point.

I think we will have a great day today and we will be able to discuss a lot of the issues that are on your minds and move forward with our work at hand.

And as all of you know, America's most valued commodity is the citizens, and as its public servants, we have taken an oath to support and defend them and our way of life, and ensuring that they receive alerts and warnings by all possible means is a task that all of us see as being as important as defending against terrorist attacks.

It is one of the services that we are expected to provide a hundred percent of the time to a hundred percent of the population, and the efforts that we take here today will help ensure that we can perform this task.

As some of you know, FEMA has not always understood the importance of communicating alerts and

warnings by multiple means, and how critical leveraging existing technology at the State, local, and tribal governments already possess this to the process.

I can assure you that the Administrator and I get it, and we understand the importance of that inclusion, and we are committed to developing solutions for evolving needs of our citizens.

To restate the obvious, as you all know, we no longer live in a society where we can reach our population by a single means. We have families that continue to receive the bulk of the information from radio and television, but living right next door to them, we have a family who doesn't own a television. They spend their time on the internet.

Next on the street, there is a family that is consumed by social media, and their neighborhood relies on tribal leadership for most of their outside interaction.

We have also got a large special needs community that we have to care for, and we also have the challenge of linguistics to overcome as well. So, all of these together really make up our problem set and make up what our solution needs to be.

So to meet these needs, emergency alerts and

warnings have kind of taken a page out of the business model that our partners use, and I would like to discuss it as being more of an applications based approach, versus a requirements base, and I will use Blackberrys and I-Phones as an example of the difference, and why the approach is so significant.

If you will look at a Blackberry as an example, and please don't assume that I am endorsing any products here, but if you look at a Blackberry, what do you have? You have got a screen, and you have got a keyboard.

And you have got that because we had a requirement to -- or our society had a requirement to develop a way to do internet on the move. So, the people that developed the Blackberry then did all the research and development to come up with a thing that did just that.

So now you have a piece of equipment that has a screen and a keyboard, and it does e-mail very well. The difference is with an application based on the I-Phone, then with the I-Phone, you get what? You get a touch screen, and if you need a keyboard, it is built into the application.

And if you need a thumb wheel, it is built into the application, and what that has opened up in

the business model is the ability to do an entirely different set of tasks that you never thought you needed.

And somebody else pays for it for you, and develops it, and asks if they can bring that over and put that on your equipment. Now, what a novel idea. So that is what we are trying to do.

So all of those things that my wife uses, like the little grocery store thing that says that you are a member of this club, or the bar reader, and all those other things that for the life of me I can't think why people would want, were all developed by somebody else at somebody else's expense, and brought into the whole world of applications based technology.

We have those same things going on with alerts and warnings throughout. I have spent the last two days in New York City. They have just a wealth of products and a wealth of information and knowledge that we can leverage and put into IPAWS, and share with the rest of the country, and the rest of our citizens.

Other States have led that approach as well. So leveraging that potential, and working in an applications based world, is really why we are here today, and as Jamie said, discussing changes in IPAWS,

CMAS, and EAS, and recommending rules to the FCC on how to exploit broadband technology fully is critical.

And our Nation counts on us to do that, and I think today is a great step moving forward towards it. So thank you very much again for coming.

I would now like to introduce Antwane Johnson. Antwane Johnson is the IPAWS program manager, and he and his team are the ones that do the hard work. I am the pretty face of this organization, and I know if I am the pretty face, we have got a lot of challenges.

But fortunately he knows a lot more about ones and zeros than I know about delivering messages. So, Antwane, if you would introduce the panel, we will get on to the work of the day.

MR. A. JOHNSON: Thank you, Mr. Penn. I think Mr. Penn, as well as Admiral Barnett, have really set the stage for what it is that we are going to be discussing on this morning as part of this panel.

Our panel is entitled, "The Path to Next Generation Alerting." We will be focusing on public alerts and warnings, discussing EAS, and the common commercial mobile alerts system, as well as its integration into the integrated public alert and

warning system being developed by FEMA, in partnership with our Federal partners and our private sector partners.

We will also touch upon some of the decisions that are right on the horizon here with regards to common alerting protocol, and its adoption, as well as the Alaska exercise that was conducted back in January of this year.

And a little about the national exercise or test that is being planned for 2011. Just to cover a little bit of history, most of you assembled in the room would know that the system that we are dealing with today to provide alert and warning to our U.S. citizens was primarily founded in 1951 during the CONELRAD program during the Truman Administration.

That evolved into in 1963 to the American Emergency Broadcast System, and in 1997, through an FCC ruling, to the Emergency Alert System. And in 2006, there was an Executive Order that was published by then President George Bush, which tasked the Federal Government and primarily DHS and FEMA, with developing the next generation alert and warning capability for the Nation.

Now, I would just like to draw kind of the primary mandate from that particular Executive Order

and just bring that to your attention, and that is really the guiding document, and I guess the authoritative document that we refer to when it comes to the work that we have been assigned to do.

And in the Executive Order, it states that it is U.S. policy to have an effective, reliable, integrated, flexible, and comprehensive system to alert and warn the American people in situations of war, terrorist attack, natural disaster, or other hazards to public safety and well-being.

And I think that pretty much sums up the entirety of what it is that we are attempting to do with regards to developing next generation alert and warning capabilities for the Nation.

Now I would like to move on and introduce this panel that we have assembled here on this morning. To my left is Mr. Henry Black. Henry, commonly referred to as Hank, is the Associate Chief of the Policy Division -- oh, I'm sorry. I started reading from the wrong bio.

So, Mr. Black is the Communications Branch and Technical Services lead with the Maryland Emergency Management Agency. In this role, Mr. Black has worked in emergency communications with local and state governments for the last 24 years.

In his current role as manager of the communications branch of the Maryland Emergency Management Agency, he advises MEMA, as it is being referred to, and other state agencies on matters affecting statewide emergency communications, including continuity of operations, and interoperability for first response in disaster operations.

Mr. Black is a technical advisor to the Maryland State Emergency Communications Committee. He also serves as the emergency management representative to the public safety communications review committee for Region 20, which consists of Northern Virginia and Maryland.

And he is a member of that same technical committee. He is a state representative to the Federal Interoperability Work Group of Shares for the high frequency radio program of the national communications system, and he also serves as the emergency management Maryland point of contact for the national communications system programs for government emergency telecommunications services. So if you would, please, join me in welcoming Mr. Henry Black to the panel.

MR. BLACK: Thank you.

(Applause.)

MR. A. JOHNSON: It is so good to have you. Next to Mr. Henry Black is Mr. Greg Cooke, who is the Associate Chief of the Policy Division within the Public Safety and Homeland Security Bureau here at the Federal Communications Commission.

In his current position, Mr. Cooke focuses on emergency alerting issues and leads the bureau's team working with the White House, FEMA, NOAA, the broadcast community, and others, to conduct a nationwide test of the Emergency Alert System.

He has served as a senior legal counsel on the Bureau's communications systems analysis division, where he has co-led the Commission's cyber security working group, acted as lead attorney on the FCC response to the National Security Council, and Homeland Security Council's 60 day interagency cyber security review.

And he has provided legal advice on implementation of warning and alert response networks on NCTA proceedings. Greg joined the Commission in 1995 as an attorney advisor in the Common Carrier and Bureau's Tariff Division.

He received his J.D. from Fordham University's School of Law, and also has a degree from

Boston University. Greg, thank you so much for being here, and please join me in welcoming Greg to the panel.

(Applause.)

MR. A. JOHNSON: Next we have Mr. Steve Johnson, who is the President of Johnson Telecom, and a consultant to the NCTA. Steve is the owner and operator of Johnson Telecom, which is a technical consulting company in the cable and telecommunications field.

His 34 years in cable television includes stints with United Cable, Cotton and Associates, and a number of others. While he was employed with Time Warner Cable, he was the company's representative to Cable Labs open cable initiative and oversaw FCC technical compliance among other standards related responsibilities.

Mr. Johnson has been very active in standards work with the Society of Cable Telecommunications Engineers, the Consumer Electronics Association, and he also served as a member of the Federal Communications Commission's technical advisory group on emergency alert systems.

He is also a senior member and was the fourth SCTE member to be certified in the broadband

communications engineer program, and so he will probably have a great deal of interest in the panel that follows this one.

He also writes a quarterly column on technical regulatory issues for broadband library and has written numerous papers and articles in the cable engineering field. Please join me in welcoming Steve Johnson to the panel.

(Applause.)

MR. A. JOHNSON: Next to him is Mr. Brian Josef. Brian is the Director of Regulatory Affairs with CTIA, commonly referred to as The Wireless Association, which is an international trade association located right here in Washington, D.C.

Since joining CTIA in 2006, Mr. Josef has worked on a wide range of issues involving spectrum, regulatory mandates, tower siting, public safety, and Homeland Security.

Prior to joint CTIA, he worked as an attorney for Cole, Raywood, and Braverman, where he advised clients on cable, wireless, and common carrier issues, including licensing, compliance, and policy matters.

He receives his BA in International Relations from the University of Pennsylvania, and his

J.D. from Catholic University of America. Please join me in welcoming Brian to the panel.

(Applause.)

MR. A. JOHNSON: Next to Brian is Mr. Mark Paese, who si the Director of the Office of Operational Systems with the National Oceanic and Atmospheric Administration, National Weather Service.

Mark is responsible for the day to day management of the National Weather Service operational systems, and has 28 years of experience in all facets of weather, communications, and aviation, including 12 years in private industry.

Prior to his stint at NOAA, Mark held a position in the international consulting firm of Booze, Allen, and Hamilton, and prior to that was a systems engineer with Westinghouse Electric Corporation.

Mark has served as the co-executive director of the White House Task Force on Effective Warnings, and his efforts resulted in the President signing the Executive Order to which I just referred to, Executive Order 13407 on Public Alert and Warning Systems.

Mark also served on the FCC's Commercial Mobile Service Alert Advisory Committee, which was charged with examining existing and planned disaster

warning systems and developing recommendations to ensure effective all hazards alert and warning systems.

Mark is the recipient of the 2007 Presidential Rank Award, for the Department of Commerce's Bronze Metal Awards, and a NOAA Administration's Award. So he is well decorated. Please join me in welcoming Mark Paese to the panel.

(Applause.)

MR. A. JOHNSON: Next to Mark is Mr. Kelly Williams, and Kelly is the senior director of engineering and technology policy with the National Association of Broadcasters.

Mark joined NAB in 1989 and has worked on numerous issues, such as radio frequency exposure, emergency alert system, the V-Chip effort, as well as a number of other efforts over at the National Association of Broadcasters.

He has represented broadcasters' interests on various industry technology standards committees, and in cross-industry forums, including the President's Council on W2K Conversion, the FCC's commercial mobile alert advisory committee, and media security and reliability council.

He currently focuses on spectrum issues and

advises NAB legal and government relations staff on technology and spectrum management matters. He also serves on the FCC's communications security, reliability, and interoperability council.

Mr. Williams has a B.S. in Electrical Engineering from Howard University. Please join me in welcoming Kelly Williams to the panel.

MR. WILLIAMS: Thank you very much.

(Applause.)

MR. A. JOHNSON: And last, but not least, is Mr. Wade Witmer, who is the deputy director at DHS/FEMA for the Integrated Public Alert and Warning System.

Wade began working at FEMA in January of 2009, and prior to his position here in FEMA, he was employed with the Defense Information Systems Agency for nine years, serving as the portfolio manager for mobile communications in the Presidential communications upgrade program management office.

And finally as the White House communications agency deputy director for enterprise architecture, strategic planning, and systems engineering.

He has over 19 years of experience in government systems engineering and government program

acquisition. Wade is a graduate of Penn State University, with a B.S. in Electrical Engineering. Please join me in welcoming Mr. Wade Witmer to the panel.

(Applause.)

MR. A. JOHNSON: We are going to begin by having each of the panel members just provide brief opening remarks, and to share a little with us about their perspective, and where they come from, and their interest in alert and warning for the Nation. We will start first with Henry.

MR. BLACK: Well, thank you very much, and thank you to the FCC and FEMA for inviting me to participate on this panel. Let me state that the views expressed by me today are based on my professional experience in emergency management over the last 24 years, and don't necessarily represent the views of my employer or the Maryland State Emergency Communications Committee.

I have been involved in communicating messages of one type or another, in one form or another, at one level or another, at one level or another of urgency for various governmental entities, and non-governmental entities, for the last 20 years.

And in my present position, I serve as the

communications officer and also as the manager for the telecommunications section of the agency. As part of my duties, I deal with the National Security Emergency Preparedness Programs in at least three levels with Federal agencies, to include the Maryland State operations plan emergency support function number two, communications.

And part of the ESF-2 includes the emergency alert system to alert the public in Maryland. I currently serve starting in 2003 as the technical advisor to the Maryland State Emergency Communications Committee.

While serving as Chairman previously of the Communications Committee of the Governor's Emergency Management Advisory Committee, the GEMAC, in 1994 to 2002, I promoted trying to find solutions to provide an interoperable, inexpensive, robust, reliable, secure solution or solutions to the issue of connecting emergency management operations centers to the broadcasters.

And in order to issue the AS messages to our listening public and viewing public, we did find a single solution, and funding needed to be secured for this, and in 2003, we went before the Board of Public Works, and got their blessing, and we are able to

implement starting in 2004 the solution that was found, and involved a protocol called TCPIP on the internet.

It also used satellites in the public switch connectivity. All technical concerns that we had either by the broadcasters or by the emergency operations folks were mitigated.

We were able to cover 90 percent of potential viewing and listening public at the time in Maryland who were directly covered by this satellite-based delivery system for ES messages.

All local and primary stations, and state relay stations, were outfitted with the equipment, and within two years, we had the capability to -- the application provides simply messaging service, cellular, and e-mail capability to the delivery of these messages.

Once the FCC announced the coming of the common alert protocol the network and the applications that we secured included the CAP as a method of origination and delivery.

So we are technology ready for the changes once the FCC publishes in the Federal Register the FEMA adoption of the CAP protocol. However, we still have challenges ahead in the area of training for the

originators of the alerts, and the public who receive these messages.

Amber alerts in Maryland currently is a success story, but that is just one type of the alerts. There are more and more funding is needed sot hat all the alert types are understood by the public properly and concisely, issued by trained, authorized originators.

And we still have a lot of work to do in targeting communities of multilingual backgrounds and ethnic cultures. And one of the -- I guess desires that I would like to see, is that the document that was issued in 2002 in developing a unified all-hazards public warning system, which was issued by the Partnership for Public Warning, have that report updated to where we are today, especially when we talk about the social aspects of alert and warning.

And, of course, the National Academy of Sciences had a panel in which my director participated back in April, dealing with the social aspects of these warnings in terms of their understanding, the use of the terminology, and the terms that we have.

So that when one alert goes out, it is understood by all on what the proactive actions are that they need to take to protect their lives and

their belongings.

So that is kind of where I am coming from for the perspective today in sharing my thoughts, views, and observations over the years that we have been doing public warning in Maryland.

And the new technology gives us added venues for delivery of these messages,a nd it presents unique problems, especially when you have got to get concise information in 90 characters in order to meet the cellular mobile alert system requirements.

So we are going to work with them, and we are going to train our originators to have effective messages. Thank you very much.

MR. A. JOHNSON: Thank you, Hank. We will now have some brief remarks by Mr. Greg Cooke.

MR. COOKE: Thank you, Antwane. And thank you, Admiral Barnett, and Mr. Penn, and I am very excited about being here today. As Admiral Barnett, and Mr. Penn, and Antwane pointed out, the overarching policy of the FCC and its Federal, State, and industry partners, has been to bring accurate, timely, state of the art alerts, to the American public.

And the job that we at the FCC have had in that context has been multiple It has been to facilitate the entry of these technologies into the

public and alert warning sphere, and to ensure reasonable transition from the current system to these new technologies, and that which affects us most, or at least me most here today, is to make sure that the current system works.

And in that regard, we have at the FCC, we have done a number of rule makings over the last seven years to affect this. Back in 2004, we initiated a rule making for the emergency alert system.

That resulted in an order that brought digital media into compliance with our Part 11 rules. So, thus the whole digital t.v. transition could be effected in such a way that for the purposes of alert warning in the EAS would be transparent to the American public.

Similarly, whether it was satellite radio, such as Sirrus and XM, or cable television, moving into the digital age, there were no blocks in terms of the delivery of the EAS.

Also in that document, we anticipated next generation networks, and anticipated the advent of the common alerting protocol, and initiated a whole set of questions on how we could best affect the next generation network, the next generation alert and warning, using the common alerting protocol.

During the pendency of this rule making, of course, Congress passed the WARN Act, and we then developed in context with our Federal and State partners the commercial mobile alert system, and I just wanted to devote, and I don't want to steal anybody's thunder, but I think this is a great example of how groups like this, how government, industry, State, special interest partners, can work together to affect a really top flight, top technologically, robust, and effective system.

We had the commercial mobile service alert advisory committee that was mandated by Congress. That turned out to be a highly collegial and effective group, along with Jeff Gold, who worked in the project management group of that, coordinating the various industry groups to come up with the technical protocols for the CMAS.

And right now we are, as will be discussed later, on a track to really bring this first generation, and 90 characters, with all due respect, is strictly anticipated as a first generation commercial mobile alert.

Currently, we are looking at a number of thinks. We are looking at the introduction of CAP. We have issued a public notice that has requested

comment on what changes to our Part 11 rules are going to be necessary once the commercial alerting protocol comes into place, which hopefully will be at some point before -- you know, in the next few months, as we have been discussing with FEMA.

And that will bring a number of changes to play in the parts of the States, and it will begin to mandate the carriage of governor alerts along the EAS system.

It will also open up a wide spectrum of technical possibilities for the delivery of alerts. So the delivery of one single message over multiple media to all the people at the same time, whether they are listening to the radio, whether they are on the internet, whether they are driving down the road looking at a highway sign.

It has tremendous potential to be a very effective and efficient way of delivering a tremendous amount of information to the American public. But while we are doing this, we cannot lose sight of what has been and what will continue to be the backbone of any alert warning system, which is a traditional alert and warning system.

And it is no joke that as Antwane pointed out that this was a Truman Cold War era architecture.

It is designed and developed, as I am sure my colleagues at FEMA would agree, to work when nothing else does, and to be the last resort of alert and warning that can deliver a simple message as to many people as possible over a robust architecture.

And so to ensure that that works, we have issued a rule making, a record for which is now closed, that will initiate the first ever end-to-end national test of the emergency alert system, and we are very excited about this.

We are very excited about working with FEMA, and working with the White House, and working with the manufacturers, and working with our industry partners, to actually bring to the American public the proof that we can all work together to deliver a very complicated, yet effective, alert to the American public.

And I think that the test that we had a few months ago in Alaska shows that this kind of partnership can work, and that we can work out the technical bugs, and that we can work together, and we can do the proper outreach, and we can really bring something of tremendous value to the American public.

So I look forward to this panel this morning. thank you very much.

MR. A. JOHNSON: Thank you, Greg. Our next set of comments and opening remarks will come from Mr. Steve Johnson. Steve, the floor is yours.

MR. S. JOHNSON: Okay. Thank you, Antwane. I am very pleased to be here on behalf of the National Cable and Telecommunications Association. Cable television has been one of the latecomers to the EAS program.

We weren't involved in it as long as the broadcasters were, but for many years, even prior to EAS, we had requirements in State and local franchises to provide emergency alerting capability to allow local governments the option to override the cable channels in case of emergencies.

So we do have some long years of experience in emergency alerting with lower case letters rather than the capital EAS. In 1990, the FCC started its process of revamping the old EBS system, and then they asked cable operators to get involved through discussions with the Society of Cable Telecommunications Engineers.

During that time, there were meetings around the country getting feedback from different cable operators and different participants, and various methods were tested to see what might be workable, and

eventually a workable solution was arrived at.

The FCC issued a notice of proposed rule making, and Part 11 was the outcome of that, and as part of that, the EBS system was renamed EAS system. The broadcast was substituted for alert, indicating that there were other participants in there now, such as the cable television industry.

And cable television operators began participating in EAS in 1997. It has evolved over the years. During the early '90s, we had no digital television to deal with, and so we had to evolve the system as we progressed.

We are looking forward to the evolution and the introduction of CAP. It will allow us to have more detail on our emergency messaging. It is IP based, and so it will be more robust, and as part of that, there will be mandatory governor alerts that will be carried.

And there will be new equipment required, or modifications to the existing equipment. And one of the provisions is 180 days to implementation after FEMA approves the standard according to the FCC Part 11 rules.

The FCC issued the public notice as Greg mentioned on the review of the emergency alert system,

and almost all of the commentors agreed that the 180 days was insufficient.

We are talking about taking a product, a brand new product, and going through the R&D phase, and building up prototypes, testing, developing the product, and getting it certified, getting it manufactured, selling the product, distributing it, sales, installing the product, getting it up and operational, and providing the training to the users for that product, and 180 days is thought to be way insufficient and needs to be extended.

We need to better define the conversion or the translation from CAP protocol to the EAS protocol so that we will have a smoother transition. There is a lot of open issues and questions about that.

We need to define how the governor's alert will work. We need the details so that that gets well documented and everybody is playing from the same sheet.

We need training for the operators and for the system's message originators so that the originator's originate messages that will be recognized by the receiving equipment, and it will flow seamlessly throughout the network.

We had a situation, and one of the things

that we learned in Alaska was that the message was incorrectly encoded as far as the originating code, and a lot of the cable operators in the automated mode on their EAS equipment did not recognize that message because it was an invalid code, and simply ignored it.

So we need to prevent those types of accidents from happening. The national testing also showed the need for consistency on EAS, and raised some issues about what should be used for location code, what originator code should be used, and how the decoders react to an EAN message should they -- if one manufacturer ignores the location code, while another manufacturer looks for a specific location code.

We need to have some clarification on which way that should go. So, I guess going forward, we have some immediate issues that we would like to see addressed in the cable industry.

We would like to extend that 180 day window, and see a definition of the CAP to EAS converter, define the procedures for the governor's alerts, establish training programs, and have a clarification of the national alerting procedures, including the testing, on what we will be doing from now on.

The cable industry also has some challenges. We are delivering programming to television sets and

other consumer devices. We are delivering programming to cable t.v., ready digital televisions with a cable card, with t.v. sets with set top converters, and soon we will be delivering t.v. versus via internet protocol to monitors and other devices that might not even contain a television tuner in them.

So we have all these different platforms that we need to support, and we are continually challenged on how we are going to do that, and we are continually working on that.

And I welcome the discussion that I hope will come out of today's meeting, and thank you very much for the invitation.

MR. A. JOHNSON: Thank you so much, Steve, and a number of the issues that you have raised here are quite common to us, in terms of the 180 clock for compliance with FCC rules, as well as some of the training issues, and the period of time that is required to get devices to market, and to have folks trained up on those devices.

So I am sure that we will have a fairly lively discussion on those issues as we entertain questions from both the panel and those who are assembled here, as well as our internet participants who will be providing tweaks as well. Thanks so much.

Our next panelist is Mr. Brian Josef. Brian, the floor is yours for your remarks.

MR. JOSEF: Great. Thanks, Antwane. Again, I want to expend my thanks to the FCC and to FEMA for holding this workshop today, and for inviting me to participate.

I am here to talk about CMAS, and I am going to focus my remarks on that. Picking up on Greg's mention of the effort underway, I think it is fair to say that CTIA, and certainly our member companies, supported the development and delivery of wireless emergency alerts to our Nation's wireless subscribers right from the get go.

There was the genuine belief that this service will ultimately protect America and save lives. As Greg mentioned, the WARN Act was enacted back in 2006. It established a process for commercial wireless providers to voluntarily elect to transmit alerts to the public.

And under the WARN Act, Congress devised a unique procedure to address the problem of emergency alerting by getting the participation of interested parties to work on the development and deployment of commercial mobile alert service.

I agree with Greg. I think our Congress'

plan is working as scripted, and to date it is one of the great leading examples of a successful public-private partnership.

Following the requirements of the WARN Act, the FCC established an advisory committee. There were more than 40 members on that committee representing, among others, Federal, State, local, and tribal governments, commercial providers, vendors, broadcasters, consumer groups, and other technical experts, including a number of people both on the panel, or entities both on the panel and in the audience today.

And through a one year process through its charge of developing recommendations for the technical requirements for wireless carriers to voluntarily transmit the emergency alerts, the advisory committee carefully considered all relevant issues to formulate what would be a workable operational plan for CMAS.

And in April of 2008, after the advisory committee delivered its recommendations, the commission adopted the committee's recommendations regarding the technical elements, protocols, et cetera.

I think from those in the audience, and the discussion, many are familiar with the key aspects of

that order. I think we will have opportunity to address that in the question and answer session. But since the April order, two additional orders have been put out by the FCC, and a technical industry government working group has been working feverishly on the standards development process.

April of 2012 is the timeline for delivery of developing standards, and deploying, and testing the alerts. But the technical working group, most of its efforts to date have focused on industry, FEMA, DHS, finalizing the sea gateway interface technical specification, and procedures for alert origination.

And then beginning development and testing of equipment necessary for fulfilling FEMA's role as alert aggregator and gateway administrator. There are two points that I want to make today.

Again, I think the work on standardization efforts has been very good on both the industry and the government sides, and we are encouraged by that. I want to ensure that in standing up the Version 1.0 of the CMAS that we make sure that we walk before we can run.

And echoing Greg's comments, we want to make sure that the system works in the first iteration before we risk getting sidetracked on implementing

this as part of another plan or focusing on evolution before we have even launched the first iteration of the CMAS.

And then I also want to echo Hank's comments. We need to address the education elements for alert originators and for the public. State and local emergency operations centers need effective procedures in place to successfully initiate the CMAS process.

I agree that there is going to be a large education process and coordination needed. I think there has been the acknowledgement that that needs to happen, both for the alert origination community, and for the public.

I am certain that as carriers are communicating with their subscribers on upgrades and changeouts to CMAS capable handsets, there will be that part of the education process.

So those are I think some key issues that I hope we will further explore, but I look forward to an in-depth discussion this morning. Thank you.

MR. A. JOHNSON: Thank you, Brian. And certainly all issues that we are familiar with, and should provide for a very fruitful discussion this morning. Next providing remarks will be Mr. Mark

Paese.

MR. PAESE: Good morning, Antwane. Thank you, and thank you, Admiral Barnett, and Mr. Penn, for setting this up, and a great turnout from everyone, and my esteemed colleagues for cooperating and coordinating here.

So the role of IPAWS and NOAA, what is their role, and how do we fit into this, and as was mentioned earlier, NOAA is a Federal partner, a full partner in this system.

We, of course, take the lead from FEMA and DHS, and in the leadership role for IPAWS, it is indeed the FCC, DHS, and Science and Technologies is involved in this, and certainly NOAA as an originator and disseminator of information.

We are as mentioned, we are developing a system of systems, standards based, protocol based, and there is not one solution. There are many solutions, with multiple technologies.

So as we move forward, we are going to build that together with the broadcasters, the cellular industry, cable, broadband, internet, social media, and of course the next group, the panel after us, will discuss that even further.

So as was mentioned, I do have an interest

in the Integrated Public Alert Warning System, and the Executive Order, having had some history with that and some fingerprints on it, I guess.

And certainly it is the foundation for us to move forward and to make that collaboration, develop those systems and technologies. So in order to do that, we need to have that partnership with the State and locals, the broadcasters, the private sector, academia, the NGOs, so that we are able to develop standards and protocols as we move forward that are based on ways that the equipment, and handsets, and other devices, can be developed.

So the role of NOAA as an originator, and of course as many of you know, approximately 85 to 90 percent of the emergency alerts are weather related, and so we understand the criticality of getting alerts and warnings out.

And any modification to that system is critical, and that we keep the thing running as we move forward. Of course, what was and is highlighted, as was mentioned earlier, NOAA does have a communications infrastructure that we will leverage and move forward on.

We have a dissemination system that is satellite based. We have our NOAA over the radio

system, and we have worked collaboratively with our HAZ Collect system with FEMA, and of course our GO targeting alerting system, to get those alerts and warnings down to polygons if you will.

And alerts and warnings are important, and obviously what is highlighted this past weekend with the deadly tornados in Ohio, and in Illinois, and in Michigan, time critical information is important.

So we had fatalities, which are seven too many if I recall the number in Ohio. A good news story is in Elwood, Illinois, 20 miles outside of Peoria. They had a plan. They got the information, and they got the alert warning.

They had a festival that was going on, and they executed their plan, and they took the people who were out at the festival and in the movie theater, and got them to the basement.

The floor picture is people milling around in a movie theater, and the roof picture is the roof missing. So that is the key as we move forward, and that we need to be able to protect lives and property as we enable a system of systems to get the alerts and warnings out.

And certainly it is alerts and warnings, but it is also the crisis, if you will, of what is going

on in the Gulf today with deep water. NOAA has a hand and a major role in supporting that effort, and getting the information to the fisheries closures, of where they are for the fishermen, the mariners, and providing the support to our Federal partners, the U.S. Coast Guard and DHS, so that we can get that information daily out to the public and to the people who need the information for their livelihood.

So as we move forward, I believe that we need a holistic approach in formulating the message, and as was mentioned, a social science aspect that we need to look at of how we capture that message, and how we best articulate it and get it out there, and receiving the message and then taking necessary actions.

So the origination process has to be paramount that we look at validation, and verification, and authentication, and looking at a secure means to getting it there.

And then also working with the Federal, State, and local partners, academia, the private sector, subject matter experts, so that we can develop those protocols and standards so that the manufacturers and suppliers can develop the products that we need to help protect lives and property.

So, we look forward to working, as we have in the past, together with our partners to continue to improve EAS, and build an integrated public alert and warning system, and I thank you.

MR. A. JOHNSON: Thanks for much, Mark. All very good points that I am sure will be addressed during this session, and next to Mark next will be Mr. Kelly Williams, who will provide brief remarks.

MR. WILLIAMS: Good morning everyone. Thank you, Jamie, and thank you Damon, for putting this together. Thanks to everybody for coming. Antwane asked us to say a little bit about our role in EAS, and anybody who has ever me on a panel, say that I take culpability for some of this because i was the one who got the assignment to pen, and excuse me if I use the word, pen the petition that started all of this back in 1991, that asked the FCC to review the EBS.

But now I can say it is his fault, because it is not my fault anymore alone. It is your fault, too, because you got the team effort, absolutely. So broadcasters have been a part of EAS from the very beginning.

The existing EAS really took place in the early '60s when President Kennedy wanted a system to

address the people in time of emergency, and while we talk about CONELRAD as something that pre-dated at the beginning, its purpose was different.

Its purpose was to get radio stations off the air so that our enemies couldn't use radio stations for targeting locations during times of war. That is a different purpose really.

So the modern EAS started with broadcasters. The President actually came to NAB, and he said, gee, we would like to seize all the radio stations. Well, let's not do it that way. How about if we volunteer to let you use them during time of emergency, and the rest is history.

So, we are really excited, and I personally am excited, because I have been working on the EBS and EAS since 1989, and it is really interesting. There has been more progress in the last year than there has been I would say in the last five years in going forward.

And I commend the FCC and FEMA for working together to move things forward, because from my personal opinion, things were kind of at a standstill for a while, and so we are really excited to see them making progress.

And, yes, there is a lot of moving parts

here, but the parts are moving, and I think that is an important thing. So, interestingly, Steve stole most of my comments. It was pretty much a tick list in the order that I had them written down.

So there are a few things moving forward now. I will tell you that we are going to talk about them later, and so I am just going to run through them really quickly.

From a broadcaster perspective, looking forward, there is not a lot of clarity on what we will have to -- well, how many different sources we will have to monitor if we continue in our same role, and I think we need some clarification.

And this leads into the next issue, which is the 180 day clock, but sort of going forward, I see at least three basic things that we have got to monitor in one way or the other.

One is the Federal system IPAWS, and two, is whatever a State system is to support the governor's message and so forth, and NWS. My understanding, and Mark, you can correct me if I am wrong, I don't think that you guys are moving away from SAME anytime in the near future.

So we still have to be able to -- and as you mentioned, most alerts are weather alerts. So we

still need to accommodate SAME messages, and for those of you who don't know what that is, there is a glossary in the back of the handouts. I'm kidding, there is no handout.

So that is just a concern of ours that I think we would like to see focused on as we go forward, and really clarifying that works, and what is commonly referred to as the daisy chain, where you have stations monitoring stations, and that sort of thing.

This gets back to State plans, and States that have really robust plans and well thought out plans. I happen to have been a former resident of Maryland, and I know that Maryland has a great plan put together with Northern Virginia and D.C. for years, and I am happy to know that, because I lived right on tornado alley. I lived right off 95 in Prince George's County.

But anyway how that is going to work, and what we are going to monitor, and will the daisy chain stay or not stay, and things like that, are really issues in the purview of the FCC that I think they need to clarify going forward, and as part of restructuring the Part 11 rules.

The 180 day clock. Well, I think that Steve

just really -- he hit all the issues right on the head. One thing that is really kind of top of the mind for me as I talked to a number of manufacturers, it seems unclear what the role of type certification -- and, for example, an EAS, a CAP EAS box, and whether it needs to be certified, and when could they apply it, and things like that.

I mean, those are issues, and again that the Commission needs to -- and it is not really a FEMA thing, but the Commission needs to look at that and clarify that.

But the 180 day clock, I think that was consensus that it is probably not enough time, and it is a personal opinion. I don't know that FEMA necessarily should be looking at sliding what they do, but rather the FCC should look at it and say what is a realistic time period, or change the trigger.

The announcement shouldn't be FEMA's adoption of CAP. The announcement should be when products are available, or when products get through -- if you decide that products have to be type certified, or type approved -- and I can't remember which they had, but they have to be under Part 11.

But that means to look at that, and clearly 180 days is not. It is probably barely enough time to

get the products to market, and then you have to see about getting them manufactured and sold.

There are -- what was the number -- 30,000 EAS participants, or something like that, maybe 27,000 and eight manufacturers. I think that is the number. There may be some new people getting into the business, but that is the order of magnitude. So they have to look at it from a reasonable standpoint.

The governor's message. Again, just to clarify it. There are a number of things in the record, and we all ask the same questions. What did you mean when you said -- and I guess we can talk about this later, but the other issue -- well, I have finished the list of things which NCTA and NAB agree.

There is an issue of cable override, and that is where the mandate for cable stations to override all stations takes away from our perspective critical information from the audience.

And you have a broadcaster who is giving detailed information, and a cable system that is in an automated mode, puts up just a crawl and obliterates that information.

So right now the rules require that. There is a provision to negotiate that, but there are some questions on whether or not the technology is capable

-- that digital cable technology is capable of doing it in all cases.

We maintain that it is, and NCTA says, well, no, it isn't really. It is complicated. But we think that the rules need to be modified to not require an override of all channels, but to make an exception for broadcast stations that are providing emergency information. So that is my tick list, and I am sure other stuff will come up. Thank you very much.

MR. A. JOHNSON: Thanks for much, Kelly. And last, but not least, yet again is Mr. Wade Witmer, who will provide brief opening remarks.

MR. WITMER: And I would just like to start with some thank yous. I think looking around and seeing here in the room almost the entire community of interest for alert and warning represented, and to say that that community has been very active over the last year-and-a-half that I am familiar with it.

And I think that a lot of things have been accomplished, and that is attributable to the interest and the interest shown by the community being represented here today, and the importance that the community places on getting this ball, or getting this first block in place for the next generation and the integration of alert and warning, and that is very

appreciated.

So where are we? A little bit about IPAWS very quickly. Over the past year-and-a-half, with efforts that got started way before that, the CAP -- the IPAWS specification for CAP was completed in the last 12 months.

The CAP standard is on track to be done next month, and an implementation guide to address some of these EAS and CAP compatibility, CAP-EAS translation issues, the first draft is out.

The CMAS spec to define the interface with the cellular industry is in place, and implementation plans, and planning for that is rolling. The FCC has continued to actively work the regulatory environment, and any changes that may be needed as we move forward.

And, of course, we are actively engaged with -- or, excuse me, between FEMA and NOAA, to begin integration of the capabilities that we want to have existing, and that they have existing, and that we want to be able to leverage across all aspects of the alert warning community.

We have our initial aggregator infrastructure and final integration testing to be brought on-line, and a FEMA data center, in the next two months. That includes the beginnings of the

gateway functionality to all pieces that may be able to push something to the public.

So I would like to say that the shovel is in the ground for putting this next building block in place, the first building block in place to this new capability for alert warning.

And last, and I would be remiss not to mention, that planning is well under way, and as Mr. Cooke mentioned, for a national exercise, and not just a national exercise, but a national exercise program, and a continuation of that on an annual basis, that really is going to be a key piece.

And we are looking to be a key piece in bringing awareness to not just the community that is represented in this room, but really to help push and to help educate all aspects that we have out there in the importance of alerting to our society.

And really to help continue this partnership piece among all sectors in the community, and really to make sure that the American public is on board and understands what we are doing. Thank you for being here.

MR. A. JOHNSON: Okay. Thank you so much, Wade. I think that is a good lead-in for some of the questions to the panelists on this morning, and I

think, Wade, that you have done a great job in identifying some of the ongoing developments within the IPAWS arena with regards to CAP being on the horizon, as well as some of the development efforts with the IPAWS, or Federal aggregator going into testing and initial kind of operating capability over the next two months.

And along with the CMAS component being up and available for testing in accordance with FEMA plans in February of 2012. But along with that, I just wanted to get some brief kind of reaction from the panelists assembled here in terms of a State perspective, in terms of how those things align with State efforts with the pending announcement of CAP, which I think is anticipated in September of this year, along with some of the aggregation services that are being stood up by FEMA as part of the Federal aggregators.

So, Hank, from a State perspective, how do those things align with ongoing efforts within the States?

MR. BLACK: That is a good question, Antwane, and it is one that each State within their systems unique issues to deal with to make it work, and while I can't speak for the other States, it goes

to an issue of how the alert message is originated, whether the State controls the origination of a local alert, or does the local group have the ability to originate directly without going through the State.

And, in Maryland, we allow the locals to originate all messages accordingly. So our concern is how the aggregation gateway is going to work for us, and what is that going to do when you look at the overall design, and you see this cloud that is sort of nebulous.

And you are trying to determine are you going to have a situation that is going to cause multiple alert triggers for the same event, and while we are cautioned that it is not anticipated, we are still waiting to see how those designs, where we put something out at the State level, and it goes out through NOAA over radio, and it goes directly in Maryland from the originator to the broadcaster, and the broadcaster has multiple inputs.

We believe that the CAP protocol will eliminate any possibility of having duplicate message or multiple originations now. We have had people comment, well, what is wrong with having more than one message of the same message.

And it goes to that social aspect where

people will start tuning out. They will see these as not being life threatening, and again it goes to some other issues, where, yes, we still want to get non-life threatening alert warnings of different levels, and the CAP protocol allows that very well.

The technology is there and the solutions are there. It is just the time that it takes, and our concern is understanding that process of where we are. Fortunately, both our State representative to the committee, as well as our local representative for emergency managers, is participating in the IPAWS working group.

So we are keeping up with what is going on. We still have some concerns, but we haven't been able to truly formulate some specific questions to answer other than the education process, and the training issues that we are going to see down the line.

But the technology doesn't scare us at all. We just want to know where we are going to get the money to buy the replacements, and that we will get into later.

MR. A. JOHNSON: I was kind of wondering when the money issue was going to surface on this panel. We actually made it through all of the introductory remarks without talking about money.

But certainly that is a concern for a number of the folks in our community, both on the private sector side, and our broadcasters, as well as the State and locals, who will as a result of CAP adoption be required to either purchase new devices or upgrade the ones that they have, where those things can be upgraded or modified.

So, a very relevant point, and certainly a concern that I am sure as we go forward in partnership that we will be able to figure this thing out in a manner that will be in the best interests of all the parties involved.

But, Brian, from a wireless perspective, one of the things with the adoption of CAP and other activities that are planned, with the evolution of the next generation alert and warning capabilities for the Nation, are there -- you mentioned that the initial offering of CMAS was just that, the initial offering where 90 character messages would be delivered to cellular handsets and things of that nature.

But are there areas that you feel we could better leverage from a wireless perspective to bring more effective alert and warning to American citizens?

MR. JOSEF: You know, I think that is an excellent question, and in my remarks earlier about

standing up Version 1.0, absolutely hear everyone -- and I am sure that there are the sentiments in the audience about the limitations of the 90 character message length.

Again, I would emphasize that that is the initial offering. By design the CMAS process, and the advisory committee was looking at standing up a system that would work, and that would be reliable, and that would be robust in a point to multi-point type of environment that would not suffer from latency, congestion, et cetera.

And in that way almost in the first iteration be a bell ringer. Get the word out that there is an incident, and for people to consult other sources of information, or to get to safety, and then assess next steps.

The CAP, I think, plays an important role, and the Federal gateway, and the alert aggregator in streamlining the message, and getting that information out.

There is an eye towards the evolution of the CMAS. The advisory committee itself flagged a number of issues, forward looking, an enhanced GO targeting, multiple languages, et cetera.

Not to get ahead of the next panel, but I

think in the discussions of future technologies, there will be certainly some relevance to evolution of error interfaces, and enhanced capabilities along those lines.

And, third, you have in the WARN Act, Section 604, which tasks DHSSNT with evaluating ways to improve, and enhance, and basically evolve the alerting process.

And I think that is something that industry will be on board with. We are all moving towards that common goal, but as Wade mentioned, building blocks. I think that we want to make sure that CMAS gets stood up as an operational robust functioning building block before taking it to those next levels.

MR. A. JOHNSON: And just one follow-on question on CMAS, the issue of CMAS. FEMA has made it known publicly that it intends to have the CMAS gateway up and available for testing with industry in February of 2011.

In your opinion, do you feel that industry will be prepared to move forward with the testing in February of 2011?

MR. JOSEF: I do. I think even before the final gateway specification was adopted the technical industry, and government working group, started their

efforts on a testing specification.

That is underway, and that is moving forward, and not to put a definitive timeline on that, but I think we will see that stood up next year, in 2011, to begin that testing. So I think that is something that both sides are working very well toward accelerating.

MR. A. JOHNSON: I can tell you that from a Federal perspective, we certainly enjoy the collaboration and the partnership in going forward.

MR. JOSEF: And the same here.

MR. A. JOHNSON: And we could not do what we do in terms of the mandate that we received with regard to alert and warning without that public-private partnership being as solid as it is. So we really appreciate that.

But, Greg, just in the FCC, there have been a number of comments on CFR 47, Part 11, and some of the apparent mandates there with regards to timelines and other compliance related issues.

Does the FCC anticipate additional rule making, or have you received -- well, I don't know how much you can get into with regards to the 180 day clock, or the concerns that are being expressed by both Kelly and Steve here at the table with regards to

the 180 clock, and type certification of equipment for use in EAS. But if you could share any thoughts about that from an FCC perspective.

MR. COOKE: Well, clearly, I can't comment on what we might do with these comments, but we certainly anticipated that there would be a number of significant issues affecting our Part 11 rules that would come from the introduction of the commonlarity protocol.

And that is why we issued the public notice that we did, and that actually I think we got our initial comments on just a couple of weeks ago. In fact, it was the 17th of last month.

And the replies will be coming in on Monday, and so of course we are already aware of the comments that have come in on their concerns about the 180 day clock, et cetera.

I know from our perspective that this wasn't the figure that was picked out of the air. We realized that we have been following and working very closely with our partners and seeing what work has been done in OASIS and the development of CAP 1.1, and certainly have been meeting with m-coder-decoder manufacturers throughout, and discussing issues concerning how one can operate the legacy system,

using the same protocols, and using CAP protocols, and how you transition.

So we didn't feel that it was unreasonable quite frankly, but hence that is why the number came out as it did. But certainly we are looking at these comments very carefully, as well as the other comments that are going to be -- that we anticipate would be affecting our Part 11 rules.

And I should also mention that part of what that public notice was about was anticipating, and which will be coming up in the next set of panels, the whole broadband evolution of alert and warning, and the notice of inquiry that is anticipated for alert and warning in the broadband plan.

So, I mean, we are looking at this -- really, the CAP is long term stuff, because the potential is so long term. So I think that is about as much as I can say about the 180 day right now.

MR. A. JOHNSON: Okay. Thanks so much. Just to follow on with the issue of the equipment being available, whether or not we have the manufacturing capacity, to make devices available to some, and the jury is still out on the number 27 to 30 thousand broadcasters and others who will be purchasing equipment.

Wade, could you just speak a little on kind of the process that FEMA is going through with regards to the conformance lab, and what is the capacity for getting devices through for a CAP compliance, and after Wade is done, Greg, if you could speak to the type certification issue, in terms of whether or not that might serve as a -- I would say as an alternative, but whether or not the CAP certification by the lab that FEMA stood up will meet the requirements of the FCC in terms of meeting that type certification requirement?

MR. WITMER: Right now the lab that we have stood up is really -- the plans that they have put out and they are tasked to is test compliance with the IPAWS specification to CAP 1.2.

So we are not having them check right now for the compliance to an EAS to CAP translation to the implementation guide that we are working the draft with our industry partners on.

So that is something that we can work depending on, if that is the right place to do that or not, and to add that in. Right now there are some applications for equipment that have come in to begin testing in that lab.

That lab is ready to go, and has all our

plans and procedures in place. There is a website out there that you can submit an application to. They need to stay in step with the full standard, and there is some hesitation with that standard being finalized by Oasis before I think we will see products start flowing into that lab.

With that said, I would also like to say that we have seen to address some of the industry concerns, and what is the status of vendor support for the standards.

At NEB, we had I think six vendors that demonstrated CAP EAS translation, minor slight differences that we work out through the implementation guide that we intend to adopt with the standard when we get to that peace.

But the response -- and some of those folks that brought boxes to that demonstration really, and no thanks to us, responded, and turned around, and built boxes that could do that in a week.

So I think that there is quite a bit of capability in the manufacturing, and in the product market out there that potentially support this in a very quick manner.

MR. COOKE: And just as a follow-up, what I hadn't mentioned in response to your prior question is

that this CAP is out there. I mean, there are a number of States that have CAP based alert warning systems right now.

And so we are being educated by them, in terms of what we think are reasonable transition times. In terms of any kind of certification, this is something that we are looking at, and I am not familiar with any current requirements.

There is really no Part 64 EAS, and we have never subjected the encoder-decoder to Part 64. They have got the emissions requirements as any box --

MR. WILLIAMS: No, I'm sorry, no.

MR. COOKE: No, they don't do they?

MR. WILLIAMS: They are required to be under Subpart XI. Encoders have to be certified. They have to apply and get certified on Part 11.

MR. COOKE: Well, you know, I think we are just are going to have to talk about that.

MR. WILLIAMS: I mean, that is certainly part of the transition to cap, is how would you change the certification program, but the extent to which your test lab, which is a great website by the way --

MR. COOKE: So, let me just enumerate, and I'm sorry, but actually this is two different issues. Right now, Part 11 says if you make -- if you make an

EAS encoder, you need to be certified, yes.

So this CAP translation device takes in CAP, and it decodes CAP, and encodes SAME from the EAS protocol.

So I guess the issue is do those Part 11 rules apply to that, and does that device have to be evaluated by the Commission for its correctness of creating a protocol.

And that is a question. There are people who allege, no, you don't, and there are people who go, well, I am not entirely sure. I think what is important is that we don't get far down the path and go, well, you know what, everybody who makes a CAP EAS translation device, or does something, or makes a new product, has to resubmit that product.

And so history is replete with folks jumping out and building something. Well, it is really selling a product before a standard is finalized, and it is in the same boat that you guys are in, is that we are waiting for Oasis to go, yes, we're done, because things get changed at the last minute.

And I will tell you that the history is replete with a product getting on the market, and then when the standard is published, something -- some small thing changes.

So it is really important that you adopt the standard. You can't do that until they are finished, and even though I am fairly sure that every manufacturer has designed a product, they are not going to go this is it until you go this is it.

So the fact that they can design and build a product in a week is one thing. Manufacturing enough to get them to every EAS participant, and installed, and tested in six months, is an entirely different thing altogether.

MR. BLACK: Let me say those are good points, very good points. These are all things that we have raised in our mind, but to bring up an antidote of type acceptance or whatever that proper term is, there was a manufacturer who had something in his endeck at the time that it was approved, and it could not be removed.

It was superfluous, but in order to sell his product, he had to leave that card inside the endeck, even though it had no function whatsoever, and it raises a question that since there is no specificity to having an approval for the CAP protocol once it is adopted, anyone that has that and is in a one box system, where you have your endeck and your CAP decoder all part of that box, it begs the question

whether you can build a box anticipating CAP 1.2, and maybe it goes to 1.3 before it is published, as to whether they can change it from 1.2 to 1.3 in that endeck without having to go back through a recertification process. So, again, good questions.

MR. A. JOHNSON: I think all those are going to required a little bit further discussion when it comes to the type certification issue. We have about 15 minutes remaining in this panel, and I certainly wanted to open it up to questions from those who have joined us here today, as well as to receive tweaks that are coming in over the net.

But one of the other hot topics of the day, aside from CAP and other developments that are taking place within the alert and warning community is the national exercise that is being planned for 2011, which the FCC issued a notice of further proposed rule making a little bit earlier this year.

And so, Wade, and I hate to keep picking on Wade, but I am certainly am going to make it around to the rest of the panel is here when it comes to the national exercise.

If you could provide maybe a brief summary of FEMA's plans for the national exercise, and maybe just a brief recap of the exercise that took place in

Alaska in January of this year, along with the event code issue that surfaced in Alaska, and maybe provide some clarification on that.

MR. WITMER: Yes. So to start in Alaska, our intent, and I think it was a huge plus of really the Alaska test, was to -- I guess in August it was the first that we sat down and talked with our FCC partners and our White House partners, and they said that we need to test this system.

And we said let's exercise this system, and not test to begin with, and then we said, well, before we roll this out in a national perspective, where can we check and learn about what we are going to need to do to do this on a national scale.

And we chose Alaska because it is geographically separated, so that we could test there without affecting the rest of the nation. Alaska also has a very well trained or very mature emergency management association in conducting live tests of their alerting system.

They do an annual Tsunami alert, as well as an annual amber exercise of their systems up there, and they also have a very well trained public that is used to and understands exercises, versus real alerts.

But what that offered us was a place to go

check our procedures to really learn and develop more of a partnership with everybody that we needed to work with in this, the FCC being a key to that.

The broadcast associations being another huge key and lesson that we learned in Alaska, as well as us understanding the magnitude of the outreach that is going to need to be required to do this on a national scale.

And so I think our priorities in our planning pieces at this stage are really to firm up and more mature our partnerships with our broadcast partners, our FCC partners, and then we need to include in that outreach our State and local governments, the folks who are the people who control and manage alerts across our Nation, because every incident is local first.

And so that outreach effort to the State and local government authorities, with the broadcast industry to the broadcast industry, and then to the public, is going to be a huge piece of our initial plan.

Speaking to some other issues that we did, and I don't want to call them issues, but things that we learned in Alaska, we did verify I would say, or validate an issue with the way that encoder-decoders

were developed in the '95 to '97 period, with what message format should come out, and how should that message be addressed.

We learned a great deal with the cable industry, and the primary type of encoder-decoders that are used throughout the cable industry and the Nation.

We learned about our procedures at FEMA, and how there are pieces that we need to work on and correct, and we also learned about the reliability of the analog -- excuse me, the audio relay system that is in place, and the way that States do relay that national EAN code.

So we have work to do, but I think we have a list of things that we need to work on, and the community is ready to assist with that.

MR. A. JOHNSON: Fantastic. And on the issue of origination and event codes, the comment was made that there was a wrong message sent out, but I think there were some work arounds that were put in place to try and accommodate the implementation of event and origination code, and the various encoders and decoders that are currently out there being used.

And so I think that was more of a work around to ensure that everyone could participate in

the exercise in Alaska, but we did discover as Wade mentioned that there was some procedural issues across the entire landscape.

Not only at the Federal level, but within both at the State level, and with some of the broadcast community as well. So that raises a good issue.

I mean, it basically validates the training and ensuring that the procedures that are used to actually issue an EAN are well documented and understood. Steve.

MR. S. JOHNSON: It is my understanding that EAN was issued, and EAN was also used as the originator code, and the problem was that the decoders looked at that and said, well, that is not on my list of valid originator codes. So it is an invalid message and through it out.

And I think that FEMA and the FCC both have been very willing to work with us, and have been very cooperative, and they have heard our questions and our comments, and react to them, and we really appreciate that cooperation, and I am sure it will continue.

MR. A. JOHNSON: Thanks. Brian.

MR. JOSEF: Yes. I just want to comment on separate, but related, I think, but a different flavor

of what Wade shared, and the discussion on the national testing.

But Antwane, to your question earlier about testing of CMAS, kind of in the development stage, I would also like to note that the rules for CMAS once deployed contemplate required routine monthly tests for those national carriers that serve around 90 percent of the Nation.

These are the equivalent of national tests, and so this would be monthly testing from the Federally administered alert gateway through the commercial mobile service providers infrastructure.

It is using a test group so that we are not bothering people on their handsets with these monthly tests. But it would also include regular testing from the CE gateway interface to ensure that the Federal alert gateway communicates properly as it is supposed to with the commercial service gateways. So just another point that we are batting with on the testing front.

MR. A. JOHNSON: And that's good. I mean, to just follow on, Brian, the first national test certainly is going to be focused primarily on Legacy EAS.

But in going forward and looking at other

components that will comprise kind of the IPAWS umbrella or suite of compatibilities for delivering alert and warnings to the Nation, certainly the intent is to make other components of IPAWS available or to bring those into the test process as we evolve that into more of a comprehensive testing regime going forward.

And so it would be CMS is part of the national test, and G-Test, and then the ability to target specific communities of folks where there may be some type of event occurring, or other technologies and distribution networks that will come on-line in the future.

But, Mark, from your perspective, when we talk nationally, NOAA has been very supportive and engaged in the exercise in Alaska, and then moving forward with the national exercise later in 2011, are there any concerns based on the kind of huge distribution network that NOAA has with regards to them conducting a national exercise and NOAA's preparedness?

MR. PAESE: Well, let me first start off by saying that it is important that we do have the national EAS test. I mean, certainly we have talked about it for years, and even as part of the national

exercise plan, and our national level exercise as we hold as a community if you will, we need to get that stressed out.

We need to test it out. We need to find out where the hiccups are and where things do and don't work. So, from a NOAA perspective, we have a Dr. Jekyll and Mr. Hyde at times, is that we originate the messages, and also we are a user of it.

So as often times we are creating as Wade mentioned the annual Tsunami alert, and we coordinate with everyone on that perspective. We learn as we go along the coordination, and we believe as the user, the local community, the State and locals, we look at them almost as an appendage of ourselves.

So if we don't work with them through our warning coordinating meteorologist, and our 122 forecast offices, that is where we look at that partnership and relationship.

So did they get the message. Did they not get the message. What failed. And we are constantly looking at that from alerts and warnings, and the feedback that we get from the broadcasters, the cable industry, CTIA, IP addressable devices, and I didn't get the message because, and we need to gather that information.

And I think we learned that -- and there are many lessons learned, of course, from the Alaska test, of, well, it didn't get there, and why didn't it get there.

So often times we believe that we have the nut cracked, and we believe that we have solved all of the problems until we get to this national level exercise, and we get to these national level tests, and we find out in rural communities often times that infrastructure that we believed was there may not be exactly as we had it laid out on the wiring diagram once upon a time maybe a few years back.

So we look at this as a partnership, and working with the industry, and of course the Federal partners, to solve those problems, and identify them before we get to the national test.

And hopefully we will minimize those, but realizing that the more that we do this the better it will be.

MR. A. JOHNSON: Fantastic. Greg.

MR. COOKE: I would just add to that. In the rule making, there was unanimous across the board interest in conducting the national test. Everybody in this community agrees that it is the right thing to do as Mark pointed out, and that we will do it.

The issues are, well, how, and in terms of that, some of the big ones really come to outreach and reporting are the two that I will discuss right now, because if you are going to try to have a test that is going to involve 30,000 participants, who are ranging over a wide spectrum of manufacturers, and what they monitor, and how they monitor it, and then you are also involved with cable, it becomes an extremely complicated process.

And to be able to say that we are really thrilled with the response to NAB, and the response to the --

MR. WILLIAMS: It is really 300 million plus participants.

MR. COOKE: You just made it that much harder then.

MR. WILLIAMS: And we have a terrific team here at the FCC working on it, and an inter-bureau team, and when I tried to talk to them, and some of them had never heard of the EAS, and I tried to give them an idea of how it worked.

I got a video of the world championship domino drop, but it worked. You see, they got it to work, and I think we can get it to work. That even though you would have one that might not work, and

then another hundred after that that wouldn't work.

And in this case, they got them to work, and so it was just a question of getting through to these folks, and figuring out ways to getting them through to us, and working through their State organizations, and working through our organizations, to determine what the issues are.

Because just as much as we are testing the public's response to this, we also are testing basic connectivity, and I see that as being a very simple challenge, but it is multiplied thousands of times.

And the other big issue, of course, that we have got, and which we are looking at right now, is the whole idea of pretest testing, whether it is a manufacturer's test beds, or cable test beds, but doing some kind of pre-analysis so that we can take as many of the variables out of the picture as possible once we pull the switch.

MR. A. JOHNSON: Good. Thanks, Greg. And we certainly wanted to provide an opportunity for folks in attendance to provide a couple of questions if you have any.

We have about five minutes or so, and so we would ask that we keep the dissertations short, and get to the point on the questions, and see if our

panelists might be able to address those. Harold Price.

MR. PRICE: Good morning. Harold Price from Stage Learning Systems. My question was going to be was there in fact going to be a formal way of doing this pretest.

My concern about a national test for EAS in 2011, we learned some things in Alaska. We haven't yet assimilated those, and consolidated them, and implemented them.

We have done the outreach to the users to let them know what changes they need to make in their equipment to actually do this. So I can't stress enough the importance of a pretest.

Otherwise, a national test will simply relearn what we already know, and we now need to take action on that. There was another accidental EAN in a midwest state a couple of weeks ago.

We found out something different there as well. It is very important now, knowing the kind of things that we can learn, to do that pretest, and to find out what else we can learn in a small environment, and get them fixed before the national test, with all the attendant public outreach that needs done on that.

The other issue is the 180 clock. As a manufacturer, let me say this. Unless we start, no manufacturer is going to build 30,000 of these things, and put them in a warehouse, and hope for the best.

We are not going to build any until we get some orders. We are not going to get some orders until the clock starts, and the example that I give is that if take a look at the FCC, they made a request for comments on, among other things, the 180 day clock.

The comment period expired on April 17. 97 percent of the replies came in on the afternoon of the 17th. That's an example. If you start the clock, no matter how long it runs, the majority of the broadcasters are going to not take action until the very last time.

So if you have a two year clock, we are still going to end up building them all in the last month. So there are a lot of problems that can be solved by extending that clock a little bit, but don't think it is a manufacturing capacity problem that is going to be solved by extending that clock.

It is just going to make it that much harder to wait three years, and then still build them all in the last month. That is my only comment there.

Thanks.

MR. A. JOHNSON: Okay. Thank you, Harold. We will take one more and then we are going to have to wrap it up. It seems that we are getting close to the end of our time period here.

MR. SCLANS: Thank you very much for allowing questions. My name is Rob Sclans. I am the Chief Public Information Officer for the Middlesex County in New Jersey, Office of Emergency Management.

It is a pleasure to see Hank here sort of representing the emergency management community. I think this was a very interesting conversation from a technical standpoint.

It is wonderful to see the cooperation. I think Wade made a very interesting comment, in that all emergencies are local, and from a rule making and policy perspective, while it is interesting that alerts at a national level are mandatory, I hope as we move to additional standards, and involve new players, such as the cellular telephone community, that we consider the county level, the local emergency management professionals as they in a very frustrated way are trying to get out emergency messages.

And because of the voluntary nature of the cooperation from broadcasters, from the cable

industry, we would hope that as we look towards new standards, ease of compliance, that there be a focus on making things easier for local emergency management professionals to get out a warning, such as a shelter in place warning, or other sorts of things.

And not be told by broadcasters, well, I don't want to air that message because I think it will scare people.

And so are we going to be left to negotiate on an individual medium by medium basis to get out important urgent emergency alerts, or will there be more of a sense of that cooperation moving forward, and have in a consistent way the ability for local alerts to have the same priority, or have the same ability to get those alerts out now that cellular telephone companies are coming in?

Are we still going to have to do those negotiations, or will there be greater cooperation with the emergency management community? So, thank you.

MR. A. JOHNSON: And that is probably a good question to end this panel on, but if someone -- Greg, if you wanted to address that in less than 30 second, I think our time is up.

MR. COOKE: First off, in the commercial

mobile alert system, as I know that Brian would also agree, there are levels of alerts for which you can opt in, and which could fit very much into the local alert context. You know, a local shelter in place, for example.

Further, this, I think, is sort of a sub-element of the governor alert, because the rules do contemplate that there would be delegates of the government alert.

So I would say that this, to the extent that that is going to be focused, that might be something that you might want to file within that rule making.

MR. A. JOHNSON: Yes, and from the --

MR. WILLIAMS: Can I make one comment?

MR. A. JOHNSON: Yes, go ahead, Kelly.

MR. WILLIAMS: I think that this is a really important point, and a lot of our local state associations talk about this. And one of the big issues that comes up is that in fact sometimes what happens is a very local administration does not issue an EBS. They call a news desk.

And we keep talking about this training and understanding. There never should be a negotiation. I think if people sort of stay with the plan, and the plan gets initiated all the way down to a small

municipality area, you avoid some of the confusion of who it is, and why are you calling, and all of those sort of things.

So this gets back to training, and funding for training really. You can have technology, but you have to understand how to use it.

MR. A. JOHNSON: Good. I think we have run out of time here for this panel. Hank, if you can do it in 15 seconds.

MR. BLACK: Very good. In order to try and improve upon the partnership, we actually instituted MOUs now in Maryland for the locals, and it is time consuming, but it gets that partnership started if it was not necessarily started. I wish we had a different answer for it.

MR. A. JOHNSON: Okay. Thanks so much. I want to thank the panel for their participation this morning. I think there has been fruitful discussion, and I think as you can see that this could probably have gone on for about another hour or two, because there are a myriad of issues and things that folks are really interested in, and that need to be discussed.

So we look forward to the opportunity going forward in working with both the States, and locals, and our Federal partners, as well as our private

sector partners, and working through some of these issues.

So again thank you so much for your participation, and taking time out of your schedules to be here this morning.

(Applause.)

MR. A. JOHNSON: So we are now going to take a 15 minute break. You may go out and refresh yourself.

(Whereupon, at 10:48 a.m., the Workshop recessed, and was again called to order at 11:04. a.m.)

MR. GOLDTHORP: We would like to start our second panel now, and let me just begin. First of all, I am Jeff Goldthorp, and I am the Chief of the Communications Systems Analysis Division here at the Commission, and I am the Moderator in the second panel.

Before I introduce the panelists, let me just say a few remarks to introduce the panel and the topic today. Emergency alerting has evolved quite a bit over the years, and you heard a lot about that int he first panel.

But still even with CMAS, even with changes to the emergency alerting system, we are using devices

that are very similar to what we have used over the years.

We have now added cell phones in the last couple of years, and we will be adding those soon, but the truth of the matter is that the emergency distribution platforms are a lot like Legacy communications systems years ago before the emergence of the internet protocol, and before the broadband revolution.

So think about years ago in public switch telephone networks, when new services were deployed on those networks, it was a major big deal, a major big deal.

I mean, it wasn't like you could introduce a new service and not think about the ramifications all the way down the stack. You had to think about all the technologies all the way down to distribution, whether you have an untwisted pair, or wireless, whatever the case may be.

There is no decoupling between distribution and application development, and that is the revolution that broadband and IP enabled. Now, IP is sort of like from a networking perspective, it is middleware.

It is the harmonizer, the equalizer, and it

is the glue that allows the -- well, glue is the wrong term to use here. It is what allows distribution to be decoupled from application development.

So one of the questions that we will pursue, must one, but maybe more of a far reaching one, is it too soon, or is it inconceivable to be thinking about an API for applications, or not for applications, but for alerting.

Just like now the internet has enabled a sort of open applications developments on networks. So those are the kinds of topics that we will be talking today about, and when we think about next generation alerting, we are talking about a number of other things, too.

And concluding what exactly is next generation alerting. It is kind of a generic term, and what are the implementation issues associated with it, and all sorts of things.

Now, before I introduce the panel, let me just say that there is a reason why we are asking these questions, and we would like to get some expert opinion.

The national broadband plan dug into these issues, and recommended that the Commission start up proceeding an NOI that we have talked about before on

the panel that would ask these very same kinds of questions.

What does the emergence of broadband distribution platforms, or networking platforms, what does that do to emergency alerting? What are the ramifications, and what advantages are there, and how can you leverage broadband to improve the richness of the delivery of words, and how they are experienced by end-users.

Those questions will be asked in this NOI, and we are hoping that this panel can help educate us on these topics. So I have had a chance to talk during conference call and now today in person with our panelists.

I have asked everybody for opening remarks to just limit them very, very brief opening remarks, like who am I, and where do I work, and very briefly what I do, and I have gone on a little bit about what the panel is about, but I will ask you please to go through the panel, and then we will come back and start the discussion. Art.

MR. BOTTERELL: Well, my name is Art Botterell, and I have been working this project that we now know as IPAWS for about a decade with the development of the common alerting protocol and

related activities.

My full bio is in the handouts for anybody who really cares. Currently, I am employed as a technical expert by the Joint Interoperability Test Command of the Defense Information Systems Agency, in support of the FEMA IPAWS office.

So I have to acknowledge and thank them for their support, while at the same time pointing out that I am just an advisor, and I am not in a management role. So nothing that I say here today should be construed as policy either from FEMA or from DoD.

MR. GOLDTHORP: Thanks, Art. Brian.

MR. DALY: I am Brian Daly, and I am the Director for Core and Government/Regulatory Standards within AT&T. In addition to looking at standards for evolving the networks of the future, I have been involved in emergency alerting since pre-WARN Act days, looking at how to best deliver alerts over cellular networks.

I was involved in the commercial mobile alert service advisory committee, where I lead the communication technology group, and since the completion of those recommendations, I have been involved in the industry standards effort, the

partnership that was mentioned in the first panel, between government and industry, working on the standardization program for the commercial mobile alert system, and also involved in the development internally in rolling out a product.

I am looking forward to participating on this panel and sharing some insights on where we are going in the next generation.

MR. GOLDTHORP: Thanks, Brian. Darryl.

MR. ERNST: Hi, I am Darryl Ernst, and I am sort of the lemon in the pie. I am not in the warning business. I was an engineer with the Miter Corporation for many years, 20 years, up until March.

And I became deeply involved with the emergency management community in the alerting world after some technology that I had developed and led the development on there.

And as a consequence, I got deeply involved in the Foundation of the Partnership for Public Warning, and then subsequent to that, after helping get CAP started with Art, and my involvement was minimal there.

I then started looking at the warning problem from the systems engineering point of view, and right now I am primarily involved in the testing

of fighter aircraft and missiles, and so it is a completely different world. But thanks, Art, for bringing me back.

MR. GOLDTHORP: Well, Darryl, I'll tell you what. That is important that there be some alerts where there is airplanes, and so let's not leave that out. Thank you. Denis.

MR. GUSTY: Hi. My name is Denis Gusty, and I am the Deputy Branch Chief for the Office of Interoperability and Compatibility at DHS, Science and Technology Directorate.

Part of my portfolio is to work on the requirements gathering for standards, EDXL to be exact, the Emergency Data Exchange Language, and we gather the requirements and submit those through Oasis, which is a standards development organization.

I am also supporting FEMA with IPAWS, and CMAS. And as was mentioned earlier, Section 604 of the WARN Act spells out that the Science and Technology Directorate will stand up a research development testing and evaluation office related to CMAS. So that is the area that I am working in.

MR. GOLDTHORP: Thank you, Denis. Claude.

MS. STOUT: Hi. My name is Claude Stout. I am the executive director with Telecommunications for

the Deaf and Hard of Hearing. My organization, TDI, focus on providing leadership to ensure equal access in telecommunications media and information technology for people who are deaf, hard of hearing, late deafened, or deaf lined.

TDI has been around for 42 years. We have had collaboration with many other consumer groups over those years, and we work especially in the emergency communications area, and we want to ensure that deaf and hard of hearing individuals get the information, because in the past, it has not always happened.

So whether we are at home, whether we are in the workplace, we want to get the same information. Today, our lives are just not always at home or at work. We are everywhere, and we are out there. There is not always a physical workplace anymore so to speak.

So, we function just like the rest of you. We are on the go. So, whether we are shopping, whether we are at an event, whether we are at the doctor's office, or whether I am in my car, we want to have access to emergency information. So I look forward to a continued dialogue with you guys on that this morning. Thanks.

MR. GOLDTHORP: Thank you, Claude. Mike.

MR. NAWROCKI: Good morning. My name is Mike Nawrocki, Director of Wireline Standards in Verizon's technology organization. I have responsibility for standards strategy requirements for all of our fixed network standards, including things like video delivery networks, internet standards, and emergency notification.

Obviously, emergency notification is a very important aspect of our files t.v. platform. Thank you.

MR. GOLDTHORP: Thank you, Mike. Fran.

MS. TRENTLEY: Good morning. I am Fran Trentley, and I am a senior director with Akamai Technologies. Akamai Technologies runs an overlay, a global overlay, on the internet.

We serve 25 percent of the global web traffic. So you use us every day, whether you are shopping on-line, or watching live streams. We make the internet a reliable place to conduct business, and mission critical applications.

My responsibility is to support my hundred plus U.S. government customers with their public facing applications.

MR. GOLDTHORP: All right. Thank you, Fran. Please join me now in welcoming the panelists.

(Applause.)

MR. GOLDTHORP: Now, here is how I felt that we would do things today. What I have done is put together a set of questions. I have talked with the panel about them, and shared them with them, and so there is no surprises. Well, not too many anyway. Maybe one or two.

And we are probably not going to get through all of these, but we will get through some of them, and at least one, and then we will see where it goes, and I am open to letting things go wherever they go.

And when a topic dies out, we will start a new one, but there are three, or at least two, broad areas that I thought that wold be worth exploring with all of you today.

One is that there is sort of this existential question, or definitional question, of when we sa next generation alerting, what do we mean? One thing that I think of is that I think that there is a transition to broadband networks and distribution.

We now have sort of a middleware platform that includes CAP and IPAWS. I am not sure exactly what all this means at the front end and from the origination end, but I would like to talk about what

do we mean when we say next generation alerting?

First of all, from an end-user perspective. If you are an end-user -- and all kinds of end-users, whether it be somebody with special needs, or whether it be somebody that maybe speaks English, but does not speak English as a first language, but what does in mean in terms of the features and functions that would be available to the user?

And I would like to start with Art. Do you have any thoughts on that? And then we will just go from there.

MR. GUSTY: Oh, dear. My immediate thought -- thank you, Jeff. My immediate thought was kind of high level, which is that to a certain extent the question becomes what do we actually mean by alerting.

I think next generation alerting just means the continuing process of applying new tools to the general problem of alerting. So what is that general problem.

The Partnership for Public Warning decided that we simply weren't going to go down the rat hole of trying to define what a warning was. In my own practice, I have developed a working formulation for all of public information that splits it into -- for all of the emergency public information, it splits it

into three aspects, of which alerting is one.

There is alerting, informing, and reassuring. So you have the AIR, the mnemonic, and alerting is in my mind largely a matter of what is also sometimes called attention management.

So it is not providing a bulk of information, so much as it is redirecting people's attention from whatever they were focused on at a particular time, to something that is salient that they didn't know about.

So to some extent, and I think in the previous panel, somebody referred to the bell ringing function. That is a good example of it. The telephone bell rings, and that gets our attention, and then we go pick up the phone and we get the information.

Now, no act of communication is only alerting, or only informing, or only reassuring. Just as an alert can be the sort of the binary message of a siren, either it is sounding or not, to the relatively very rich 90 characters envisioned for CMAS.

And to the somewhat constrained message that we can now deliver over the emergency alert system, to the much richer sort of presentations that are going to be possible under CAP.

So that is one of the -- sort of one of the variables between media, is how much information can come with that first alert, but the real point is that people only have some -- you know, it is said that people only have so many snaps in their Synapses.

We only have so much attention that we can pay. We budget that, and an alert is a communications act aimed at redirecting people's attention, and any technology that we can use to achieve that end, I think falls under this very broad rubric of next generation alerting.

MR. GOLDTHORP: So if I take your point, then I follow and say that if there is a limit as to how much information people can absorb in a classic alert, then is next generation alerting really expanding the number of distribution platforms so that alerts an be made available on more devices?

Or is it increasing the amount of information, or the richness of the information, the texture of the information, in a way that alerts are more useful, or is it both?

MR. BOTTERELL: Oh, yes, definitely.

MR. GOLDTHORP: Okay.

MR. BOTTERELL: Definitely yes. If you look at the social science, and we have got quite a lot of

it, and hopefully Darryl can talk about this a bit more, one of the things that we have learned is that people hardly ever act on a single warning message.

It requires corroboration, and they get that through multiple media, and they also get that through the process that Dennis Maletti calls milling, where they talk to each other, which becomes very important when we start getting into the social media aspects of this.

So we want to be able to do a full court press with this urgent information, and that means delivering it into a lot of form factors. So there is a technological argument for this sort of integration and diversity, which is that no single technology is going to reach absolutely everybody all the time.

But there is also a human factors argument that people need that corroboration for them to get past what the researchers call the normal see bias, and the rest of us call denial.

MR. GOLDTHORP: Does anybody else have anything to add?

MR. GUSTY: Yes. I would like to add to what Art commented on, and it was brought up in the first panel that we, Science and Technology, sponsored that workshop with the National Academy of Sciences

two months ago.

And one of the things that we did learn was, and as Art pointed out, that people do look -- they will receive the initial alert from a particular device.

But they will always seek secondary and third sources of information, and typically it is the traditional radio and television networks that they turn to for that additional information.

So, Jeff, to answer your question, it is both, in terms of mixed generation. It is a combination of what we know today, and what we are looking at for the future.

MR. GOLDTHORP: Darryl.

MR. ERNST: I think we need to go further in the way what we define alerting. For many, many years, the purpose of alerting has been to give people a warning so that they can take appropriate action, but they figure out what that action is.

We now have the means to take it down to the more personal level to serve as Dennis Maletta called it, the publics. Not the public, but the publics. We have one represented here with the deaf and hard of hearing.

But there are hundreds of publics out there

that needs serving, and so alerting evolves to become a management tool, and it has to have the richness of information, but it also has to become personal.

Today when you get a warning of a tornado, you don't know whether you are really on the target list or not, but we have the ability right now today to give personal information to people about where that is.

And it would further evolve to where there is feedback from the users. It has to be managed, and you have to do the systems engineering, but the ability for special needs people to be able to alert back to the warning center, the 911 center, wherever it is appropriate, to say that I need help. I am stranded. I am bound, or I can't get out, or whatever it is that is needed.

So alert has to evolve from becoming put your head between your knees, and kiss your ankles goodbye, to what do I do; and then the other factor that has to be taken into account is that I think that the percentage of people that get their warning information is through the social network, and not through the media.

There may be more current studies. Herm may know more about that than I do, because the National

Weather Service has been working it. But for a long time the social scientists have known that about half the people don't get their information from the primary warning systems.

So, social networking from our network people here becomes extremely important in reducing the number of people at risk.

MS. STOUT: Jeff, I had a comment. This is Claude.

MR. GOLDTHORP: Good.

MS. STOUT: I agree with what everyone has said actually so far on the panel. I think it is also important to make sure that the alerting message is sent out in more than one format, including in alternative formats.

So, for example, a video format, or a texted format, or a graphics form of the sort. Sometimes alerts go out and they don't really say anything.

Often on television or even on your internet screen, you will see tornados, but for me as a deaf individual, I say okay, and there is tornados somewhere in my viewing area. Where, and what do I do. Do I stay here, or am I supposed to go somewhere else, or where is the tornado moving to, and that kind of stuff.

So again if there were different forms of the message sent out, and for example, in video, and it could go out in sign language if it is a text form, or whatever. Just make sure there is a teeny bit of information attached to that message so that there is something there for the person to get.

And also if there are graphics, make sure that they are clear, and that they are supported by text, and not just graphics by themselves, which don't carry all the information.

MR. GOLDTHORP: Do you want to say something, Brian?

MR. DALY: Yes. I agree with all the comments so far. When we look at alerting, the content really needs to be targeted, relevant, verifiable, and actionable. I think those are the main characteristics that we look at with CMAS.

And I think that it would apply to alerts of any type. As we move forward into next generation technologies, we should look at improving the text contents of alerts by putting together more meaningful event information, and look at multi-languages, which was an issue that we discussed under the Commercial Mobile Alerts Service Advisory Committee.

We also need to support different types of

media capabilities being distributed down, but we need to take caution there on what types. We can be overwhelmed with information if we are not very careful on how we define that.

And we also need to make sure that we enhance the message updating and cancellation features so that when information changes, we can get that information out to the citizens in a timely manner, and we can update them with the latest information, or cancel it if there are no longer in danger.

I think all of that is important, and I am going to go back to this bell ringer analogy that was mentioned. I think in the broadband report, there was a specific example of a pastor in American Samoa during the 2009 8.1 earthquake, who the emergency alert systems worked, but he took it on himself to ring the church bells, which got the information out even broader to those that did not have ready access.

And I look at the next generation emergency alerting as being an extension of those church bells, and putting it on devices that users will have with them every day, whether it be their cell phone, whether it be when they are connected to the internet, or other devices.

MR. BOTTERELL: Jeff, I wondered if I could reframe -- well, at least my answer, and maybe the question a tiny bit. I was going to say what is the value of next generation alerting?

What are we trying to achieve other than just keeping up with the technology, and it occurs to me that very much of it -- and this is sort of the consensus of what I have been hearing, and has to do with relevance.

Again, if you look at the social science, the so-called cry wolf phenomenon is actually a bit of a misnomer, because people have actually a surprisingly high tolerance for false alarms. I frequently say that that explains the continued existence of the National Weather Service. He has heard me say that before.

And, I mean, that is unfair, but it is true. Nobody expects absolute perfection, and I think that this is sometimes the standing high jump that we ourselves put ourselves up to.

But what does cause people to become desensitized is when they are bombarded with irrelevant alerts. So it is a subtle difference, and relevance turns out then to be the real goal of public warning.

And relevance occurs in a couple of dimensions. Two of them are first off presentation. Claude has spoken about presentations that are appropriate to people with hearing impairments.

They you have presentations that are appropriate to people with visual impairments, and so forth, and so on. Presentations in different languages.

Now that we have much richer data coming to broadcast outlets, will we continue to just use the old red bar crawl, or would that tornado message be better if it were augmented with a map.

I mean, there are all these possibilities at the presentation layer that make the message more relevant. The other is geographic targeting, and this is probably the low hanging fruit, and it is one where the broadcast industry in particular is at a bit of a disadvantage because they are still using an analog technology that doesn't give them as great a targetability as, for example, telephone notifications.

When I was working in Contra Costa County, I could target down to a couple of blocks, and I didn't have to disturb anybody else. And there were several things a week that we wanted to get the attention of a

couple of people in a couple of blocks.

If you have to interrupt an entire metropolitan market in order to do that, that creates a disincentive to use the system, and as we migrate toward digital broadcasting, there may be opportunities even for the broadcasters to mitigate that.

But certainly we can lower that threshold by integrating broadcast with weather radio, and cell phones, and all these other technologies in order to give us more options, and to maximize the relevance, and to minimize the imposition of irrelevant alerts, because that is really where the information overload problems arise, and we are getting a lot.

And that is maybe the next genus to all of this, is that we are getting technologies that allow us to be much more relevant in our alerting activity.

MR. GOLDTHORP: What is it -- I mean, let me ask the folks that implemented the distribution side of this, and then we are going to turn to origination. But what is it now about the technologies that are coming to market, or have already come to market, that enables presumably, since this is what we are talking about, greater personalization, and greater relevance.

It is not like relevance and personalization

weren't important before, and it is not like the alerts that we have come to know and love are irrelevant.

It's just that they can become more relevant, and they can have greater applicability if they would reach a larger community of folks that need to hear them or see them. So what is it about the technologies that are coming to market now that make that possible?

MR. GOLDTHORP: Mike.

MR. NAWROCKI: Jeff, I think there is two points. First of all, as a service provider of a whole suite of broadband services, and T.V., internet, and voice, the one aspect is really integration. It is not the services on to themselves. It is really integration of services by the end-user.

So I think when we talk about alerting, it is the next generation alerting from an end-user perspective. It is really the ability to integrate traditional means of distributing broadband alerts.

We have some of these new capabilities; social networking, and internet deliver, video streaming, and perhaps content delivery networks. All these things come into play.

I think the second point is that we are

seeing basically the end-user taking control in many ways, and I think that applies to broadband alerting as well.

So to the extent that either through regulation, or simply the end-user effecting their own experience, to the extent that end-users can control the manner in which they received emergency alerts, I think there would be benefits through things like language, or the ability to receive video texted audio messages, and those types of aspects.

MR. GOLDTHORP: Brian.

MR. DALY: Going back to Art's comment, targeting the alert is going to be very critical to make it relevant to the people that are in that impacted area.

And I think that some of the comments that we have heard back from CMAS, where they were targeted to the county level, that was a first generation compromise, because there were so many different systems that had to be supported under the first generation CMAS.

Some of the operators will target down below county level in the initial phases, but as we evolved to different broadband technologies, and learned different capabilities that are available, the

targeting will get down just to that population that is going to be impacted an immediate threat.

And I think that is one important factor. You also talked about the emergency notification systems or auto-dialers as I will refer to them. Targeting down at the block level is good, but I am thinking back to the California wildfire situation in San Diego County, where in a 15 minute period, they tried to dial out to a significant number of users.

Well, networks aren't engineered to handle that type of traffic all at once, and 90 percent of those calls were blocked. We need to look at as we move and evolve into next generation alerting now can we look at systems that are ineffective, like SMS based, like emergency notification systems.

How can we look at technologies that could replace those into a more efficient, and as Admiral Barnett said in his opening comments, timely distribution of messages, and not have these delays or blockages, or prevent other users to get on to the networks.

MR. GOLDTHORP: Okay. Thanks, Brian. Yes, that issue of impact on network architecture and design is something that we are going to return to a little bit later, but let me -- well, Fran, social

networking has come up a couple of times now as sort of a game changer, in terms of not only user control of alerting, but just a whole new way for maybe this phenomena that people have talked about already of the bell ringing phenomena, and now we have social networking apps that can ring the bell. Go ahead.

MR. ERNST: So we see examples of that now, where specific links or information posted to social networks becomes very viral. The interesting piece on responding to that is that we can tune the response due to what we sense from the request.

So there is a lot -- and especially if it is web-based, and that is where I will kind of focus on, but if it is coming through the web, we can see a lot of things about you; your location, your language settings, your language acceptance settings, and what language you want the response back in, and whether you are on a mobile device, or a well connected device.

And we can tune the response back to the end-user and his location in this device, and be very specific with that. The distribution that you mentioned, we have seen millions of e-mails out to millions.

We have seen tens of millions of responses

within hours to these kinds of viral distributions of national messages. So I don't think that is a challenge on a scale on the website now.

We have seen it, and how many people have watched the BP live stream. That is an incredible amount of people. I can tell you now many. It is tens, and tens, and tens of millions.

And you bring up a great point, and that is adaptive streaming, and so we can also see the type of bandwidth that you have available to you, whether it is a small mobile device or whether you are well connected and sitting on Verizon's infrastructure.

You can take a meg live feed, and a high def feed of a meg or better, or you can only get 300 kilobytes, and we can tailor that, depending on what you are connected with. So it is interesting, and we have seen it both. So there are examples out there.

MR. GOLDTHORP: Okay. So you see that obviously having a major role, right?

MS. TRENTLEY: Absolutely. It has a role now.

MR. GOLDTHORP: All right. Okay. We will talk more a little bit later about the implementation issues that come up in connection with delivery of next generation alerts to end-users.

But let's talk the other end of the architecture now from an alert originator point of view. You know, it also seems changes have been -- and I will say it. I mean, I will assert do changes happen slower there? Is it harder? Is that a harder end of the problem to work?

How adaptable are alert originators to changes like this? What kinds of changes would be required, and how much desire is there for the kind of change that broadband distribution implies? Go ahead, Darryl.

MR. ERNST: Okay. I have studied part of that from a systems engineering standpoint. If you go back to who you are talking about, and the preponderance of alerts in our alerting system today comes from the National Weather Service.

I think that it is 90 something percent of all the EAS messages. Those people you can get to, and they will respond to the users. They are open to adding different alert types and things like that.

But you subtract them out. They are on a daily basis, and you go back to what all of us have been taught that all emergencies are local. It is the people at the local level using the alerting system who need to be considered an address, because when the

hurricane comes, Katrina comes, or the earthquake comes, or the Tsunami comes, it is the local emergency managers who have this urgent need to get information out to those people.

And so if you go to that and start addressing their needs, and looking at the training requirements that were mentioned in the previous panel, it is a challenge and it can be addressed.

It is not just the technology. It is the training, but the technology can facilitate the training, too, if you take all those issues into effect.

But from a technical standpoint, there are other issues. One of them that has bugged me because I had to address it in my technology, was message management.

If you take in today's system, if you issue an alert, and you are an emergency manager, and you issue an alert, you lose ownership of that message as soon as it is entered into the system.

An example. I was in the EOC out in Loudoun County during the hurricane a couple of years ago. I was supporting the ops manager in the EOC. There had been a contamination of the Fairfax water system, and Loudoun County, and certain parts of it had a contract

to get service from there.

So the first thing that the Med Desk did was issue a boil water alert. Then the water system was shut off. So they had to bring in water trucks, which are hard to get. With that contract, there are only certain kinds of trucks.

We were able to get two to serve the entire Loudoun County area. They then found out that the problem was isolated to one small area of the community, but in the meantime, CNN had picked it up, and CNN started putting a crawler on there for this boil water alert.

Now, if you go into a home, and when you tell people that there is an emergency, and a hurricane is a perfect example, what do they watch? You go into most EOCs, and you look on the broadscreen display and what do you see? You see CNN.

You don't see the video feeds of a local situation. There are alerting officers, who is the public information officer, tried, and tried, and tried to get CNN to take that down, and they told him to go take a hike.

And in the meantime it was creating this overload on emergency operations people, and there were mayors calling in from towns because citizens

were complaining to them, and demanding water trucks, and they didn't need it. All they had to do was turn on their water because their water was not affected, and yet we could not get CNN to turn it down.

As soon as the Loudoun County EOC issued the boil water alert, they lost ownership of the message. Now, CAP provides a way of updating messages, killing messages, and all that stuff.

But once it gets into the EAS, and there is no other radio system, broadcast picks it up, and it is gone, and I think that is one tiny little technical issue that needs to be addressed. And it is not only technical, but it may be regulatory, too.

MR. BOTTERELL: And, I mean, in fairness, I think the broadcasters have the technology that they have, and it is what it is.

MR. ERNST: Oh, absolutely.

MR. BOTTERELL: I mean, we are now in a transition from a mass media era to a new media era, which is being localized and personalized, and a lot of things. The broadcasters are broadcasting, but it does have side effects.

MR. GOLDTHORP: But how does -- and maybe this is a stupid question, but it seems like an obvious one. I mean, as we transition to a CAP based

alerts, even for the broadcast community, which was talked about in the last panel, does that change your opinion, or does that change the game?

MR. ERNST: I think Art touched on it. We are in a transition phase. It provides the ability to use the features of CAP, but if you look at the way it is picked up right now by the media, they pick up only the information to boil water in Loudoun County, okay, and that's it.

And it is done, and it is not an automated system, and it is somebody sitting there selectively putting in to the crawls on the national media what is newsworthy.

There are a lot more messages going out than just that. There was messages going out where the shelters were and things like that. It wasn't getting picked up by the national. It was on our local media, but it wasn't picked up on national.

So they are picking up, and then you have got to understand their situation, too. They need to provide the coverage and they do provide a valuable service and keeping it up there in the public's eye.

But when there is erroneous information, there needs to be a way, because it has consequences. Erroneous information in the warning system has

consequences.

MR. GOLDTHORP: So to the extent that next generation alerting systems can help to at least improve or do affect them, then that is something that should be -- that is the point that should be made in the work that is ahead of us.

MR. ERNST: Right. Maybe there is a way when the message is withdrawn from the originator, as it propagates through the system, and it provides a warning to the media to withdraw that particular message or something like that.

MR. BOTTERELL: And just to quibble, this was an example where the message was not so much erroneous as it was merely over distributed, and therefore, irrelevant to a lot of people who didn't know.

MR. ERNST: 800,000 people.

MR. BOTTERELL: Exactly.

MR. ERNST: And it applied to Fairfax, and that was a separate message.

MR. BOTTERELL: So again that is this relevance issue, and as we get more location aware, and location based technologies, location is only one dimension of relevance, but it is kind of the low hanging fruit right now because so much of the

technology that we are getting has that capability. We can really cut down on that sort of message still.

MR. ERNST: Right.

MR. BOTTERELL: And I think that there are a couple of other things that I wanted to point out about what emergency managers at the local level I think want.

MR. GOLDTHORP: Okay.

MR. BOTTERELL: I mean, we have already said that effective warning is corroborated warning, and so they want to use all the tools. At the same time, they don't need any more work, and particularly this is not a shirtsleeves environment typically when you are doing these warnings.

You are doing it under stress and with a lot of people asking you to do a lot of things. So they want it to be simple, integrated, a single procedure if possible to issue warnings, rather than having to go through a checklist to do EAS, and then a separate one for CMAS, and then a separate procedure for sounding sirens, and yet another one for the telephone notification system, which sounds insane, but that is actually the practical reality right now.

So there is the benefit of integration as it actually shrinks, and I call it a right at once

approach. It simply shrinks the workload, and that is something that emergency managers want very badly.

That also guarantees consistency in the message among various messages. I think we have been where we have written and rewritten, and rewritten, and rewritten, and by the fourth iteration, it has drifted significantly, and it is like a game of telephone.

So having that one master authoritative message from which all presentations are derived simplifies things a great deal. We talked about precise geographic targeting, but there is another thing -- and this is almost an "on the other hand", because this is a new requirement that is coming to emergency managers, and to those of us who want to support them.

The increasing availability of warning, the increasing interoperability of warning, our increasing scientific capabilities to generate meaningful warnings, and one of the things that this does is that this creates a lot of conflicts with jurisdictional boundaries, because natural hazards don't care about where the county line is.

And so you begin to have issues of reciprocity and mutual aid, has really not arisen

before. So, what emergency managers also need is a standard of practice for warning. Right now it is frequently much easier to come up with a rationale for not issuing a warning than it is to take the career risk of issuing a warning that could be a career limiting move when you have no top cover. You have no policy framework.

This really ties back to the training issue. It goes to what are we going to train people on. If you are a paramedic in this country, before they ever put you on a fire truck, you have been carefully schooled as to what you can do, and what you can't do.

And as long as you hue to what they call their standard of care, you are on pretty safe ground. You are not going to be sued, or lose your house, or anything.

A warning official doesn't have that currently, and as the policy for warning becomes less and less constrained by particular delivery systems -- and historically almost all of the EAS procedure has had to do with the technology of EAS and its requirements.

Well, now we have this sort of platonic ideal of a warning in the form of a CAP message, which is deliberately agnostic to delivery systems. So now

we have the blank slate. What they should an emergency manager do?

We need to have that standard of practice, particularly when my activity in County A is necessarily going to affect people in County B. In order for there to be any reciprocity between their emergency managers and ours, we need a common standard.

That hasn't really been a problem historically, and this is a case where change tends to propagate up the stack from technology, to procedure, to human factors, and ultimately to organization.

So we have technology standards, and they are changing things, and one of the changes that is driving it is now we are having to look on up the stack towards policy and procedure.

So I think that one thing that emergency managers are really concerned about is that it be kept simple, and that it be explained to them, and not simply dropped on them, and said, here. Here is a gun with which you can shoot yourself in the foot, which I am afraid is the way that a lot of them tend to perceive new warning technologies when they are delivered without proper policy groundwork.

MR. GOLDTHORP: Okay. Thanks, Art. Go

ahead, Brian.

MR. DALY: Let me do a quick followup on what Art mentioned about keeping it simple. One of the challenges that I think the alert originators is going to have is as we evolve to new broadband technologies is that there is going to be devices out there with many different capabilities, and how are the alert originators going to know what that alert is targeted for.

MR. GOLDTHORP: Why wouldn't CAP be the middleware that makes all of that invisible to the originator?

MR. DALY: Hopefully it will, or an alert aggregation gateway function as we have in CMAS, which takes that out of the alert originator's end. With alerts, there will be CMAS 1.0 out there for a long time.

There will be new LTE based CMAS systems evolving. There is EAS. There is cable based systems. The alert initiator shouldn't have to keep track of where that alert is going in my view.

All we should do is specify here is the alert, and here is the information, and here is the area, and then somewhere in the system that gets translated into the appropriate distribution

mechanisms.

MR. GOLDTHORP: So, you know, there is certain fields that are not filled out. You know, the aggregator or whatever system is interpreting the alert would make a decision that that alert was intended only for distribution over CMAS, for example. Do you know what I am saying?

So that there would be a way for a system to determine where the alert should go based on what the originator was able to put in.

MR. DALY: Certainly.

MR. GOLDTHORP: And based on what the originator knew.

MR. DALY: Certainly you can use the fields within the CAP to construct the appropriate alerts for the appropriate distribution mechanisms.

MR. BOTTERELL: And this -- and I want to stress that this is a very real world problem. Something that I think is important to bear in mind is that CAP is not a new thing. There has been talk about CAP being adopted, but CAP has been in use in a number of places since like 2003.

So we actually have some experience with the use of CAP. Now, there has been refinements of the standard, and again because the threshold for the 180

days was FEMA adopting CAP, that phrase I think acquired maybe more significance or more importance than it really deserved.

But we have got a legacy, and one of the legacy things that we have seen is that emergency managers, when they are first presented with a CAP input screen, what they want to know is, well, where do I check off to sound the sirens.

And where do I check off to send the cellular alerts, because that is the way that they are accustomed to -- you know, they are accustomed to mapping directly to the individual technologies.

So there is a training step where you have to explain to them that there is a level of abstraction here. There is policies, but they are built into the system.

You don't have to know where the sirens are located and whether there is a siren in that area or not. You don't have to know all that stuff, because that happens automatically.

It works really well, but again, if it is not explained up front, there is a tendency to feel, oh, I am losing control and create resistance, when actually it is a level of control that they didn't actually want because it drags them down into

technical details that they are not typically interested in.

But it can be a source of real anxiety and resistance if it is not handled through training up front.

MR. GOLDTHORP: And, Denis, do you have anything, any comments?

MR. GUSTY: I will go back to your first question about the next generation EAS, and I think that to some degree it is more of next generation -- I'm sorry, your question was next generation alerts and warnings.

It is more of a next generation EAS, I think. If you look at the current version of EAS, it has its limitations. If you look at what some of the local governments, and even some of the State governments are doing, I think they are way ahead of the current version of EAS.

So the real question is how does the next generation EAS work together with these State and local systems. I think when you look at it from that angle, it opens up a whole can of worms.

I think going back to Art's last comment about where I am sitting there in a local office, and I have my screen in front of me, my local system. How

does that interact with the bigger EAS?

And I think that when you talk about CAP, that is the glue that I think is going to hold that together. But when we talk about -- well, when we start looking at broadband, that opens up a whole new area of capabilities.

And I think that is really going to catch on in certain local areas more than it will maybe at the Federal level, and rightfully so, because we keep talking about all the incidents, and that they start at the local level, and they work their way up.

So it only makes sense that the local jurisdictions, if they can afford to, they are going to implement those systems a lot sooner, and a lot quicker, than I think we will at the Federal level.

MR. GOLDTHORP: Well, let me just toss something out, and tell me if you think I am saying something different than what you are saying. I mean, I sort of equate this problem to the problem that we had with NG911, the Next Generation 911.

Because with Next Generation 911, you have got users that are way ahead of the alert aggregation and processing. Well, not the alert, I'm sorry. The 911 call aggregation and processing point, the PSAP in a sense, right?

So you have got users with every kind of device and technology that you can imagine, and every time the network rolls out a new technology, there are devices there to use it.

It is much more difficult for PSAPS, for a lot of reasons to adapt quickly. Alert EOCs are in kind of a similar space. It is just a different -- it is alerting instead of emergency calling.

And so I just had this idea in my mind that it is going to be hard and maybe slow, and there is going to be of course a lot of training involved for alert originators to move into next generation alerting.

They will probably move slower than the people that will be receiving the alerts, and in 911, the people sending 911 calls, or making them, are making them from you name it.

MR. GUSTY: Absolutely. I mean, we talk about social networking, and if you look at it from a first responder perspective, all of a sudden a citizen now becomes the first responder.

Why? Because they have the gadget. They are at the scene first. They are starting to send the message. One example that came up during the workshop two months ago was that one of the emergency managers

in San Diego was just swamped with messages coming in from the public about the wildfires.

So he had to sift through thousands of those messages. In the meantime, before he could even get his message out, his alert, the public already knew about it.

So I think that there is a huge gap, I think, between technology and the folks who are actually using it in the EOCs, for example. So in some regard, it may complicate things more for the emergency manager.

MR. GOLDTHORP: Yes, I think it has for PSAP, and the call centers. Darryl.

MR. ERNST: I think we are going at it upside down. We are asking how the users out there in the field will use the new technologies. How will they interface with the next generation EAS.

EAS is a Federal government directed system downwards. Yet, if you go back to first principles, your second and third questions, I guess it was, is looking at it from the standpoint of the user and the originator.

Both of those are down at the bottom. They are at ground zero. So, it behooves you to go to that level and develop the requirements based on all the

elements; the human factors, and the human response, and the manager's workloads, et cetera, et cetera.

And out of that derive the system level requirements that are needed, and then you can tell the EAS, the next generation EAS program office, and I assume an extension of IPAWS, but I don't know, what is needed in your system to make this work.

And in the broadband, you can get to what I discussed with you in that e-mail exchange. It was that the broadband is the partnering between Federal regulators and the industry people to make sure that the broadband for everybody can support the requirements. Not that the requirements have to be adapted to whatever is provided through the evolution.

MR. BOTTERELL: Can I pursue that point just a little bit?

MR. GOLDTHORP: In just a second, but there is something that I just want to question, because you have a situation, right, where -- and maybe this is where policy comes in, but you have a situation where you have got technology on the -- let's just talk about the alert.

And when I say users, and I know what you mean. You have got users on both ends, right? And that's true. Btu when I say users, and when I am

using it right now, I mean recipients of alerts, who now have the means to receive and render alerts that are far richer.

Now you have got user communities that because of limitations on the technology, had no hope of really getting alerts that maybe they could make good use of.

And how the technologies are able to deliver those alerts to them. Then the other user community, the originator community. Now that you have this, and you have enabled it on the one end, how do you create the desire on both ends, aside from the fact that there is going to be a desire, sort of an abstract desire. It is different, and it is market driven here, and they is sort of an abstraction here.

MR. ERNST: I would submit to you that we were beginning to get a handle on that at MPPW. We had some fantastic workshops up at Emmitsburg, in which representatives from all those communities -- the special needs people, the emergency managers, and industry by the way.

We had fire chiefs, and we had Metropolitan Washington Council of Governments, and representatives from all over, and we had our Federal partners there. The National Weather Service was there providing

corrections on misunderstandings about how things worked, et cetera, et cetera.

And we honed in on fundamental requirements, and there is no doubt I think in my mind, and I think in Art's mind also, that following that process, we could have taken the national plan and converted it into a project plan, and eventually into a program.

IPAWS is a good start, but I hope that IPAWS is something that it is always looking to the future. I am hoping that it doesn't have a goal architecture. The concept of goal architecture is archaic.

The goal architecture says that you are going to get to this point and stop, and we can't, because these guys aren't going to stop developing the technology.

MR. GOLDTHORP: Right.

MR. ERNST: So IPAWS has to be a starting point, and it has to continue on.

MS. STOUT: Jeff?

MR. GOLDTHORP: Yes.

MS. STOUT: This is Claude. I appreciate everyone's concerns in how to put together the right message, because obviously that is an issue with CMAS. However, once you all guys settle on what the issue will be, that will be distributed.

I think that also you need to worry about where the message does go, and who it goes to. I think that -- and I have heard before that before emergencies occur, there are -- and whether they are city managers, county managers, fire chiefs, police chiefs, and so forth, who do a needs assessment so to speak, where they go out into their communities and figure out what technology is being used by the hearing folks in their communities, and the deaf folks in their communities, and people who use wheelchairs, and the people who are blind, et cetera, et cetera, et cetera, of everyone.

And to get a pulse so to speak for what is being used in the community, and then what general system would work best to meet those needs, whether it is the media, broadcasters, t.v. broadcasters, the radio, social networks as we were explaining before, and so forth, to get whatever emergency message you officially decide to get out.

I am concerned not necessarily with the networks involved, because even last week here, the FCC's Chairman, Julius Genachowski, said that in the future that it will not be easy to use the spectrum that we have left.

You know, our spectrum is very limited, and

for example, to make room on the spectrum for the 4-G, or the new I-Phone is what I am trying to say, the I-Phone 4.

They actually had to -- the FCC was having to be flexible in its policies to open up additional spectrum. I think it was 3 or 4 times more that was needed. However, the demand for us as consumers is going up, right?

We require 30 times and 40 times according to what the Chairman said, more spectrum. So don't only be concerned about sending the right type of message, but also just sending it to as many people as possible, knowing that they do use different technologies.

And really, really make sure that no one is losing out in this whole process. Everyone of us wants to be able to take are of ourselves when there is an emergency. We want to know how to react, and we want to know how to recover from it, and how to move on.

So just on a basic level, I know a lot of the talking is to happen on the local level, as well as with government officials, and with industry, and the State level as well, and the national level.

Honestly, I see a need for -- and whether it

is CTIA, NAB, NCTA, et cetera, et cetera, radio associations and so forth, to just be talking with each other to figure out how CAP, CMAS, et cetera, IP protocols will work to benefit every single individual.

Not only people with disabilities, but however for us, over the years, it is really hard for us having to play catch up, because that is what we do, and we also get secondhand information generally.

We want to finally be able to get the firsthand information that all of you guys get, and respond as quickly as all of you guys can. Thanks.

MR. BOTTERELL: And, you know, in the Partnership for Public Warning, which was a non-profit organization that formed a month after 9/11, and hung on into what, about 2004?

MR. ERNST: 2005.

MR. BOTTERELL: 2005, or when it became clear that we weren't getting any traction here in downtown Washington. We had a number of representatives of special needs audiences, and those conversations were exactly the sort of thing that we were doing.

We were putting together the industry people, the academics, the interest group people, the

emergency management practitioners, and I think that what we are saying here is that that is work that very much needs to be picked up.

I wanted to challenge one little sort of assumption that we have gone with, because it is rhetorical, and it is commonly used, and it is mostly true, but occasionally it isn't, and that is this line that all emergencies are local.

If all emergencies were local, there probably wouldn't be a whole lot of Federal interest in public warning at all, except perhaps if the Federal government wanted to get into sort of the interstate commerce standard setting activity.

There are -- and there is actually a growing class of emergencies that are sort of born Federal, the BP oil spill being an example. That didn't start in a local jurisdiction.

Oil spills generally are actually being born typically under the immediate jurisdiction of the Coast Guard. I dealt with this a great deal in Contra Costa County, where we would get calls from the Coast Guard asking us to sound the sirens on shore because of something that had been dropped in the water.

So, it is not just terrorism, but there are a number of different jurisdictions that get involved.

At the same time, going to your question of adoption, I don't think that getting adoption by the emergency management, I don't think that is a problem.

Honestly, it is such a non-problem that we actually have a CAP legacy problem now, which is that we have a number of States and jurisdictions that already have CAP based integrated public warning systems that are somehow going to have to be brought into the mainstream, whenever we define what the mainstream is.

So I think that the market demand for integration, for simplicity, for economy, is there. I do think that there has been a lot of people who have sort of been sitting and waiting to see what exactly the Federal program is going to be, and how much or little they are required to do before they act.

But I think that there is evidence that emergency managers are ready to go.

MR. GOLDTHORP: All right. Good. I am going to shift gears a little bit now. We haven't talked too much about implementation, and one implementation, or one implementation question that occurs to me is that we are talking now about distribution of maybe a lot of alerts, or certainly alerts of a different variety over broadband

platforms.

What does that do when you talk about, let's say, multicast or broadcast distribution of alerts, whether it is over a social networking medium, or whether it is over a more traditional wireless service, broadcast service, or whatever the case may be?

What does that do in terms of network architecture and design? How do you plan for that as an operator? Mike.

MR. NAWROCKI: I would like to approach your question with a bit more of a conceptual response. I think the big incremental in terms of going from traditional alert systems to what we might call next generation.

With traditional systems over radio and t.v., one of the factors is that there is much less dependence on what is happening in terms of traffic load around that event.

There are obviously a lot of issues involving infrastructure, and compatibility, and filtering through information, but the actual -- you know, we know inherently that traffic usage goes up dramatically during any type of event.

As you move into next generation type

implementation, I think in terms of developing solutions, and standards, and regulations, you need to think kind of beyond just a simple how do I get a message from the origination point to the aggregation, and all the way to the end-user.

I think you need to think in terms of all the other factors that are happening around it, because they will materially affect the timeliness, and the reliability of the messages that are delivered.

So if we are looking at things such as social networking, and video streaming applications, and so on, there is a much greater dependency on things like traffic load, in terms of actually engineering a solution.

MR. GOLDTHORP: Brian, do you have anything?

MR. DALY: I think you are keying on one of the key issues. If you look at the wireless data group within the U.S., Cisco reported some numbers that in 2009 that wireless networks carried approximately 17 petabytes of data per month.

Now, petabytes may not mean much to you, but when you put it into context, think of the amount of data in the Library of Congress. That is the equivalent of 1,700 Library of Congress' being

transmitted across the network per month.

And by 2014 the projection is that is going to have a forty-fold increase. So we are seeing this explosion of data across the network, and with that comes with how do we get alerts out in a timely manner when we have this background loads on the network already.

And then as Mike mentioned, during emergency situations people are going to be demanding more data and more data. So, the key as we stressed for CMAS was a broadcast capability. Cell broadcast in the Legacy 2G, 3G, and introduced in the LTE technologies.

And as we move forward in LTE, there is also a multimedia broadcast multicast system that is available in the tool box for operators to explore different ways of delivering multimedia concepts.

Those are efficient mechanisms for getting the data out with all this background noise, and having every individual subscriber in an area trying to access the network, and get data, and IP enabled devices, and trying to use the wireless network.

It is really going to be a bog and clog on the network. There isn't enough spectrum as Claude mentioned to provide the user with the ability to have as much bandwidth as they need at any given moment.

It is just physically not possible. So these broadcast capabilities are extremely important as we move forward.

MR. GOLDTHORP: Fran, did you want to add anything?

MS. TRENTLEY: And I think that I absolutely agree, and that content, that live stream, where the DoD, if we are going to put up DoD, or you are going to put whatever the alert media is, has to be pulled into that local network as well.

If you are going to try to send to 7-1/2 million people back for a live stream, we had 7-1/2 million watch the inauguration in 2009. You can't do that from a fixed infrastructure on the web. I mean, there is just not enough bandwidth in a single location.

You have to be able to redistribute multicasts as an example of a way that you would do that into the local network, and then serve that end-user as close to the edge, as close to his device as possible.

And for all web-based content that is really the way that you would have to be able to do it. We have seen currently with the BP stream, live stream if you are looking at doing something like that, and we

have seen the same thing with large DoD, viral pieces of content, where they go out through social media, and you see millions and millions of people hit it at the same time.

It has to be delivered within that local network or you are going to clog up your middle mile pipes as well.

MR. GOLDTHORP: At the risk of getting into something, and I have gotten into this thing before in one of these workshops, and I am still alive. So, there is an existence proof that survival is possible.

But I will ask. I mean, one of the solutions -- you are all sort of implying that there is a congestion problem or a congestion issue, and a surge problem, and that you run out of surge capacity at a certain point because everybody is wanting access and capacity at once.

You are trying to surge through or punch through with an alert to that same community. Is there a role for priority service, or priority access, or priority distribution of alerts in an IP based network to enable that sort of feature? Art.

MR. BOTTERELL: I have dealt with prioritizations in communications for emergency management all my working life, and I have never been

terribly satisfied with the results.

So I don't know, but there may be, but then you get into QOS, and then who is going to decide what . I mean, look at the conversations that we have had around GETS, and telecommunications service priority, and wireless priority, and who gets to choose, and who gets what.

It gets very complicated, and there may be other strategy. I mean, that's why I am so happy that Akamai is here, because they probably have more experience than anybody that I am aware of in dealing with these problems of both large baseline loads, and large surge loads.

So they are I think in existence proof that there are strategies available. Whether prioritization is the best, I am not sure. It is clear to me that it is not the only one.

But I think that the one thing that we see here is the deep rationale for reframing all this stuff in terms of broadband, because a lot of the problems that we have with circuit switch, and telephones, and even current generation cell phones, have to do with the fact that there is minimal pooling of resource.

The capacity of my phone line to my house

does not contribute to my neighbors getting the message at all. It is a separate transaction. Well, when we are doing telephone notification, we are using a system for something that it was never designed to do.

So the fact that it doesn't do it perfectly is maybe not surprising, but the point is that as we normalize all of this information into this standard IP bytes is bytes sort of broadband environment, that gives us new opportunities to look for optimization strategies, which may involve prioritization, which I think frequently will involve, you know, edge services, and sort of distributed network design.

But I think we have now a reasonably soluble problem, and again we have seen where the problem has been addressed. Whereas, when we are dealing with like using wireline telephones for alerting systems, we pretty much know for a fact that we are beating our head against the wall.

You know, it is never going to work terribly well. It is only that we are doing it because it is the best thing that we have right now. So, this, I think, is really why it is important to have this conversation in terms of broadband, and to have this conversation in the context of broadband planning,

because broadband, I think, gives us the tools to deal with some of these surge problems.

I mean, even the wireless services, if you look at the evolution toward LTE and WiMAX, and these sorts of things, increasingly they are going to the less circuit switch, more packet switch, pooled resource architecture, because it makes good business sense day-to-day, and it also gives us the best chance of dealing with surges.

MR. DALY: And to follow on with Art's comments, when you look at prioritization, it is what are you going to prioritize. I mean, whose communications?

I mean, the broadband report talks about preserving broadband communications in emergencies. Well, who gets the priority? Is it the hospital and hospital communications, or is it the public safety first responders, or is it the end-user that wants to get more information about this tornado warning that was just issued to their area. You know, it is a balancing act.

MR. GOLDTHORP: Or is it the tornado warning itself, which presumably has less information than the request for more information. Do you know what I mean?

MR. DALY: Yes, right. I mean, it is a fine balancing act.

MR. GOLDTHORP: Absolutely.

MR. DALY: Which has the higher priority than the other.

MR. GOLDTHORP: But those tools do exist though within LTE technology for the next generation wireless. We are building priority service for multimedia data in there. They are all options to explore as we look at next generation alerting and information preservation of communications during emergencies.

MS. STOUT: Jeff, if I may. I just wanted to give some advice the individuals developing and maintaining the networks for our broadband connections.

During emergencies, when you are in the process of being alerted to an emergency, and maybe wanting to get involved in emergency communications, make sure that if it is voice messaging, or video transmission, or graphic transmission, data transmission, that those broadband connections are dialed down so to speak.

Because that will affect -- or make sure that they are not dialed down, excuse me, because that

will affect the video that we will get on, for example, our cell phones.

We can do peer-to-peer chats right now when the would be using video relay service, or video remote interpreting, and the same with an individual who is hard of hearing, you will see hard of hearing people suffer not being able to hear on their cell phones because the audio quality was degraded as a result of the message being sent.

So both the integrity robustness so to speak needs to be maintained so that we can truly do get the same information.

MR. BOTTERELL: There are so many opportunities for unintended consequences that prioritization, in particular, is a technological option, and which can be a policy nightmare.

MR. GOLDTHORP: Now, I am going to close with a question that applies more to sort of social networking as a platform, and then we will get to questions from the audience and from the folks on-line.

One of the things about opening the alerting process up to a wider community of users -- and now I am not so much talking just about the people that are receiving the alerts, but the viral effect that we

have talked about.

I mean, it is one thing for there to be a bell ringer, right? And if that is not an authenticated individual, that is somebody -- well, who was it? It was somebody that worked at the church. I can't remember who.

So there is only one person in the community that could climb the tower and ring the bell, and presumably there was some trust in that individual. Now we have social networking applications where anybody or everybody is equal, and nobody necessarily knows who anybody else is.

So how do you -- I mean, in some ways that diminishes the value of the alerting process, because it results in people maybe trusting the alert even less. How do you deal with that problem in social networking as it applies to alerting?

MR. BOTTERELL: Well -- I'm sorry, go ahead.

MS. TRENTLEY: I was going to go back to what Art had said earlier. It takes a couple of feeds before somebody buys that, and you may not be able to validate the individuals' information that he has given you, but if he is sending you somewhere else to go pick up information.

And if you are going to jump or redirect

from that twitter, or that link, to an official link, you can validate the official link. So you may not be able to validate that initial message, but you should be able to validate after you jump.

MR. BOTTERELL: This is why people look for corroboration. It is not because they are willful or stupid. It is precisely because they understand about noisy information.

And the short answer is attribution. You have to know who the source actually is, and if you don't know, then you apply a discount. Now, that turns out to be a non-trivial problem even within government alerting systems, making sure that a message is attributable, and that you don't as Darryl pointed out lose control of your own message.

There are technologies for doing that, because it is not a trivial issue, but I think that we have to remember that social media were not invented in 2005.

The telephone was a social medium. The backyard fence was social medium. Word of mouth and interpersonal communication, again with Dennis Miletta, another of our PPW colleagues, calls milling.

That process of people talking among themselves and comparing notes, and deciding in the

aggregate what they think is reality, that is a reality of the warning process today.

The fact that it is electronic changes it, and in many ways it may make it easier for us to understand and observe, but it is nothing new.

MR. ERNST: I was going to say that the social networking aspects of human behavior associated with it has been well documented by the social scientists since about 1935 in the Johnstown flood.

There is a tremendous body of knowledge out there that would provide us the means to develop all the requirements that we need to address, in terms of using social networking.

It is just that the social networking tools have been greatly expanded, but it is still human beings socializing together, and you are not going to change human nature.

There is going to be rumors, and so you need rumor control. That is where authentication comes in. But people do look for authority. If they see somebody on the television whom they know to be a trusted government official, they will trust what they say, even if that government official is giving him the wrong information. But it is an authority figure.

So what you say is absolutely true. You

need to be able to give them the ability to access the authoritative sources of information.

MR. BOTTERELL: When we set out to design the common alerting protocol, we didn't start from technology, and we did that deliberately, because the history of warning systems has been to start with the technology, and how can you apply it to warning, and that is how you build stovepipes.

Instead, we said what is the common ground in a world where the technology is constantly changing, and we decided that the common ground was human nature and social nature.

So we went to the social science research, and specifically a report that came out of the National Science and Technology Council, which I think is a creature of the White House.

They did a summary in 2000 that became known as the Red Book report that was a summary of the social science research. It was one of the points of departure from the PPW effort.

It also enumerated what they knew were the essential elements of information for a warning message. Chapter 6. And Chapter 6 expressed MXML is basically capped. So we came from the human factor, because the technology is constantly going to be

changing.

And if we build the technology, we are just running ourselves up a creek. Human nature and social interaction is the closest thing to a constant that we have got in this space, and so I think that in all of these things we really need to look at what we know about the human part of the system, and build back from there, because everything else is obsolete almost by the time it is deployed.

MR. GOLDTHORP: Okay. Thank you. I am going to close the panel now and ask if we have any questions either from the audience or from on-line. Yes, sir?

MR. PALM: My name is Ben Palm, and I work for the Public Technology Institute, which is an association of officials with technology and public safety responsibilities in local governments, and I have a question about how they will interface with IPAWS and CMAS.

But first I would like to share a personal experience with the emergency alerting. It happened a number of years ago, but it still irks me today. I sat down to lunch at a cafe here in Washington, and was informed that there was a water emergency declared in the District, and so I could not be served.

And I hurried home, and turned on the radio to find out what was going on, and the radio station did broadcast announcements about the emergency. Many announcements, none of which contained any useful information, like what the emergency was, was it continuing or had it finished, what we were supposed to do.

Instead, the broadcast were self-congratulatory about what a great job the station was doing in covering the water emergency. I was tempted to file a complaint against the licensee with the Commission, but I was more interested in whether I could have a glass of water.

So my point is that we need corroboration, and we need multiple media, not only for technical redundancy, but so that citizens can bypass if necessary the official media, the traditional media, who may dilute if you will your emergency message for purposes of self-promotion.

So my question is about the local governments. In my discussions with public information officials, and communications people in the cities and counties, they don't know about IPAWS and CMAS.

They don't know how they will interface with

it. With regard to CMAS, they don't understand why or if they will be required to submit their emergency messages to an agency or a machine in Washington, D.C. for some kind of vetting.

They like to know what if anything they will have to change in their procedures. If this is a voluntary program, how voluntary will it really be; and will they have to make new investments, and what will it cost. What do I tell these people?

MR. GOLDTHORP: Denis, do you want to -- I'm sorry, you are as close as we got to that today.

MR. GUSTY: Thanks. You know, it probably wouldn't be fair for me to answer that question. That is more of a question for Antwane, I think, than for S&T. You know, I hate to punt, but --

MR. BOTTERELL: These are excellent questions. Let us get answers and get back to you.

UNIDENTIFIED SPEAKER: All right. We talked about visual and hearing impaired. I am more of course on the broadcast side of it. CAP is a box into which many alerting elements can be put. One of the compartments in that box is for multiple languages.

Nobody has yet sort of taken responsibility for putting things in that box. How do you view multiple languages as occurring? Who is responsible

for providing that multiple language?

The radio stations and t.v. stations are somewhat frightened to open Pandora's Box. They don't want to be told, well, it is you. Hire a translator, and have them on 24-7 standby, and you provide the translation.

Other people would prefer to see the emergency originator provide the language translation, because that is where all the information is. That is where they can make sure that they have the language that is correct.

Some people assume that technology is sufficient to provide a machine level language translation. Well, I have got to tell you that 86 percent accuracy is not enough to tell me which direction to run. So talk about how we are going to solve the language problem?

MR. GOLDTHORP: Brian.

MR. BOTTERELL: Those are excellent questions.

MR. GOLDTHORP: Brian. Thanks, Art.

MR. DALY: We opened Pandora's Box while we were doing CMAS, and slammed it shut, and ran as quickly as we could, because we saw exactly those issues.

But on the serious side, we did look at one city -- San Francisco, I believe it was -- and took a survey of the census data, and looked at what one percent of the population on what languages were spoken.

We came up with, I believe, 37 languages, which would require 16 different character sets on multiple devices. There needs to be a policy in place at the national level to define what languages are used, who has to translate them into those languages, and how they would be rendered on the different devices that are out there. You have hit one of the key points that is brought up in multi-languages.

MR. ERNST: It is even worst than that. Art probably remembers the experiment in Los Angeles County, where they did the warnings in Spanish, and they took the English and translated it. And in one of the translations --

MR. BOTTERELL: Was imperfect.

MR. ERNST: -- was imperfect, and in fact very embarrassing for a number of people, because a word was used, and something that it shouldn't have meant. So you can't just hire translators, and you can't put it on the industry people.

It has to be the government authorities that

are issuing it, because they are responsible for providing accurate information. It is a hard problem. You are right about Pandora's Box.

MR. BOTTERELL: This is one of the deep issues, is how good is good enough, and who can tell. I can tell you that as a local emergency manager, I would not use a piece of software, a translation service, or any process, until I had some sort of certification that it was adequate, and nobody knows how to do that.

Language seems to be the hardest thing. Presentations for other sensory forms are technologically relatively easy, and a lot of times the personalization can be pushed to the edge, even to the individual receiving device. But language is a hard one.

MR. GUSTY: I would add that Canada is using CAP, and they are using the info logged in CAP to send a message out in English and in French, and we also learned that Israel is implementing a CAP based system.

And their requirement is to send it out in three different languages. So it will be interesting to see how they resolve that problem.

MR. BOTTERELL: The operational question is

to what extent do you delay release of a message in one language in order to get translations to the other. Who has got the capability and do you have to hold up.

MS. STOUT: And back to your question, I wanted to thank you actually for raising the language issue and the need for multiple languages, and specifically for emergency alerts.

I think that also in Texas, as well as in California, there is such a strong population of Hispanics, and specifically Hispanic deaf individuals and hard of hearing, who would also benefit from getting alerts in Spanish, and specifically in Spanish captioning, Spanish text, et cetera.

I know that San Francisco also has such a heavy population of Asian deaf individuals who could benefit from getting the language in either Vietnamese, Japanese, Chinese, et cetera. So thanks for just raising the issue in general.

MR. GOLDTHORP: Any other questions today? Sir?

MR. BELL: Yes. I am Frank Bell. Now, not every earthquake is a San Andreas Fault, which is rather well monitored, but a question is response time.

Now, among the many different possibilities and things discussed, I haven't heard any mention of this, but considering that Part 11 gets somehow improved in its definition that is appropriate to digital t.v., and HD radio, I looked at that and I considered a reasonable estimate for a response time budget would be about 2-1/2 seconds.

Now that is just from my perspective. I was just wondering what your thought is on that particular thing for earthquakes, and where response time matters.

MR. BOTTERELL: Earthquakes are a bad scenario because currently they are sort of self-notifying, and we don't have tactical warning. But the question of what should the latency goal for an alert be, the problem is that particularly when you get into sort of the last mile, the final distribution system, it is going to vary.

So I think you can come up with a worst case figure. I believe there is a goal for Presidential activation of EAS end-to-end that is in the range of some minutes.

There was if I recall correctly in the DHS target capabilities list, early on there were some goals set for percentage of population notified in a

time frame, and later that specification was pulled out, because I think they discovered that it was a little too complicated to try to turn it into one number.

But certainly for the purely digital stuff that you are talking about, it seems to me like you are in the right ballpark, but that can vary.

MR. GOLDTHORP: Brian.

MR. DALY: There is a system in place in Japan that they are developing called the Earthquake, Tsunami, and Warning System. The way that works using cell broadcast is that there is two ways. There is an S and a P-wave that can be monitored through seismographs.

The minute the S-wave is detected, they send out a cell broadcast message hopefully before the P-wave occurs, and that will hopefully give some advance warning.

We have spoken to some geologists at the University of Washington, and they said that the characteristics of earthquakes, for example, in California, are different than Japan, and that may not work.

But I think that this is an area to research further, and perhaps expand upon and look at systems

such as what Japan is doing as the technology evolves, and our understanding of earthquakes.

MR. BOTTERELL: That particular technology, the time of latent technology, has been used in the States. We used it in California. It is in use in -- Mexico City uses it for events that occur over at Acapulco.

The thing is that the P-wave travels a little faster than the S-waves, and so the further out you go the more lead time you have. In a metropolitan area, you might get lead time from one side to the other on the order of 10, 15, or 20 seconds.

In Mexico City, because their fault line is over by Acapulco, they can get several minutes. So, yes, that is a correction on what I said about tactical warning of earthquakes.

MR. GOLDTHORP: Sir?

MR. LAWSON: Thank you. I am John Lawson with Convergent Services. I work with public broadcasters and handset makers. First, let me compliment the FCC and FEMA for holding this workshop. This is very helpful.

I have been on MSERAK and SYMSAC, and now SYREC, and it is great to see the progress that is being made. I did have a question though about this

issue of network congestion.

When an event happens as we have seen, and the cell network goes down, or the wireline network goes down, as in the example of the San Francisco wildfires, we now have mobile DTV, and we have got FM radio, and we can use mobile DTV to send warnings to cell phones. We can geographically target it.

I guess my question primarily to Brian and Mike would be what are the prospects of one day the carriers and the broadcasters coming together to put mobile DTV receivers, and/or FM receivers, in handsets to really enable a totally ubiquitous emergency alert system?

MR. DALY: Yes, this topic of different capabilities in the devices has come up many times, and there is a lot of challenges with an FM chip set within an device. We probably don't have time to go through that here, I'm sure.

MR. GOLDTHORP: We have a minute.

MR. DALY: A minute? I probably can't cover it in a minute. I mean, a lot of those capabilities are really driven by the marketplace and consumer demand for those devices, and for those capabilities within the device.

There is capabilities inherent into the

networks that we can make use of for alerting, and getting information out to subscribers and the end-users above and beyond some of the capabilities that you have mentioned here.

Certainly it is areas for discussion further, and whether or not that comes to fruition is hard to say.

MR. GOLDTHORP: One last question, and we have to make it very quick. Sir.

MR. CASAB: Good morning. My name is Hesaw Casab, and I am with Global Labs, LLC. I had a question about how messages, how emergency messages arrive at the FEMA aggregator.

Is it expected that the alert originators have to actively transmit it by e-mail, FTP, or some other protocol, or does the FEMA aggregator -- is it constantly calling and listening in on multiple servers that are known to host these messages, and then pull them from that way?

And kind of like a related question, who is responsible for developing the specs for the communication between the alert originator system and the FEMA aggregator?

MR. GOLDTHORP: Antwane, do you want to take that? You were turning around like you were going to

answer it.

MR. A. JOHNSON: -- but right now we are working with DHSS&T on standards, and so while in the past that we have talked about the C interface specification, and other components, the A and B specifications for the aggregator, or for IPAWS in general.

Now, we are talking more about just an IPAWS specification that is just a set of standards that would allow folks on the origination side to interact with the IPAWS aggregator, as well as on the dissemination side of the house.

So it will not be -- we will not receive alerts and warnings by e-mail. It will all be an automated exchange based on the standards that have been identified, developed, and then adopted by the program.

MR. CASAB: But the other originator has active --

MR. A. JOHNSON: Yes.

MR. GOLDTHORP: Thanks, Antwane. Sorry to put you on the spot.

MR. BOTTERELL: Now that Antwane has spoken for IPAWS, I can say that in other CAP based systems what has typically been done is an HTTP post with some

authentication on the input side.

There are some other systems using some other protocols, XMPP for one, but typically that is it. There is a desktop tool of some sort, and then it pushes and does the authentication handshake, because if you do a polling thing, then you have got a lot of inefficiency.

Plus, then you have to have a database of every possible source, and it is a lot easier to manage that in the authentication and just hand out credentials, than it is to have to say, well, what IP address are you going to be at. So that is how some systems do it, but again I don't speak for IPAWS on that.

MR. GOLDTHORP: Okay. All right. Before I introduce Lisa for closing remarks, let me just thank our panelists, and ask our audience to join me in thanking them.

(Applause.)

MR. GOLDTHORP: And closing the workshop today is Lisa Fowlkes, Deputy Chief of the Public Safety and Homeland Security Bureau, and let me add before Lisa -- while Lisa is making her way up, let me add my thanks to all of you for coming out today.

MS. FOWLKES: Thanks, Jeff. I would like to

first of all thank both Antwane and Jeff for the really terrific job that you guys did in moderating both of these panels.

And also on behalf of Jamie and Damon, I thank all of our panelists, both panels, and ask that you please give both panels another round of applause. I hope that you all found this very lively and informative.

(Applause.)

MS. FOWLKES: I would also like to thank on behalf of Jamie, our Federal partners, NOAA, the Department of Homeland Security, Science and Technology Directorate, and the White House Military Office, which some of you may or may not know is another Federal partner in the emergency alerting space.

And specifically to Eric Pankette, who is on the Federal working group, and essentially leads the Federal working group from the National Security Staff on Emergency Alerting Issues.

Thanks to the staffs of both the FCC and FEMA for your tireless work on emergency alerting, and finally and most importantly, I would like to thank all of you for attending.

The sheer number of you here today, and the

fact that I think as Wade mentioned earlier, we have representation from most, if not all, of the segments of the emergency alerting community, speaks volumes as to the importance, and how very important this issue is to our Nation.

We certainly look forward to continuing to work with all of you as we move forward on IPAWS, including next generation EAS and CMAS, both the initial CMAS and sometime in the future next generation CMAS. Hint, hint, Brian.

And in addition to which, you know, we certainly at the FCC and FEMA also look forward to having further discussions with all of you as we move forward on looking at how we leverage broadband technologies to ensure that all Americans can receive timely and accurate emergency alerts.

For those of you who have traveled from outside the D.C. area, I wish you a safe and enjoyable journey home. Thank you for sharing your time with us today.

(Applause.)

(Whereupon, at 12:46 p.m., the Workshop was concluded.)

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REPORTER'S CERTIFICATE

TITLE: Workshop on 21st Century Emergency Alerting: Leveraging Multiple Technologies to Bring Alerts and Warnings to the Public

DATE: June 10, 2010

LOCATION: Washington, D.C.

I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the United States Federal Communications Commission.

Date: 6/10/10

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