

**United States Election Assistance Commission
Roundtable Discussion**

Reforming the Testing and Certification Process

EAC Offices

1335 East West Highway

First Floor Conference Room

Silver Spring, Maryland 20910

Held on

Thursday, June 12, 2014

at 9:00 a.m.

VERBATIM TRANSCRIPT

The following is the verbatim transcript of the United States Election Assistance Commission (EAC) Roundtable Discussion “Reforming the Testing and Certification Process” was held on Thursday, June 12, 2014. The meeting convened at 9:00 a.m., EDT. The meeting was adjourned at 12:02 p.m., EDT.

ROUNDTABLE DISCUSSION

MS. MILLER:

Good morning everyone. My name is Alice Miller. I am the Chief Operating Officer and current acting Executive Director for the U.S. Election Assistance Commission. I’m happy to have everyone here today as we discuss this topic which I’ll talk about briefly. This is the second in a series of three currently scheduled roundtables for this year. The first one was earlier this year on March 13th. We’re again happy to have this roundtable Webcast live and a Twitterfall. Questions and comments can be sent to hashtag Eacvote during this live Webcast. Today’s topic “Reforming the Testing and Certification Process.” And I will just say, given my personal background and experience as a former election official working with voters in the local jurisdiction, and directly with state and local election officials, nationally, I can truly appreciate the concerns associated with the need for reliable equipment in the polling place. Reforms tied to this are a most important aspect of elections. As we know, those reforms are ever changing. As would be expected and anticipated, all of those reforms are tied to technology upgrades and developments.

To discuss today’s topic we have a distinguished panel, including two of the former Commissioners appointed by the President to the Presidential Commission on Election

Administration. I want to take a personal privilege and say happy birthday Ann. I did not forget. She decided to join us on her birthday today, so we knew she wouldn't forget once we invited her. We weren't concerned about that.

[Laughter]

MS. MILLER:

We have a state election official, two local officials from fairly large jurisdictions, Orange County, Florida, and Travis County, technical experts, including the Presidentially Endowed Chair, test lab and manufacturer representatives. And all of that said, we're nothing without one of our most dedicated supporters and committed moderator who joins us, once again, in his capacity, is Merle King. Not yet.

[Laughter]

MS. MILLER:

I asked him before we started, Merle, is there anything you want me to change about your bio, because I always do his bio, and it's, you know, it's always, basically, the same thing. And he says, say less. So, you see, he's ready to jump in, but we're going to stop that. I'm going to put his information on the record because I think it's appropriate to do so, and he deserves it. Merle is an Associate Professor of Information Systems and the Executive Director for the Center of Election Systems at Kennesaw State University in Kennesaw, Georgia. An active researcher in election administration, Professor King is the 2005 recipient of the National Association of Secretary of State Medallion Award for his work in Georgia elections. Together with his colleagues at the Center, he

has led the development of one of the nation's best resources for election administration support. The Center for Election Systems provides voting systems technical support for Georgia, to the Georgia Office of the Secretary of State, and to the 159 county election supervisors in Georgia. As a Professor of Information Systems, Merle teaches graduate and undergraduate classes related to legal and leadership issues in information technology. And one more point of personal privilege, he is also the father of the bride, for later this month. And that's a challenge that I'm not sure he's going to have as much control moderating as he will with this group today.

[Laughter]

MS. MILLER:

But nonetheless, our congratulations to you on that and I will now turn it over to Merle.

DR. KING:

Thank you, Alice. And on the off chance my wife and daughter are watching...

[Laughter]

DR. KING:

...I just couldn't be happier. So, let that go on the record. Well, thank you and -- for all the panelists who have joined us here today and for the audience and for those who are joining us on the Webcast or on the Twitter feed, welcome. I think the roundtable today is going to be probably one of the most important, if not the most important, that we've done in a series over many, many years. And so, I'd like to get right to it.

Our schedule today is kind of tight. The genesis for this roundtable and the topic of “Reforming the Testing and Certification Process” is really ongoing. It’s been part and parcel of the fabric of elections and voting system manufacturing and testing, really, since 1994. And what has kind of brought it into the forefront, and I’d like to read from the report from the Presidential Commission on Election Administration, “The current standards and certification process must be reformed to allow for innovation in voting technologies faster and less costly certification of new products and the certification of component both customizable and interchangeable products in voting systems.” That’s a pretty clear statement of the need to reexamine this process.

The reason that we brought together such a wide range and diverse panel is, in part, because the certification and testing process is not a monolithic one. It is one that spans across local jurisdictions, state level certification and testing, as well as the federal level. There are test labs involved. There are researchers involved. And what we tried to do at this roundtable is to bring those perspectives together, to not only identify what are the deficiencies in the current process, but what should be the goals, and then, most importantly, what are the needed next actions in this process, not just at the federal level, but at the state and the local jurisdiction level, to begin meaningful reform, not for the sake of reforming the process, but for the purpose of fielding better voting systems, more reliable election technologies, to decrease maintenance costs, all of the benefits that are derived from an improvement in this process.

At our roundtable today we'll be taking a break at 10:30 this morning, that's 10:30 Eastern Time, and that's a hard break. So, I'll be monitoring the clock and guiding us towards that. We'll resume at 10:45, and then we'll adjourn at 12 o'clock today.

What I'd like to do, at this point, is to ask each member of the roundtable to introduce themselves and to speak briefly about what are your interests in reforming the process. Each of us here has some stakeholder group that we represent, or are a part of, and I think it will illustrate to the audience here and to those joining us on the Web the diversity of viewpoints that have to be addressed and assimilated into any kind of action plan. So, I'd like to start with Jack, and then we'll just kind of work our way around the table.

Jack?

MR. COBB:

Well, thank you, Merle. I'd also like to thank the EAC for hosting this. It's an important topic. I'm Jack Cobb. I work at Pro V&V. I'm the Laboratory Director, currently an EAC recommended lab. I also am the State Examiner for the Commonwealth of Pennsylvania and the Commonwealth of Virginia. And as for your topic of how we have --- or how I have interest in this, I come from both sides. I have the laboratory interest which -- to perform the compliance testing that is required of us. We have to work with the EAC since we're an EAC recommended lab, or if we become a VSTL we'll have to work with them. And then, from the state side we have to keep interest in this because both the Commonwealth of Pennsylvania and the Commonwealth of Virginia rely heavily on the current program that is in place.

DR. KING:

Thank you. Ann?

MS. McGEEHAN:

Yes, thanks, thank you Merle. I'm Ann McGeehan. I am currently with the Texas County District Retirement System. I joined them in December of 2011, but before that I worked for 22 years for the Texas Secretary of State's Office, 16 years as the Director of Elections, so I was intimately involved with voting system certification. Last year, in May of 2013, I was -- had the privilege and honor of serving on the Presidential Commission for Election Administration. And one of the surprises on that Commission, as we heard testimony throughout the country was, the repeated concern expressed about the current state of voting system certification. So, I think my interest today is trying to implement some of the recommendations from the report, from the Presidential Commission Election report.

And essentially, I think what the Commission did, and Trey will have comments on this too, is just highlight the problem that, you know, jurisdictions across the country have purchased voting systems primarily with the HAVA funds. Most of those systems are reaching, you know, end of life, and so there's a lot of concern amongst election officials about what's going to happen in the future because we've seen very little innovation. And the other focus, I think, from the Commission, was the focus on the voter; that our voters are expecting to see progress and innovation in how they vote. We've seen that in, you know, air travel, libraries, you know. All other industries have adopted new technologies that

people expect to work with with their everyday lives and they would like to see that in the voting arena as well.

DR. KING:

Okay, thank you Ann. Ed?

MR. SMITH:

Good morning, my name is Ed Smith. I'm with Dominion Voting, where I lead our supply chain management efforts. Thank you for inviting me onto this panel this morning. My interest as a manufacturer of voting systems has many facets, but just a few of those are that we see the process evolve, which I know will be a significant topic for this morning and I won't belabor it, but that we also see the process as being valuable, valuable not just to us manufacturers, but valuable to the groups and persons that utilize the outputs from that process; the certificate, the test reports, the other artifacts that that process generates, and ultimately have confidence in the systems that emerge from that process that they're going to work and support their needs at the jurisdiction level. And ultimately, that not only they have confidence, the people receiving these outputs, but that people within the manufacturing realm, the people actually developing the systems, can have confidence that what they develop, what they work on today, this month, this year, in support of those systems that ultimately go through and pass certification, that their outputs are going to be right, that their outputs, if they meet standards and specifications, are going to be accepted, and so, that there's not as much variability and subjectivity in the test process as we sometimes see. So, those are some of my interests.

DR. KING:

Okay, thank you. Neal?

MR. KELLEY:

Good morning, my name is Neal Kelley. I'm the Register of Voters, although Alice introduced me as the Register of Orange County, Florida...

[Laughter]

MR. KELLEY:

...Orange County, California. It's less humid out there, so I'll continue to take Orange County, California.

MS. MILLER:

I'm sorry.

MR. KELLEY:

That's okay. I've been there ten years. We are the fifth largest jurisdiction in the country. And actually, my interests are really keen right now, because I'm right in the middle of introducing an RFI next year on what we're going to do for a new system, because it's going to happen here in the next few months. We actually calculated our end of life, so we have a date certain that we know it it will be at end of life.

And so, my interest is really trying to define what a voting system is. I think that's something that really needs to happen in the certification process. Echoing Ann's comments of continuing innovation, because I think the voters demand that. We've seen that just in our analysis and in our feedback that we've received from voters over the years. Increasing the ability to have incremental changes that are a little bit easier to put through the

process, and I don't know if that's something that would come out of this new approach to certification, or if that's more at the state level. And then, finally, not assuming what a system is going to be through the certification process, so that you're designing to the certifying specs, as opposed to the other way around.

So again, thank you for inviting me, I appreciate it.

DR. KING:

Thanks Neal. Brian?

MR. HANCOCK:

Thank you, Merle. I do want to thank everyone for coming today, and I want to congratulate Merle, again, on the upcoming wedding, and another little fact that I heard recently, that Kennesaw State University about to become the largest university in the State of Georgia. So, congratulations to Kennesaw on that. How about that? Little known fact to begin the day.

My interest I think is pretty obvious. I want to hear what all you have to say. Our program and our staff has been committed, really, since the very beginning, to making ongoing process improvements almost on a day-to-day basis and I'm just interested in hearing what everyone else has to say, thoughts on that, and thoughts on the future. Thank you.

DR. KING:

Thank you, Brian.

DR. GILBERT:

Good morning, and thank you for inviting me to the roundtable. I'm Juan Gilbert. I'm a Professor, now at University of Florida. Some of you have known me from being at Clemson, but I recently moved

there. And I've been doing research and development in this space for, wow, 11, 12 years now. I am also the PI of the Research Alliance for Accessible Voting, which is a project funded by the EAC. And my interest in this deals with accessibility, usability, testing, research on platforms, techniques and also, data for testing. And we'll probably get around to that a little later, but as we move forward in testing we'll have a conversation about, not only platforms, but data to test with, and that's going to be important. So, that's my interest as a researcher, as a scientist, in help pushing this along.

DR. KING:

Okay thank you, Juan. Matt?

MR. MASTERSON:

Matt Masterson, I'm the Deputy Chief of Staff and CIO for the Ohio Secretary of State's Office. This is really fun for me, actually coming back to the EAC and getting to critique my own work from previous time here. So, this is great. I appreciate the invite and the opportunity to speak to this.

My interest in this process is fairly obvious, but, you know, as my counties in Ohio start to look to new equipment and needs, the Secretary of State's Office in Ohio is, at this point, completely reliant on the EAC certification process. Our state law requires EAC certification to field a voting system. And so, looking at reforming the process, improvements to the process, and how best to go about doing that has a direct impact on the systems that Ohio voters will use. And so, I have a very keen interest in doing this.

DR. KING:

All right thank you, Matt. Dana?

MS. DEBEAUVOIR:

Thank you, my name is Dana DeBeauvoir. I'm an elected official in addition to conducting elections and I've been conducting elections for 29 years. So, I am particularly grateful to be in such august company, among people who love voters and love elections. It's a pleasure to be here with you.

Travis County is perhaps in a unique position because about three years ago we grew frustrated with the lack of innovation in the product arena for voting systems. There were no new products out there for us to purchase, and as we all stepped into this new world where the systems that we had purchased under the requirements of HAVA had begun to age, all of them across the United States were aging, we found that when we went to go purchase new ones we didn't have anything out there that we thought was worth the money and that had the kinds of traits that we had hoped to find in new and improved equipment. So, we started out with a public initiative for a new voting system. There may be other public initiatives that come down the pipe, but right now, we're the first one. And we don't have any game plan to follow. So, it is a difficult road for us to invent this new model. Large jurisdictions cannot rely on voting systems that are paper based only, partly because voters want new voting systems for the future that allow them to have new options. They want to have vote centers and they want to have early voting programs, and those cannot be supported by paper only.

In conjunction with that, we also can't really rely on DRE voting systems only. Although they're terrific, they're highly accurate and they're really fast, they don't provide the kind of proof that they work correctly the way they're operating now. And we really do need to do that. So what we're trying to do is build the best of both worlds for voters for the future. And I'm hoping that the EAC can help with that in the future. So, my goal for the future is to try to see, well, what kind of support can we get for a public initiated effort to design a new voting system that will help voters feel protected using voting systems that will offer them all of the new systems that they want, and yet provide the proof that their vote is safe.

DR. KING:

Okay thank you, Dana. Trey?

MR. GRAYSON:

Good morning, I'm Trey Grayson. I'm currently the Director of Institute Politics at Harvard. I spent two terms as Kentucky Secretary of State and was a member of the President's Commission on Election Administration. And I get to go last, so ditto.

[Laughter]

MR. GRAYSON:

I guess a couple of the things that I would add, but not delaying the kickoff of our conversation, was that during the Commission's work we had some --- we did a survey of election administrators across America and whether they were -- you were an administrator in a large jurisdiction or a small jurisdiction the number one concern in

the future was voting system technology, and it was by a pretty wide margin. So, I think that highlights the need for this conversation and for some solutions.

You know, one of I think the most powerful sentences, which I'll paraphrase from our report, was that "Ten years ago Congress appropriated a bunch of money to upgrade voting systems and there's no money right now at the federal level, there's no money at the local level to buy new systems which are about ready to age out, as Neal mentioned in his statement. But even if there were money, nobody really wants to buy any of the machines. And that's not the manufacturers' fault. It's not the certifiers' fault. It's probably -- it's everybody's fault and it's no one's fault. No one was really happy with where we are right now, and it's a hard problem to solve. But it was something -- as I said, it was number one on the survey and it's something we got to fix. It's kind of sad that we're using 2002 standards, essentially, with a little bit of a tweak in '05, in 2014.

DR. KING:

Okay, well, thank you Trey. And thank you to all the panel.

I think the opening comments with the perspective that each of you bring to this discussion today really illustrates the scope and the depth of this issue, is that, it is not a simple issue and the solution is going to have many, many different aspects, each bringing value to the various stakeholders that you all represent.

If we were to kind of summarize what we hope to do here today, we want to talk about, what is the current program. Make sure, before we talk about changing the program, that we do

understand it as it exists today. Then, what's not functioning as it needs to in it. What should be the goals for transforming and reforming the program? And then, what are the action plans? What are the steps that each of the stakeholder groups involved in the certification and testing of voting systems, what do they need to be doing?

So, to that end, I think Brian, let's start off with a brief overview of what the program consists of, and the status today.

MR. HANCOCK:

Thanks Merle. Yeah, we thought it would be a good idea before we start talking about the future and changes, to sort of remind ourselves where we are, and sort of how we got to where we are today.

Obviously, we are here -- "we" the EAC and the Certification Division because of the Help America Vote Act. Section 231 of HAVA says that "The Commission," meaning the EAC, "shall provide for the testing, certification, decertification, recertification of voting system hardware and software by accredited laboratories." That section also talks about laboratory accreditation and the fact that "The Commission shall vote on the accreditation of any laboratory recommended by NIST", by the National Institute of Standards and Technology, "and their National Voluntary Laboratory Accreditation Program" under this section, and that, sort of where our friend Jack is stuck right now, because HAVA actually says that the Commission shall vote. That's really tough. When there's a "shall" there, it's tough to get around that. So, Jack has been recommended by NIST, accredited by the EAC staff or what

we do, but because of the lack of quorum, he's waiting. Finally, Section 221 of HAVA talks about the Technical Guidelines Development Committee and their duties, and basically, it says, "The Development Committee shall assist the Executive Director of the Commission in the development of voluntary voting system guidelines."

So, the EAC, essentially, has worked with HAVA and developed program manuals for both testing and certification and laboratory accreditation. The manuals follow national and international guidelines for all organizations that conduct these types of activities. To administer these programs, our division currently has four full-time staff and three part-time technical reviewers. And, again, we're responsible for the VVSG development, laboratory accreditation, and administering on a day-to-day basis the testing and certification of voting systems.

Let me just hit, quickly, some timelines since the EAC was created that relate to testing and certification. The 2005 Voluntary Voting System Guidelines were adopted -- were voted on and adopted by the Commission in December of 2005. The Commission voted to adopt the testing and certification program formally in December of 2006. NIST recommended their first lab to the EAC in January of 2007. We accredited our first lab the next month in February of 2007. And finally, we accredited our first voting system in February of 2009. Interestingly though, even though before we accredited our first voting system, we recognized that there were needs for tweaks in the process, and that we needed to look at this sort as a holistic process, and involve folks.

Back in 2007, in April, we had our first cost of testing meeting in Denver, already at that stage recognizing that the cost of testing was very high. And we did that again in a second follow-up meeting in January of 2009, even before that first system was certified.

We've been responsive to concerns related to our program in a number of other ways. We regularly issue Notices of Clarification and those provide guidance to labs and manufacturers on various sections of our program manual. Since 2007, we've written and implemented 19 of those. We also clarify the VVSG requirements, working with the manufacturers and the test labs. There are oftentimes where we find that the standards, as written, are not necessarily testable, perhaps, or that there is some concern with how they're implemented by the manufacturer. And so, we try to clarify those. Since 2007 we've written and implemented 41 such RFIs.

We also do regular outreach to election officials and other interested parties. We have a monthly newsletter that comes from the certification program. We have voting system testing and certification blogs that are regularly posted on the EAC's Website. And finally, users have the ability to sign up for automated voting system advisory alerts when there's an issue with a voting system. Ten of these alerts have been distributed so far. Some are provided directly to us by the manufacturers, others come from the EAC directly.

So, where does that leave us currently? As of today's date, the EAC has certified 18 voting systems and system modifications.

We currently are engaged in five separate test campaigns with different voting system manufacturers. Seventeen states currently use completely EAC certified systems or major certified components of those systems. That breaks down to over 300 separate election jurisdictions in the United States. And I would say, considering the systems currently under test, and the fact that, as we've heard for quite a while, many systems are looking to purchase -- many jurisdictions are looking to purchase new systems in the next one to two years, perhaps, we certainly expect the number of jurisdictions using EAC certified systems to, perhaps, double during that time period.

So, that's a very quick and dirty about where we've been and where we are right now. And so, that will lead us, hopefully, into some discussion.

DR. KING:

Thank you, Brian. I want to start the panel's discussion, and I'm going to direct this question first to Trey and Ann, the two Commissioners, and then, I want to work down to the state level, and then down to the jurisdiction level, and then down to the academic research and test lab level. And it has to do with kind of a fundamental question of any process improvement to program, which is not so much, are we doing things right, but are we doing the right things. And what I heard in the opening comments were two words that are typically not mentioned internally in testing, but externally, are extremely critical, and that is confidence and uncertainty, that is one of the byproducts of the testing process is increasing the confidence in stakeholders, whether those are

jurisdictions using the voting systems, voters casting votes, candidates accepting the outcomes. And the second is, the byproduct of testing which helps reduce uncertainty in the application of these systems.

So, here's my question. Process improvement typically seeks to do things right assuming the fundamental question of, are we doing the right thing has already been answered. In regards to voting system testing and certification process, are we looking at the right things? Has the scope of voting systems, and often, I use the term election systems, which includes many of the innovations, Ann, that I think you mentioned, are we looking at a change in the fundamental scope beyond that which was envisioned by HAVA? And have stakeholder's expectations changed over the period of time that Brian mentioned? Has people that we represent by proxy, have their expectations changed?

So, I'd like to start first with Trey, and then go to Ann, and then, we'll just kind of work our way down through the process. Trey?

MR. GRAYSON:

So, I think that -- I wasn't around when HAVA was passed, but I was elected right after. So, I was elected in 2003, and started in '04, so I essentially don't know a pre-HAVA world, per se, with elections, except as a voter.

But it struck me, I guess, coming back into it as a Commissioner after having been out for a couple of years that -- you talked about confidence and uncertainty. It seemed like those were the drivers of the regime that we -- not just HAVA, but before

that, when we had the voluntary -- the standards prior to that. One of the -- but a couple of the concepts that we heard a lot during our Commission work, in addition to that, because, I mean at the end of the day if you don't trust the outcome none of the other stuff really matters. You know, we need -- we had an election on Tuesday. There was a big upset in Virginia, but nobody questions that outcome. We might wonder why it happened, but not -- it was no -- that was the correct -- that was how people won it on Election Day.

But a couple of the concepts that I'm not sure that the current regime handles very well, and maybe no regime has ever handled very well, since these are new concepts, one is more of the usability side of things. Some of this is because over the last couple of years we've done a lot of work --- not we, I haven't done it -- others have done it of how do you design ballots, how do you design -- what words do you use, placements of words and things like that, so that it's easier for voters to understand. Not voters with disabilities, everybody, all voters. So that usability concept, I don't know how well that's engrained in our systems.

Accessibility was a concept. That was one of the main drivers. The Help America Vote Act had that as a very important principle, but I don't think it's been achieved yet.

And I think a third one, and this is probably something in hindsight we didn't think about, and it goes to what, you know, Brian was talking about, very early on, where you all recognize that the system was --- the certification process is costing a lot of money, is costs. And, in this sort of new the world in which we live, where resources are extraordinarily limited at all levels of

government, how do we have a system that gives voters confidence, reduces uncertainty, is usable, but is affordable? That affordability notion is something that I'm not sure how well that's represented in the system. And these are some concepts I think that we heard, some, over and over again, during the Commission's hearings.

DR. KING:

Okay, thank you, Trey. Ann?

MS. MCGEEHAN:

Well, I would say that I think that the EAC program is doing a lot of things right, and I can speak to the days before HAVA when it was a very decentralized process, and we had standards that the FEC adopted in the 1990s. I think the EAC has brought a lot to the table and has, much better, brought in sort of the scientific community, so that I think that election officials were in a better position after HAVA certification or EAC certification than they were before, because I think they had better buy-in from it from a bigger group of folks. Not to say that the prior certification process was bad, but I think the EAC definitely improved upon it, especially in terms of confidence of what was being certified.

But, I do think times have changed and those certification standards were limited more -- or focused more on hardware, and the world we live in today is much more focused on software. And so, we really need to be looking at ways, I think, of how we can, perhaps, within the existing framework, get to an approach where we have a certification process that allows -- I think it might have been Neal, who said, I think one of the criticisms of the current

certification standards are that they sort of dictate what is being developed, what kind of technology is being developed. It would be nice to have a little bit more flexibility, so that you don't stymie development and innovation with overly restrictive standards.

DR. KING:

Okay, yeah, I think, echoing your point, Ann, that the comment that the current standards have become, in fact, design requirements for the voting system...

MS. MCGEEHAN:

Yes, yes.

DR. KING:

...seems to reverse the order that we should be pursuing.

All right, Matt, let's take this down to the state level. From the state's perspective, are we looking, not only at the federal program level, but at the state level, are we looking at the right things in our certification programs?

MR. MASTERSON:

Yeah, it's a great question as you look at sort of the holistic approach of certification and your recognition of sort of how the process works. So often we focus on the federal level and what the federal certification does and doesn't do and how it works, but the reality is that we, at the state level, are the primary certifiers. In the end, regardless if there's an EAC certification on it or not, those who are responsible for the systems and helping the localities get the systems are, in fact, in most cases, the states. And the states have, you know, a variety -- 50 different ways of kind of going about doing that. But the responsibility in finding the systems that fit the

needs of the states, typically, falls to whoever that the election official, chief election official in the state is and how they go about certifying. And so, you know, the kind of hindsight, I guess, look that I can take now, having been at the federal level and down to the state, is the focus of what the states really care about and what they need in certification. And the reality is, is that states most often -- state reviews most often focus primarily on the function, right, what do the systems do for you, and how do they function for the voter.

And so, you know, Secretary Grayson brings up this concept of usability. That was something that's kind of worked its way into state certification now that -- you know, and slowly. We're not there yet. But ballot design and stuff, those are the kind of functions that a state certification and, I mean, even state statute address, right? And so, when we look at the role of the state and state certification so often, and I can speak to Ohio's process, it has almost exclusively to do with Ohio's unique needs for the function of their systems. We don't look at, for instance, the security, partly because we rely on the EAC certification and code review, and what not.

And so, I think there also needs to be a recognition, you know -- you asked, what's been done right. I can speak very specifically that the systems we have fielded now in Ohio because of the EAC certification process are better. They're better systems than they were before. They've been improved on. And I think there needs to be a recognition that, yes, we want to see improvements, yes, we want to see innovation. I think all of us

want to see that, both at the state and local level. But these systems, the voting systems themselves, outside of election technology, is a better system than what we had before. And that's a credit to the rigorous process that's in place.

But then we look outside of the voting system to the election technology and see things like e-poll books, Election Night reporting, ballot on demand systems, you know, all of those peripherals, and see the innovations taking place and kind of crave that, as well. And so, the question I think that states and localities are going to have to struggle with is, what do we want these systems to do, and how does that impact the confidence, right? Because we can want all this innovation, but, you know, those systems right, wrong or indifferent, like you used as the example, we believe in the results out of them right now, right? There's a confidence coming out of that that's been a result of both the state and federal certification process, and we don't know the impacts of these peripherals and these innovations in that way. An election official's job is to manage uncertainty, right? And so, the certainty around the voting technology itself, the equipment itself, is a nice place to start. And the reason this conversation is happening is because uncertainty is coming into the equipment due to age, not because of testing, not because of performance issues in that regard.

So, I hope that answers the question.

DR. KING:

No, you make several really good points, and one that I want to emphasize, as I pass this question down to the local jurisdictions, is

why we test the way we test at the state level, and I think the answer, pretty simply, is because that's what we know how to do. We're election administrators. We understand the functionality of elections, so we have a tendency to build our test protocols around testing the functionality of the system. But our awareness of the importance of accessibility, usability, security, maintainability, sustainability, expansion, interaction with other systems, all of that awareness has really come into a collision with our ability and our expertise and our capacity to test at the state level. So, I think there are different issues of testing at the state level that are, in many ways, as complex as what's being done at the federal level, but the resource availability is very un-uniform at the state level.

So, let me to go to Neal, and then over to Dana. From the jurisdiction level, where you guys actually take these machines and let voters cast votes on them, share your perspective on whether our certification process at the state and the federal level, and if it's done at the local level, and certainly your RFI represents a key component of defining the requirements for voting systems, are we looking at the right things in the right way, from your perspective.

MR. KELLEY:

Thank you for the question. I want to make a public confession first, and that is, I don't know as much about the process or the VVSG as maybe I should. And I look around at my colleagues and many of them that say they do, I don't know if they do, because it's a very complex process. And as a local election official, you know, what I'm interested in is functionality, accuracy, transparency, security. Those are the things that I'm concerned about. And I

really didn't start diving into this problem for us, until 2006, when we had to put in voter verified paper audit trail in our voting booths, and then, in 2011, when I needed to make a modification to our voting system. And to the credit of the EAC, they helped me through that process, and at the state level did an administrative review. So, I think from that standpoint it's working for me. But I'm not a manufacturer, and I know that anecdotally there are barriers to entry. The cost is a significant issue and I think that's something that's going to be echoed for awhile.

But, in answer to your question, I think other than adaptability, which is the whole COTS issue, and I hope we talk a little bit about COTS as we go forward, I think that's probably the biggest piece that's missing for me, as a local official. I'm on Windows 2000, right now, and for those of you that are aware of what Microsoft is doing with Windows 2000, the answer is nothing. They stopped supporting that a few years ago. This is a true story. We needed new laptops for doing a process called SERVO in our voting system, and that's resetting the booths and taking the data off. We had to go to the local mom and pop computer store to try and find used laptops with Windows 2000. That's the part that's broken for me. And so, I don't mean to reduce it down to the weeds, but from a local standpoint that's my concern. So...

DR. KING:

Okay. I'd like to follow up with something, Neal, because I think the last thing you said, which is, "that's the part that's broken for me" is really what we want to focus on. And so, come back to that issue related to the legacy systems that your jurisdiction is using. How

can COTS -- and let's just call it a COTS strategy for right now -- how could that ameliorate that issue for you? Or what's your perception of how that could increase your options, increase your adaptability and your ability to discharge your responsibilities?

MR. KELLEY:

If there were items that were clearly defined outside of the voting system, and I don't think that's the case now, when there's certain peripherals that touch the voting system. If we were able to get a laptop and put "X" software on that, and it was Windows 7 and I could do that tomorrow and not have to worry about the certification process, because it doesn't actually tabulate votes, then I think that's what I'm getting at defining a voting system. That's where I'm looking for adaptability, and the ability to use technology that is on the peripheral that I can go to the local store and purchase without being stuck, for ten years, by the way.

DR. KING:

Brian just reminded me appropriately, so that COTS is an acronym, C-O-T-S, common-off-the-shelf. And it's used in the context here to talk about using both hardware and software products that are widely available that are not necessarily proprietary to a specific vendor, but can help extend the life and utility of a voting system. So, thank you for that, Brian.

Dana, from the Travis County perspective, how does this look?

MS. DEBEAUVOIR:

Well, thank you Neal, for that comment, exactly, exactly. In fact, when Dr. King and I were talking right before we got started today

the first thing I said to him was I'm out of my element here. I mean, I really can't believe you said that, because we -- as elections administrators, we don't know this stuff. We are not experts in election security, even in the technology, although we certainly study and we try to keep up and that is our job. But we don't know everything that we need to know about the design, especially about the security elements of new voting systems, and how we're going to integrate off-the-shelf systems into our new world.

It was the Election Assistance Commission and NIST who taught me about how to deal with the security issues with DRE systems. We didn't know anything about it when HAVA said, here are your new voting systems and use these. For the future we're going to still have those same problems because -- and especially in a public initiative, where we're trying to design for best of both worlds. We want the electronic voting systems, but they're going to have to prove themselves up in the future. We can't continue with the lack of security that they currently offer. It looks like the only security that is going to be proved up is going to have to be some sort of a paper audit tool. How are we going to fit that into a changing world of off-the-shelf hardware, which is going to update itself, if not every three years, then yearly? And what are the interfaces going to be with that. I don't know. I'm not the expert. I don't know where are we going to find that expertise? Well, hopefully, you know, and the best answer for elected officials has been, since its creation, has been the EAC. Can we continue to look to the EAC for that kind of support? I would hope so, because it is not within my element to know that kind of thing. I'm not trained

for that. I came from the LBJ School, and LBJ would be so proud that we're all here talking about this right now, because he would say, my job is to take care of the voters, deliver them voting systems that are good for them. And how I do it, he would just say, get off your duff and do it. But you're right. We don't know how to do this, and tough cookies, do it anyway, is how we're going to have to manage this problem.

The public initiative project that we're working on right now is going through the growing pains of, how do you describe a software only system within a set of standards that are a little behind schedule, not -- you know, they're not the latest thing that we should be using, and do they really tell me how to work with software only that's going to have to interface with rapidly changing new hardware off-the-shelf that is not only going to provide, you know, the latest hardware for voters to work with, but is going to be the key to providing us with accessibility for our people with disabilities, for the future, but everything we're going to need for connectivity, for any kind of remote voting, as well. So, all of our future access for voters is resting on this concept of off-the-shelf voting, and how we're going to keep our software connected with who knows what kind of future hardware.

DR. KING:

Okay.

MS. DEBEAUVOIR:

Have I been too technical?

DR. KING:

No, those are -- well you raise many good points that I just want to touch on, before I then to go Jack and Ed and Juan, to talk about this problem from their perspective.

First, is that there are many, many constituents to the testing and certification process, and this process has to be intelligible to all of that group of constituents. And so, we bring people into the elections process, who are election administrators, or even campaigns get involved in the election process, the voting process. We have technicians, we have researchers, we have manufacturers, and so, I think the point that the system has not been as intelligible to all of the stakeholders, is a very, very legitimate point.

The second thing that I think you point out, Dana, is that -- and I'll use an example of election boards, which are interesting to work with, small county election boards. And one of the hobbies I have now is reviewing their bylaws, and it's always interesting to note that many of them, their bylaws do not include a bylaw that allows for the modification of their bylaws.

[Laughter]

DR. KING:

And that's -- if you think about it, that's bylaw 101. Did we do the same thing with the VVSG and the HAVA mandate? In other words, did we embed into it so much rigidity that it doesn't allow, for example, and I'm thinking about Neal and Dana, the initiatives in your counties to expand e-government solutions to your constituents? That is a driving force and elections has to accommodate that same kind of social -- the pressure.

The second is that what we now think of as a voting system is much, much larger than initially envisioned. Initially, the HAVA vision, if I can summarize it, was vote capture, vote tabulation.

MS. DEBEAUVOIR:

Yeah.

DR. KING:

And now, as an election administrator, you are engaged in so many more complex activities that interact with the voter through voter registration, online voter registration, electronic poll books, ballot on demand, signature recognition systems. All of this, we've had scope creep, but going back to our bylaws, we didn't imbed into that bylaw, and here's how we change the bylaws as we go forward.

MS. DEBEAUVOIR:

Yeah.

DR. KING:

So, with that I'd like to go to Jack, Ed, and then end up with Juan. And from your perspective as a tester, somebody who works primarily with the states in – really, in some of those technologies that are ancillary to core voting system, do you think we are working on the right things, in the right way? Are things missing out of our approach? And if so, what are those things?

MR. COBB:

Well, from the point of view that I see currently in Pennsylvania and Virginia, and to some degree in Indiana, and about to do some work in Ohio, with the electronic poll books, it's a much smaller, simpler system than the complex system of the electronic voting

systems that we're currently seeing from the manufacturers and the VSTL worlds. And the complexity of a voting system, itself, definitely needs a lot more expertise than the level of expertise on a small electronic poll book system, on Election Night reporting system, ballot on demand system. Those systems are -- they interface with the voting system, and at some point some of them air gap other means, but they interface, but they -- they're not as complex. The inner workings aren't as complex. E-poll books are changing. They are becoming more of like a portal into the voting system. They're in the VR system. So, they're getting a little more complex.

But, for looking at the right thing, which is what the question was, I think the focus is the right thing. The more complex system needs more technical expertise than the peripheral systems. And those peripheral systems may interface with it, but I'm not seeing that they are as complex from a testing perspective.

DR. KING:

Okay, all right, thank you. Ed?

MR. SMITH:

So, Merle, you started with the question, are we doing the right things. And if you look at a testing and certification, probably look at the testing pieces, there's really about five phases you could divide that into; source code review, TDP review, TDP standing for the technical documentation package, your system documentation, you have trusted builds where you're compiling the software in a manner that you know the software coming out of it is what should ultimately go into a voting system once it's passed test. Then you

have component level, functional testing, your electromagnetic compatibility, your accessibility, usability, and some other functions around the individual components, which could be an individual vote capture device. It could also be the election management software that you have at election central. And then, ultimately, you have some system integration testing where you're running mock elections to exercise all the different functions, that as a manufacturer, we've declared the system can perform.

So, we're doing those right things. I think those are appropriate things to do, because underneath those, especially in the functional world, are the security reviews and other things that the people has mentioned. Matt used the word functionality. But to Mr. Grayson's comment, you know, can we give confidence in the system and reduce the costs, we're doing those right things, but we're not doing them in the right proportions. In a baseline system certification they typically call for half the time and money being spent in test on source code review. So, once again, source code review is taking half the time and money, but the jurisdictions aren't doing source code review. They're not doing source code maintainability. They are running elections, which is implied by the functional testing, which is generally a quarter to a third of the time and money being spent. So, what I think had happened instead is some data on the effectiveness of these different aspects of testing, what is really important to the jurisdictions, what's really important to the voters, what aspects of testing are catching defects in the system that cause problems at the jurisdictions or would cause downstream problems at the jurisdictions, and then, focus the

testing activity there. And that is the way you can maximize the confidence, minimize the cost, and thus maximize the value.

DR. KING:

Okay, thank you, Ed. Juan?

DR. GILBERT:

Okay, so I have a few comments, and I'll start with going with something Dana said what my job is. I'm a researcher, I look ahead. In 2003, we had built what was called Prime III, a voting technology for demonstration purposes with COTS that was universally designed. We fast forward now, that's what you see. So, with that said I'm going to make some predictions in my comments of where we're going to be in ten years from now. I'm going to start with IBM. I'm looking around the room and I think everybody knows who IBM is, and I think HAVA and some of the manufacturers are IBM of the '80s, meaning they were focused on big equipment, the computers, producing, you know, the physical artifact. And fast forward until today, what are they? They are services, software, consulting, et cetera. My prediction is, if you are a voting machine manufacturer, and ten years from now, if you are still dealing with equipment, you will either be crippled or obsolete. You will have to be a software company, is what I'm going to say.

So, with that said, that means the testing and certification has to react to that environment. The innovation is, there will be hardware, and I'm not necessarily saying it's going to be COTS. That's not what I'm saying. I'm saying the emphasis is going to be software, meaning it's going to be software companies, software vendors. And that's the way we'll see it. So voting companies will

be software companies. Whether they admit it or not, that's what they're going to be. And I think, when you look at the testing, it's kind of going back to comments that were made earlier, look at what the ballot of record. What is the ballot of record? What is that objective thing that's going to be counted, is it a paper record, is it an electronic record? That is the ultimate goal, is, you talk about confidence. Can we produce an accurate ballot of record that can be verified by the voter and counted and counted again and again and again? That's going to be important. So, modern technology now, the best way to do that to make it accessible by all constituents is through paper. Now, when I had the comments at the President's Commission on Election Administration I said, we were going to make paper accessible, because people were saying you can't do it. And we've done that. And we'll be demonstrating that. So that's no longer an issue. Paper is accessible.

So, I think the certification has to match these things, meaning you've got to look at software. If you're doing the code review, the question I would ask, to what extent is that necessary if the ballot of record is the paper? Usability has actually changed the outcome of elections. There's several cases that that is a fact. That's not a question. The outcomes of elections have been changed because of usability. But, in the certification process, how much emphasis is given to usability? So, there's mismatches there as far as what we're actually testing for, what has actually proven to be the harm. And then, looking forward, as to what's going to be the future, it's going to be software based companies, software driven industry. That's what it's going to be. So, you need to think

forward to testing in an environment that's primarily software, and not so much motivated by the hardware.

DR. KING:

Okay, that's good. I'm going to come back and ask you a follow-on question, but I want to give Brian now a chance to respond to the same question, which is, are we looking at the right things in the right way?

MR. HANCOCK:

Yeah, there's -- this has been a pretty wide-ranging discussion, so I can't hit on everything. But a couple of things, and I'll start with sort of the last thing, one of the things that Juan just talked about, you know, essentially, what are we testing. And you talked about it and Ed talked about it, a couple of other folks have talked about it. Well, we're testing what's in the VVSG, right? We can only test what's in that document. And so, I think when and if the EAC has Commissioners, and the TGDC gets reconstituted, and all that happens, we need to take a really hard look at, not only what is in the next VVSG that comes out, but how that document is developed and what format it takes, right? I think some of you talked about the fact that the current VVSG are very design oriented, and I agree with that, and I am not necessarily pro design oriented. In fact, we've talked about it sort of internally and we certainly would hope that we can work with NIST and the TGDC to produce a real performance based standard the next time around. That would be my goal.

The one thing I would caution though, and sort of, to be careful what you wish for, performance based standards are very

difficult to test to, because instead of going through and having very specific standards on sort of how something is designed, which makes it easy to test to, and Jack can probably attest to that, instead, what you have is, the system shall be secure, the system shall be usable. And so, then the manufacturer has wide latitude to build to those very high level standards. But once it gets to the testers, both at the federal level and then at the state level, it's how do you test the manufacturer's implementation? That's really going to be the time and cost factor. And I don't know that it's actually going to be quicker and cheaper doing it that way. I would hope so, but I don't know yet. So, that's really one of the interesting things.

The other point and I think we've touched on it peripherally, but it's sort of the systems that we have now and the lack of innovation. And I'm not sure -- and we're seeing innovation now. But, you know -- and Ed, you may want to touch on this too -- but to my way of thinking, the manufacturers produce what their customers want, right? When HAVA was getting kicked around in Congress, and the years after, customers wanted DREs, right? That's what they wanted and that's what the manufacturers produced. Some jurisdictions are still using those old DREs. After the Florida election in 2000, we wanted paper verification, right? So, the manufacturers very quickly put verified paper, sort of, sometimes Rube Goldberg like contraptions on their DREs...

[Laughter]

MR. HANCOCK:

...so the election officials could do that, because that's what they wanted, right? Later on, through legislation in some states through

the request of election officials, what we're seeing now, and what we've been seeing, optical scanners. That's what election officials wanted because they wanted that paper, right? And so, it's only very, very recently that we are seeing innovation, right, and that I think the manufacturers are actually coming forth with innovation, both, the sort of legacy manufacturers and new manufacturers. But, I think that plays a more important part than we've talked about so far.

And with that I'll...

DR. KING:

Okay, all right, thank you. Matt, I want to come to you with a question about certification, and you have a unique perspective having both been at the EAC, and then at the state level, on the role that certification plays and how it is viewed by the various stakeholders. And so, I'm wondering if you could take a moment and really talk about how certification looks from both perspective, what people think it is, and then, perhaps, what it may really be.

MR. MASTERSON:

Sure, I appreciate the chance to address that. My mom always tells me I have a very unique perspective, so that's probably exactly right.

Certification, you know, one of the questions NASED has struggled with, state election directors has struggled with, is, what is the purpose of certification? What do we expect to get out of it and what's the role, specifically, with the federal, but really, it comes down to the states too, and so often, the answers go anywhere between indemnification. So, that good housekeeping

stamp of approval on there somehow gets us something, whatever that is, some sort of safety or protection, to a baseline. So, certification provides us a baseline to build on. This is the core function, core role of the system that we expect, and then, states, localities add to it. And that has its own implications to it, as well. And then, voter confidence, and that's different than indemnification. The voter confidence, the ability to put that sticker on there, and when issues or challenges arise, the ability to say, look, this has been thoroughly vetted and reviewed, is of value. And in fact, in some of the voting systems questions we've had in Cuyahoga, the ability for Cuyahoga to call the state, and the state to call the EAC, and all work in conjunction to say, here's all the testing that was done, had real value for us. And so, that was a value of certification and the role of certification.

And so, then the question becomes one of ownership for me. Who owns that certification and that certified system? And through, you know, legislation, in the form of HAVA and what not, the EAC's program was set up again with that sticker, this idea that the EAC owns that certification in conjunction with the manufacturer. I mean, the manufacturers, in a very literal sense, have to create these stickers and put them on their systems, on the approval of the EAC. But when the rubber meets the road, the reality is, people like Neal, people like Dana, have to answer the questions about what happened to their system, and then, it comes up to the state, and the state has to answer the question, what did you do, how did you look at these systems, what did the federal, you know, system - - Brian will get the call, maybe, two, three, four weeks later, but the

reality is the state certifies that system, and the counties, in their own way, through purchasing, RFPs, whatever, certify that system. And so, the real role of certification for us is to evaluate the systems to make sure that they can do what we need them to do in the unique circumstances of our state's election. That's what certification does for us.

DR. KING:

Okay. Let me change topic just a little bit. What I want to talk about is the role of the individual jurisdiction in the ongoing testing of the election system, whether it's a true voting system, or whether it's a peripheral. And what I heard several people here saying, certainly Juan, that we've kind of got the cart before the horse in many cases, is that the testing protocols need to be designed around the requirements of the system, not vice versa. And to do that it means that jurisdictions have to have some integral capacity for testing. And the most common testing that we do at the jurisdiction level is audits; that we collect data on the performance of the system, use that to reveal either anomalies in the system, or that the system is meeting expectations, and then, somehow try to cycle that back into modifications to the manufacturers, and then, for the test labs to ensure that the modifications are correct.

So, what I'd like to get input, and I'm going to start, Jack, with you, is this notion of what capacity do jurisdictions need to build and to maintain and sustain in order to be able to move the testing and subsequent certification process, so that the envelope covers those systems that are critical -- the correct performance of the systems that are critical to the execution of election. From your

working with jurisdictions, can you give insights into what's good, and then, where some needs are for that capacity?

MR. COBB:

Okay, there were a couple of questions in there, so I'm going to start off with the wider one. You know, when we were starting this program with Brian in 07-08, and the VSTL program was started, we were telling Brian how hard it was for us to get people up to speed, get them trained, and get that capacity to do this kind of testing. As Brian mentioned, you know, there are five systems in, right now. There are two labs. There's five systems at the two labs. Well, those two labs, if I'm correct, right now, one of them has like 13 people and the one has about five or six. There are 20 people on five systems, right now. I mean, if -- the capacity to handle that many systems is an expensive undertaking, to train that many people, and it's an expensive undertaking to retain that many people. Last week we were in Denver and I spoke with Linda Hastings, who's out of Florida, and I don't know if everyone is familiar, but Florida has its own certification program. It relies less on the EAC than most states do. But she repetitively said, you know, they have problems getting people. It takes them a year-and-a-half to train them. Then, they don't have enough money to pay them. Then, they're gone. And it's just a cycle. And she said that is the one of the biggest obstacles they have in Florida is retaining good people.

So, if you shift this more from a top down approach of getting the core, as Matt called it, the core functionality and stuff done at the labs or on a national level, and you were to push this to 50

separate states, one of the major states doing that right now, Florida, is already having problems. And it's really hard -- elections are unique. I mean, election systems, voting systems, in general, I mean, it's a unique thing. I like to always use this example. I live in Huntsville, Alabama, so there's a lot of DOD work, you know. I can't go and learn missiles. I just don't go and knock on somebody's door, can I play with your missile system so that I can learn this? Well, there aren't a lot of election officials that are going to let you learn their voting system by just go knock on the door, can I play with this? It's just not that way. So, the expertise is very centralized, and it's very specific to this industry.

DR. KING:

Okay, Ed?

MR. SMITH:

You know, Merle, you spoke to audits as being the primary manner by which the county level jurisdictions test the system. What I see is that auditing requires its own specific set of skills. You need some statistics. You need some quality assurance scientists to make sure you cover the spread of what you're really looking to audit, that things are properly randomized and that you get a solid audit. What I see is those skills, to build on what Jack said, as somewhat lacking out there.

What I also see is that the practices, the laws from state to state vary so much. Some states are doing firmware audits and verification before elections. Some are doing it after, some are doing both. Many states are not doing that. Many states don't have standardized pre-election logic and accuracy testing

protocols, some states do. Some states are just now starting risk limiting audits, another small batch election auditing protocols that you hear about, that Dr. Stark has published. It just varies so much. But auditing, to me, is very important. If you really want to instill confidence in the person, who you say, sorry, you didn't win your election, you know, audits of ballot images, audits of the system, assurance that it was not tampered with, assurance that the ballots were counted, and counted accurately, is very important. But yet, I just don't see that as embraced, as you might think it should be, across the country. There's impediments due to laws, but sometimes it's just not a focus. Resources are an issue too.

DR. KING:

And I think, as Jack pointed out, just the sustainability, even where we do see good initiatives begun, often those initiatives are tied to an administration, and when administration changeover we see that capacity.

MR. SMITH:

Tied to money and human resources, as well.

DR. KING:

Okay. I've got Dana, and then Matt, and then Juan.

MS. DEBEAUVOIR:

Okay, thank you. I just wanted to not clarify further. What I'd like to say is, audit what? The audits that are typically done at jurisdictions now are all about proving up the election in the sense that, did we get all the ballots? Are all the precincts in? Are all the jurisdictions counted? You know, have you got excessive over votes or under votes, depending on your system? That kind of

auditing is typically what's done at jurisdictions now. The kind of auditing that we are really talking about that I think should be done for elections, for the future, is really what's talked about in the literature now, and perhaps Juan can comment on this for the future, is what we should be looking at is evidence based elections. Perhaps the auditing, instead of auditing the system before you go into the election, not that I'm saying that's a bad thing, but instead of the focus being on the audit previous to the election, for the system, perhaps we should be auditing the system afterwards, proving that it performed properly. More of an electronic audit of the performance of the system rather than the paper, because if we move to electronic systems with a paper subset of them, to prove them up for, like, recounts, that is a completely different audit than one if you're using a paper based system. So, my only question is what kind of audit are you talking about? Because, depending on the question you ask, the technique of the question is completely different.

DR. KING:

Yeah, I'd like to respond, Dana, to things that I've heard based on that discussion, and then, we'll move onto Matt and Juan, is that what I hear election officials asking for is the capacity to conduct audits, the ability of the machines and the systems, not just the voting systems, to capture, store, and reveal data that supports whatever the charter of the audit is, whatever controls you're trying to investigate. And it's somewhat a chicken and an egg issue, in that, jurisdictions have to be able to articulate the kinds of audits so that that capacity is built into the machines. But, I think there is a

growing awareness, as Ed points out, that there is an expectation that audits are more than recounting votes.

That audits have to be designed to accommodate specific issues that arise within the system, and produce evidence that supports conclusions that will lead to actions and remedies.

MS. DEBEAUVOIR:

Dr. King, if I might just add, an audit is completely separate and different from a recount. In many states you cannot do a recount without some sort of legal intervention. An audit is something that often is done and should be done routinely after every election. A recount is not an audit at all.

DR. KING:

Right, Matt?

MR. MASTERSON:

Yeah, I appreciate that actually segues/steals a little bit of my thoughts which...

MS. DEBEAUVOIR:

Sorry.

[Laughter]

MR. MASTERSON:

No, that's perfect, it's perfect, and that is the purpose of the audit. But the larger -- when we talk about audit and process, election officials are process driven people and the purpose of an audit is to evaluate processes, inputs, outputs, to figure out how to improve upon those, right, to evaluate those. And in doing so, and this is really, I guess, my soapbox, but it's the election official acting as the IT manager, right?

MS. DEBEAUVOIR:

Yeah.

MR. MASTERSON:

And as we talk about the development of COTS and innovation, and your desires to work with software there's an inherent implication that I think we all have to understand, and that is, the role of the election official as the IT manager. If you're going to take on the challenges of that COTS-based system with software, that makes you a software maintainer, a software implementer. And that has very real implications for the election official, as far as instituting that new voting system. And so, when we talk about certification -- the certification, the testing, the thoroughness of the review can all be there, but if we don't in some way, and it can be done in a variety of ways or talked about, if we don't certify the implementers, the election officials, and even to some extent, even the poll workers, we've introduced uncertainty back into the process again, no matter how good the systems are. And so, as we look at that I think the challenge -- and I think Dana has inherently done it with her project, Neal is doing it with his RFI. They're looking at it from an IT manager's perspective and what that looks like. And that is just a role change from the time that the HAVA systems were implemented until now.

DR. KING:

Okay. Juan?

DR. GILBERT:

I mean, honestly, we didn't plan this, so it just happened we're all talking the same way.

[Laughter]

DR. GILBERT:

Yes, they're right. I said that we need to have what I call, et cetera, election technology certification.

[Laughter]

DR. GILBERT:

You're going to have to have it. If you're going to do COTs, the certification process, again, looking forward, will shrink severely at the federal level, and it's going to have to grow massively at the state, local level.

MS. DEBEAUVOIR:

Local.

DR. GILBERT:

Because if I certify a COTs component, let's say I go with an HP Touch Smart all in one machine, we certify that. So, Brian's lab -- I mean, Jack's lab, they certify that, but then, election is coming, so then, Matt is -- in Cuyahoga County, there is someone there, the election -- the local election officials say, we're going to use that machine with this software, but we're going to lease it from a vendor, a contractor in the state. That's what everybody is going to do because they're going to get it cheap. So, they're going to contract through the state, they get the machines. Now, each one of them have a unique serial number, but I guarantee you, none of them were the machines they certified in the lab. So, what does that mean? Now, you have to go through another process locally. You have to. Now, what's the rigor of that process? Who's doing that? And that's why I've been proposing the et cetera election

technology certification, meaning, some kind of process where the local worker is this certified election person. It's similar to what you're doing at Kennesaw State, but now you've got to blow that thing up, in a sense, because if you're going to use COTS, you have to go through another detailed process. So, it looks like, you know, you'd be saving money, but I don't know how you save. You're shifting priorities. You're pushing things down locally.

So, I don't know the implications. The only reason I can speak confidently to this, we just went through this in Wisconsin, through a pilot on April 1st where they used our technology in an election, with COTS, and they made us stand back and watch. So, we didn't get to touch anything like we usually do, so I got to watch the whole thing. It was kind of painful, but I got to watch this. And this is what's going to happen. So, COTS has this, it looks good from the ability to say I can just go to the store, get something, it's off-the-shelf, people are familiar with it. But at the same time, when you push that down, the responsibility comes at the local level for a lot of that certification, auditing, testing. It redefines what that's going to be, and I don't know what it is today. But if you adopt this, and this is the direction we're going, I guarantee you, you two, your workload is going to change and shrink, and then your workload, locally, is going to expand in new directions.

MS. DEBEAUVOIR:

That's right.

DR. KING:

I think Brian is in favor of that shrinking.

[Laughter]

DR. KING:

Let me take Trey, and then Brian.

MR. GRAYSON:

Yeah, and again, we didn't plan all this on this side of the room, but building on what Juan just said -- I was going to say this anyway, and it just sort of worked out -- the reality, though, of, in my state, and I think in most states, the 120 counties in Kentucky, there are 119 counties that, basically, farm this out. That's pretty common. Most people don't have the talent and the resources the way that Orange County California and Travis County Texas have. And so, if we're pushing more to the local level, that's kind of scary. It also means you're probably pushing it on the private contractors, because again, the 100 -- all but one county in Kentucky, essentially, have a contractor that runs most of the elections, not Election Day, but the programming, the maintenance, the selling and the purchasing of the voting systems. And that's a reality. That's not a Kentucky thing. That's a reality across the country. They don't have the capacity to do all that. Some of the argument behind COTS is that they do buy computers in their offices and they're used to using these kinds of things and they're used to using Windows 7 -- or maybe not Windows 7, in a lot of jurisdictions yet, but they're used to using these kinds of computer systems. And so, if we can somehow integrate that in they can do a better job. But the reality is these are cash strapped, resource poor, outsourced types, and we have to deal with that if we are envisioning a new system.

DR KING:

Okay, thank you, Trey. Brian?

MR. HANCOCK:

Thanks. Yeah, I'm going to follow on with Juan and Secretary Grayson, too, about the COTS discussion. And let me preface this by saying I am not against using COTs. I mean, we're using it now. We're expanding the use of it now. I think it's a good thing. But we've been here before. Not "we" meaning the EAC or the election community, but there are other organizations that have gone through a COTS implementation, right? The military DOD, years ago, went to requiring COTS because, right, we don't want \$10,000 wrenches, right, we don't want those things. Well, they've been through that and they found out that, particularly in computer systems, COTS are not all the same. The Air Force, the Navy, the Marine Corps have all had horror stories implementing COTS products. And I'm not saying they're all horror stories, but a vast majority of them are. In fact, so much so, that the military is now in many areas going back to specifically manufactured items to replace COTS in some ways. So again, it's just, again, be careful what you wish for.

DR. KING:

Okay. Ann, I want to come to you with a question, because you have a unique perspective of having been deeply involved in state elections, and then, serving on the Presidential Commission, moving up to a higher elevation. And a theme that I heard over here is that, as the change to, perhaps, some more decentralized approach to testing and certification goes forward, what is the skill set that the election official needs, and perhaps not personally

owns, but has access to? What have you seen changing, from your perspective, and where do the changes need to be accelerated? Where do we need, either more of this, as Matt says, the IT management, or the IT perspective? And, if you could comment on that.

MS. McGEEHAN:

Okay, let me gather my thoughts on that a little bit. I guess I have a couple of conflicting thoughts. I mean, I think that because of a little bit of stagnation on certification at the federal level, I think states and local jurisdictions are looking at experimenting a little bit and thinking outside the box on how they can move forward. And I think that, I guess, a lesson that we all learned after the Presidential election of 2000 is that the election community needs the help of the scientific community, the disability community. So, an election official, that, like Dana what is trying to do in Travis County, and others, I think, Neal in Orange County, and I guess Dean in Los Angeles County, is you need to bring all those stakeholders to the table.

I think an issue that we've been kind of skirting around all morning is, you know, what -- how much emphasis on security, getting that balance right. I think after the 2000 election we had a big focus on security of voting systems. Some of that, kind of the public outcry, has kind of died down now, and now we're looking more at usability issues. But I think that issue is still out there lurking. You know, we still have this debate. Do we really need that piece of paper? And, you know, I'd like to think we don't. I'd like to think that we could build a system that you wouldn't have to

have a piece of paper to prove that it's secure, but I'm not computer scientist.

One thing I wanted to mention, just sitting here, and I'll just throw this out, it may not be realistic, but we've got all this expertise at the EAC. We have NIST involvement. I mean, that's tremendous. I hate to see that go unused and have local jurisdictions reinvent the wheel. I'm wondering, is there any flexibility within the current framework under the innovation standard? I mean, after all these are voluntary standards. The states don't have to do it. The federal law doesn't require anybody to adopt these standards. Can we use what's out there, like Jack's lab? I mean, if it's gotten approval from NIST. It's gotten approval from EAC staff. Is there a way we could have a collaboration of states, since it's all voluntary anyway, to move this process forward? Not -- it wouldn't be full EAC certification if you don't have the Commissioners, but is there something that we can do cooperatively with local, you know, folks, a pilot? Let's say Dana wants to do a pilot to get her STAR-Vote certified. Could we kind of see what can we do within the current framework, without having to reinvent the wheel at the local level?

DR. KING:

Well, I think -- I'll have a comment on that, but I have Jack, and then, Matt. And remember we have a 10:30...

DR. GILBERT:

Neal.

DR. KING:

...hard -- and Neal. So let's start with Neal, but remember we have a 10:30 hard break. Neal?

MR. KELLEY:

Thanks, I'll make it quick. This is probably the reverse order but, you know, I don't drive my car into a wall to make sure the airbag works. But as an election official...

[Laughter]

MS. DEBEAUVOIR:

You don't?

MR. KELLEY:

...I definitely want to make sure my system is working. And to your point, Matt, on the seal, I take that and have great faith in it. But at the end of the day, I'm the one that's going to stand up in front of the cameras and explain this whole thing. And we do a number of things. We -- Secretary Grayson spoke about many jurisdictions sending things out to vendors. I don't, because I want the control. So, we're really end to end. We go to the mill for paper and we take it all the way to the ballot box, and do all the manufacturing. So, we vote ballots previous to sending them out, not because I just want to sleep, but because I want to make sure they're counting correctly and they're accurate in their vote totals. So, logic and accuracy testing, mock election prior to the distribution of ballots, and risk limiting audits, I think, have to expand beyond the four corners of the statute, in California, where they require us to do something. I want to take it beyond that. So...

DR. KING:

Okay good. Matt?

MR. MASTERSON

Just to quickly address Ann's point about not reinventing the wheel and not relying solely -- and I suspect we're going to talk about this after the break, but there's an opportunity to leverage all of the feedback loops. And I think it's something that the states need to acknowledge, and even the localities need to acknowledge, is that feedback loop hasn't existed up to the EAC. And there's an opportunity in looking at how to develop the new set of standards, whatever you want to call them, to take what states and -- I mean, have we ever looked at L & A testing, for instance, to help inform the standards development process? Have we ever looked at what states already require in their states? There's going to be a commonality amongst those states, in what they require of the systems that could be used to help inform a performance based standard that, in fact, says, hey, this is what states need out of their systems, and then, we can build on that and allow the Federal Government or the EAC's program, in whatever form it takes, to use that to inform their testing process, so that a state like Ohio can take what they need out of it, and a state like California can take what they need out of it, without reinventing that wheel. Because we can't -- what we all acknowledge, I think, at least at the state level, and probably locally, we can't go back to 50 different testing regimes. And I think Ed would probably be the biggest advocate because that's the most expensive proposition we could go to.

DR. KING:

Thank you, Matt.

MR. COBB:

This is to build a little bit on what Brian is saying. Everyone keeps speaking of COTS, and we're all thinking of tablets, laptops, PC's, that come out. But when you introduce that you've got something that's above that and that's the configuration management issue. And, right now you're all very confident in your systems because you have 2000 that was certified in your system, and that's what's running. Do you know what would happen if you introduce a laptop that five years from now when you try to run that system on Windows 10 or something else, that's not around yet? You don't know that your system will even react properly.

So then, that would be your responsibility and that gets to what Juan was saying. That's going to become your responsibility to then test to make sure all this works. And so, it's like a tradeoff. You have real strict configuration management. You certify a system all the way down to the OS and the service pack. Well, you know you have it. You're confident that is what the system is, and it performs accurately in the lab. Juan made the point, well, you go switching all this stuff, you're certain that's going to work the exact same way, because you don't have that piece of COTs. I mean, the COTS assembly line, before a run of a model is out, they may actually be like 50 models, you know. A monitor, today, may not be a monitor from tomorrow, or a PC, or a laptop. They have different components inside them and you don't -- we have seen, actually, in the EAC certification program, a monitor that was bought by a supplier -- an exact monitor was bought later and it was different, and the manufacturer didn't even know. We caught it in testing, but

that was never discovered that that was an actual different monitor, and it reacted differently. So, just to point to that.

DR. KING:

Thank you. I want to make one last comment, and then we're going to adjourn for 15 minutes, and it's a follow-up on Ann's and Matt's point. I think there is a recognition that we cannot have 50 testing and certification regiments and make this work. The question is, though, how we can leverage what's already occurring? How can we integrate, and how can we economize and take advantage of the capacities that are really already out there? And that's what we want to do when we come back and talk about. Now we've talked about some of the goals of the system. We want to get to some next steps.

We have a 15 minute break. We'll reconvene at 10:45 Eastern Time. And let's take a break.

[The EAC roundtable recessed at 10:30 a.m. and reconvened at 10:45 a.m.]

DR. KING:

Thank you and welcome back to the panel, our guests here at the EAC, and to those who have joined us on the Web. We're going to continue our discussion, really, that we're going to try to pick it up right where we left off, in talking about how do we integrate this wide-ranging collection of state requirements into a process that already exists. And I'm going to ask Brian to take that question and go with that, to start with.

MR. HANCOCK:

Yeah, thanks Merle. I do think we left off at a really exciting point in the discussion. We were talking about state standards and state requirements and how they relate to the entire process, and two things. One thing that came up last week at a meeting of state certification officials that was had in Denver, Colorado, last week was I think a unanimous agreement that the next time that we develop standards that we begin looking at, I think what Matt termed, the common state requirements, right, and use that as the basis for the standard, rather than something that's developed, sort of, not artificially, but in a different manner by NIST or the EAC or the TGDC. But while each state has different -- some different specific requirements, many of them are very common. And so, I think that, perhaps, should be a basis of where we start. And one of the things we're doing at the EAC, as sort of a pilot, to see how some of those things might work is we are working with several states, Indiana in particular though, to do a very careful mapping between those states' requirements and the very specific requirements of the VVSG, to see where there is commonality, and see where there are differences. We're going to be doing that with some other states, as well, using our virtual review tool that we have. And I think that will give us a good basis to see exactly, you know, where the commonalities lie and how that might educate us for future standards development processes.

DR. KING:

Brian, I want to follow-up with one question, because I think the first part of our roundtable today has really been talking about, what is the state of the practice, what are the issues that are out there.

And I think one aspect of the testing program that is not widely understood is the degree to which each testing program is customized to jurisdictional requirements; that it's not always the same thing that gets tested on each system, so that if a Texas or California or Georgia is looking at purchasing that system, additional jurisdictional requirements can be integrated into the test program. So, you're already doing some of that, right?

MR. HANCOCK:

Right, absolutely. You know, when a voting system manufacturer comes to the EAC, particularly with a voting system modification, they generally have a fairly good idea of where they're going to try to sell that system, or system modification. And so, oftentimes they will put, you know, specific changes into the system geared towards jurisdictions that they hope to be selling to. So, from that respect, we're already doing that. And, of course, the baseline that we test to are the requirements in the VVSG. But, we also, if a manufacturer makes a claim that says "My system does this, absolutely does this," we make sure that they can do what they say they can do in their technical documentation, as well.

DR. KING:

Okay, thank you. Well, we're going to shift gears a little bit, and earlier this morning, we talked about how the VVSG, in particular, failed to envision both the speed and the scope of the evolution of election technologies. And probably one of the most popular and common technologies that's being used in election are electronic poll books. And what I'd like to do is to take that technology as an

illustration of how we might expand and improve the testing program.

And what I want to do is start with Jack, because I know you have some experience, but then, just kind of open it up to those of you who have insights or experiences with electronic poll books, and talk about some of the challenges with testing e-poll book technologies, and maybe a couple examples of some success stories.

MR. COBB:

Okay. Well it's a very different program to start off with. Each state that I've worked with -- I've worked with Pennsylvania, Virginia, and Indiana, and to some degree with Matt in Ohio -- but each state has their own requirements, their own needs. Virginia is a great example. They don't allow real-time updating of the master list, but there, in Indiana, it has to be immediate. So, every state has its own needs, its own requirements, but you have to develop it specifically for those state requirements. And so, everybody is a little different. There are different needs. But, as for some of the success stories, Indiana was the first, I think, to step out and legislate the requirements for an electronic poll book, last July. And they came up with a set of standards, basic standards, and they contracted Ball State, at the VSTOP program, to then come up with a testing protocol. And what they decided to do was leverage the laboratories. They're not EAC accredited laboratories. They're not NIST accredited laboratories. They're laboratories approved by the State of Indiana, but Indiana is basically following the VSTLs. They could select another lab, but that's who's currently being able to be

used. But they're leveraging the laboratories in their experience with other software and systems-based compliance standards, and their process starts off with the application to the VSTOP program, and then, they do their review, and then they send off the technical stuff to the lab, the lab issues a report which is provided – a template is provided by the State of Indiana, and then Indiana then certifies the system from the report.

But that model is very different from the Virginia model, where Virginia didn't legislate anything. They have everything administratively. So, the State Board of Elections approved the standards for certification of electronic poll books, but they basically had a totally different model. Indiana wanted more of the voting system model, and Virginia wanted more of a quality -- the quality assurance model. They wanted to make sure that if they were going to use their state resources that the system coming in would actually function. And that's where they're going to start from. And so, they had seen so many electronic poll books that they just basically said, "We've got to do something," and so, they pulled out of that.

But that's kind of what's going on. There's lots of different ideas on how to do this, but I just look at it and compare it to where we are with the VVSG. And I can't imagine having 50 separate state requirements as the core. I mean, most states' requirements are now based on what was the core of the 1990, or the 2002, or the 2005, and then they added to it. I know, in Pennsylvania, they have a strange way of doing straight party voting that's not anywhere else. It's just Pennsylvania straight-party method of

voting. And they don't have that many requirements, but they have that one. And I can't imagine them coming up with 1,100 others to try to get a voting system to the level of what's currently going on.

DR. KING:

Matt?

MR. MASTERSON:

Yeah, just to briefly speak to Ohio's experience with e-poll book and e-poll book certification. I think it serves as a good model for sort of how certification happens outside of the specific voting system realm. The legislature in Ohio passed a requirement that e-poll books have to be certified by the Secretary of State, which isn't unlike what we have to do with voting systems, we have to certify. But there's no EAC requirement, obviously, to go with the e-poll books. And so, what we attempted to do, with our certification process in Ohio, was learn from the other states, Indiana, Pennsylvania, and Virginia a little bit as well, and try to have a model in which the vendors can come in to get certified for those other states, and cover as much of Ohio's requirements at the same time. And so, Jack was willing to take a look and kind of look at the overlaps, and we found, you know, well over 90 percent of our requirements overlap with other states. And so, now what the e-poll book vendors are able to do is come in, get certified for those other states, and cover the vast majority of Ohio certification at the same time, so there's not this need to retest or double test or whatever else. And then, they come into Ohio and get the functional review from Ohio, from our Board of Voting Machine Examiners.

And so, they're in the labs right now. They haven't come to -- we haven't received an application to the Board, but what we're hopeful to find is that it's an efficient process that utilizes the labs' expertise in looking for the other states, and gives us a product that does what Ohio needs. I mean, e-poll books, as Jack pointed out earlier, are a simpler system in a lot of cases than the voting systems. But I think it's a model that, frankly, is used in other places too, you know, other areas of voting technology that can really introduce some efficiencies. And then, the last step in the process, honestly, is the RFI and acceptance testing at the local level. And that's a form of certification, as well, for the e-poll books in Ohio, to make sure, in fact, they can handle the local database, the state database, and the processing that way.

DR. KING:

Okay. For Ann and Trey, from the Presidential Commission discussion, how were e-poll books addressed by the Commission? Are they seen as an integral technology to elections? Are they seen as ancillary? And, if you could, share your perspective -- and I'll start Ann, and then, we'll go to Trey -- share your perspective with how that discussion unfolded, particularly, I think, with this notion of certification.

MS. McGEEHAN:

We heard a lot of positive testimony about the use of poll books, a lot of excitement about the use of poll books. I think the discussions that we did have, in terms of certification, talked about how helpful it would be to have some, you know, some common standards. A few -- we didn't get a lot of complaints about poll

books, but those that we did talked about, you know, it not interacting properly with the statewide official master list of voters. And so, you -- what would be very helpful is if you had, sort of, you know, a standard that -- so that poll books could be interchangeable with any statewide master system. I think Florida testified they had some problems there. So, we didn't -- Trey, I don't know, you may have a different memory, I don't know that we necessarily even tied it to certification, except for the fact that that common set of standards, which may be a byproduct of certification.

MR. GRAYSON:

That's my memory, as well. And, I guess, to the first part of your question, I would say that encouraging broader usage of e-poll books is a pretty major recommendation. If you think back, that we're sort of -- we were colloquially known as the "lines commission," you know, we're going to do something about those lines. And so, a lot of the things that we looked at were, how can you alleviate lines on Election Day, how can you alleviate bottlenecks? And having an e-poll book accomplishes several different things. And one, it gives you real time data. You know when people are actually voting, which we don't know on a static paper poll book, because you just sign your name. It doesn't -- you don't worry about, did we divide the alphabet in the right way. If there's, you know, a holdup in one spot, you can go to another. You just -- you get better data, because that was one of the common things that we were looking for in a lot of our recommendations of how can we get more data, so we can

understand how elections work better. And so, there's not just the practical aspects of, this makes the lines move quicker, but then, we can study more about voting day, voting experience. So, e-poll books, I believe, were a major, positive recommendation. But Ann's right, we didn't get into a lot of the certification part of it, much beyond the functionality of what she alluded to, or she just talked about.

DR. KING:

Okay. Ed, from a vendor's/manufacturing perspective, can you talk about some of the challenges of integrating poll book systems in with existing or with newly designed voting systems? I think there is a general consensus that the use of e-poll books brings a new set of tools for the election manager, but what are the challenges that you see as a manufacturer to integration of poll books?

MR. SMITH:

They're not significant. The -- you look at jurisdictions using DREs. Perhaps they are activating a smartcard or some other token to allow the voter to pull up the proper ballot on the DRE screen. Integration of the e-poll book there is handy, because, now no one is humanly typing in a precinct number or something. The activation of the smartcard is instantaneous and it's just a data exchange. So, it's actually very, very simple.

I think there's a larger point that we might be missing here, in that, you know, e-poll books are an important tool, and they were, as you mentioned, a very strong recommendation from the Commission. But, what about Election Night reporting? What about the larger question of, what other technologies that surround

the core voting system, the vote capture and vote tabulation devices and software, should receive certification, or should none of those receive certification? You know, one thing you've seen about e-poll books is that the offerings out there vary quite a bit in their approach; their architecture, the interface to the poll workers, what's involved and what's available in that e-poll book, you know, whether that's help to the poll worker, videos, textual help, whether they communicate directly or not back to election central and the VR database. The same thing with Election Night reporting, a number of players out there providing add-ons to the voting system, to allow you to do some very deep detailed reporting on Election Night in real time, and then, later, to the campaigns and the candidates and the parties, to understand who voted where, when and why. Those are not certified products, and so, you see a number of different approaches.

DR. KING:

For the jurisdictions, for Dana and Neal, do you use electronic poll books in your jurisdictions?

MS. DEBEAUVIOR:

Neal uses them.

MR. KELLEY:

Well, I've tested with them, but I don't deploy them on a regular basis. And, I don't know if this is the popular item in the room, but why would we be talking about certifying e-poll books? I don't understand it. It's not a part of the vote capture and the vote tabulation, and this is part of the creep you were talking about earlier, Dr. King. I would like to develop and code with our team e-

poll books for use in Orange County. If we have a certification process we're going through, that completely stymies that local innovation. And one last point, you know, and maybe the test lab, Jack, you could speak to this, too. But aren't there local variables, such as synchronizing with data locally, that are outside of the ability to test in a test lab? How would you recreate that environment? So, that's part of my concern.

DR. KING:

Okay, let me get Dana, and then Jack.

MS. DEBEAUVOIR:

We actually don't have e-poll books in Travis County. What we have is a homegrown version of an electronic check-in procedure. So, it's half of an e-poll book, if you will. But, the reason why we had to move -- we couldn't afford e-poll books. That was -- there was no money to purchase. But, we had to have one aspect of e-poll books, and that was the direct connectivity to the voter registration database, because we were using vote centers, and you can't use vote centers unless you can absolutely check off your voter immediately to prevent, you know, anybody from voting twice. So, it was the voters' need to have those options for them to vote that forced the local innovation. And that's really all we have to say about it. The -- and the only problems that we've had with that functionality is you have to maintain connectivity with the telephone lines. You know, otherwise, it was simple and easy to do. We did it quickly ourselves. We were there very easily.

DR. KING:

Thank you. Jack, and then Matt.

MR. COBB:

To answer your question about why would we talk about the certification, I know that the same thing that Dana just brought up about vote centers, that was going on in Indiana, and they had to have the ability to know real time who voted when, where, and how, because they're doing vote centers. So, they wanted expertise to come in and look at transmission, other things. Virginia had a totally different reason. They were expending a lot of -- they have one e-poll book guy, and they were spending a lot of resources on evaluating e-poll books that really weren't e-poll books. They were somebody built something in their garage and they sent it to -- there's no cost to send it to the state to evaluate, so the state is sitting there, it's breaking, they tell them everywhere it broke and they're like, thanks, and they were leaving. They were actually beta testing all these e-poll books. I talked to an e-poll book manufacturer and I said, how many e-poll book manufacturers do you think there are? And they're like ten. I'm like, no, there's like 40. They've shown up in Virginia. Some of them couldn't even get into the country, from what I understand, but they are making electronic poll books. So, those are some of the reasons around certification.

But, the word certification, I think, everybody has gone to the idea of the full voting system certification that's millions of dollars and years worth of time. The Indiana -- the average Indiana certification for an electronic poll book is five days. That's from the -- I think they -- the VSTOP guys testified that it was something like -- or stated that it was like 15 to 20 days from the time of application

to the signing of the Secretary of State. I know that I did an engineering change order for them that took a total of three hours from the time they submitted me my stuff until I had submitted the report back to Indiana. So, there are other certification programs out there. You don't always need to think about a big monolithic certification. It can be as nimble as you want it to be. It can be as rigorous as you want it to be. The e-poll book stuff for Indiana, they're very happy with how long the turnaround is going to run and I think the manufacturers had the same comment you did. They were like, why do we need this? But now, they're more like, this is not that bad. This is nothing like what we thought it was going to be. There's not a lot of cost. I think the three states that I'm looking at, everybody is under \$10,000. Some of them are under five, to even do this, and you're talking less than a week, most of them. So, make sure that when we're talking certification, it's very program centric on how big that certification is and what it entails.

DR. KING:

Matt?

MR. MASTERSON:

Just to build on that, that was almost exactly what I was going to say. But I think it's important to recognize, Neal, your reaction, because your reaction is, "No God, please no..."

[Laughter]

MR. MASTERSON:

...do not do that," right? That's your reaction. And so, as we look forward not only at the peripherals, and what we do with those, but the voting system certification portion, we have to recognize that

visceral reaction to it and say, well why? Why is he having that reaction, and what about the certification process, can we change, improve, build on, in order to not have you have that reaction? But, you know, certification is always going to be seen as a barrier, because it's a natural barrier. That's a step that you have to go through to get the system fielded. But it serves an important role.

And so, to answer your question about e-poll books, for Ohio, the purpose was to make sure that the systems coming into Ohio could do what we needed them to do, plain and simple. And certification, like Jack said, is not always a pass/fail determination. The way the VVSG is written, it's a pass/fail determination, but certification, in states, more often than not, is, in fact, a, can we live with this, are there modifications, are there improvements to be made, you know? They're out there. What changes need to be made and how do we move forward? It's not a go/no go. And I think your reaction reflects this correct concept of certification being this go/no go. And, in elections, go/no go is not a reality in a lot of cases, right? You're going. It's that day. That's when you're running an election. And so, that's the important -- certification can look a lot different than how we envision it.

DR. KING:

I'd like to follow-on to Matt's comments, and Neal, address the point that you brought up, which is, often, in our minds this comingling of testing and certification as being inevitable, one follows the other and one can't exist without the other. And many times, I think what the certification process yields to the jurisdiction is a revelation of the behavior, the dependencies, and the interaction of these

systems. And one of the things that we have talked about is encouraging people to separate testing and certification out. Testing has value. The test reports that may be available to you, through the EAC or through other states, that may have been a part of their certification process, but those test reports themselves have value to the decision, because in reality when you decide to acquire that system you have certified it. You have certified it for use in Orange County. And so, the benefits that come with the testing are critical. And I think, in e-poll books particularly, how they differ from voting systems, the voting systems have a very neat envelope that restrict their scope, either we ensconce them at the precinct level, or even with vote-by-mail, we have buffers and barriers where we say this is in the system and this is out of the system. Poll books have some very interesting interfaces, particularly into our VR system, which are highly uniform. They do different things, but there's a greater standardization of voter registration systems than perhaps any other election systems that are out there.

One of the inherent advantages of e-poll books is the way in which they prepare the electors' list has side effects, has benefits to the jurisdiction, of being able to identify voters who have not yet been properly assigned a district combination or a ballot style. That's revealed in the process of preparing the poll books, which gives the election administrator a tremendous set of tools for better managing provisional balloting, issues that crop up for determining really just the quality of the redistricting program. So, I think what many of us see the opportunity in e-poll books is in developing best

practices for deployment, best practices for utilization, maintenance strategies, inter-operability with the other systems that we have, and sharing of data among jurisdictions.

And Matt, I wanted to come back to you, and if you would talk about how you are able to leverage the work that had been done in other jurisdictions, and how that compressed your timetable down to what Jack had mentioned.

MR. MASTERSON:

Yeah, so we were fortunate we -- I participate in the consortium, the voting system consortium -- or the voting technology consortium, which is, basically, a meeting once a year, in which voting technologists from around the states get together and talk about certification challenges, whether it's voting system, e-poll books, Election Night reporting, what not. And so, in the course of those discussions, over two or three years of conference, the folks at Ball State, Gary Fox from Virginia, and what not, I was able to leverage their work on e-poll book requirements. And we, you know, the folks from Ball State would send me their requirements, I'd send some comments back, you know. In the end, they ended up having to take the dive off the diving board, in the form of legislation, for their requirements, but there was a real exchange of ideas and the feedback loop between the states that we're looking at doing this, in order to develop it, you know. I'd go through my code and kind of say, what do we absolutely have to have in the e-poll books, and then, work with the Indiana guys, the Virginia guys, whatever, to really provide that feedback loop. And it's a tangible work product, out of that consortium, that we can point to and say, "Look this is

how e-poll books are being evaluated in Ohio and Indiana and the shared requirements, in that regard.

DR. KING:

And then, finally, Brian, often, particularly in the context of this roundtable, we're talking about the EAC's mission in testing and certification of voting systems. But, there's another very important mission of the EAC, and that is to serve as a repository and a clearinghouse. Could you talk about your office's ability and capacity to share this kind of data with jurisdictions on things that may not be in the VVSG, but certainly impact elections?

MR. HANCOCK:

Sure, yeah, thanks Merle. As you say, we do serve as a clearinghouse for a number of items related to election administration. Voting system information is only one of those. But, as I mentioned earlier, we have a repository on our Website that talks about voting system anomalies and problems. States have sent us numerous reports, whether it's the Everest study, whether it's the top to bottom study, all of those are available on our Website. And certainly, I think, I won't speak for Alice, but I think we'd probably be amenable to including reports related to e-poll books or other things of that nature, as well. I mean, it is part of what we've done in the past, and probably would continue to do in the future.

DR. KING:

Okay, thank you. Well, thank you for allowing us to kind of take a little detour through e-poll books. But I want to come back now, in the 45 minutes that are remaining, and really divide our discussion

into three sections. And the first is what's often referred to as the "do nothing" alternative, right? I mean, that's certainly one of the options that we have as practitioners and stakeholders. And, in order to evaluate the merits of the "do nothing" alternative, I want you to do a little bit of what Juan did earlier, which is to look down that road five years, ten years, 15 years. If we don't change that we're doing, if we continue with this trajectory, where are we going to be, be as an election community, as states, as local jurisdictions. So, that's the first thing I want to do.

The second thing is we've kind of talked about the problems. We'll talk about the "do nothing." What do we need to do? What are the reforms that are needed to be initiated at the federal level, at the state level, at the jurisdiction level, at the manufacturer, at the test lab, at the research?

And then, the last thing that I'll ask you to do is help us identify action items. What are things that we can start on today, go back and communicate with our constituents? And those are the three things I want to try to accomplish in the remaining 45 minutes. And Juan, I'm going to start with you, because I like your ability to look over the horizon. If we do nothing, if we continue with our current state, where do you see this taking us?

DR. GILBERT:

If we continue where we are now, we'll make progress. It will be very slow. But I think the ultimate side effect of this will be a lack of confidence in elections, ultimately, at some point. As you're looking out five or ten years, me making that statement about a lack of confidence is more of a 20 year perspective, when you have a new

age of voters coming in who are disinterested because they see voting as this prehistoric thing that doesn't work. And whether it works or not is just how it's going to be perceived if it's not up to their perception. So that's -- I just see it as status quo, continuing at a snail's pace, and ultimately diminishing confidence, is what I think will happen. And then, the number of players who can participate, from the vendor perspective, will shrink or stay as is, because the cost to participate will be high. And that's just not going to work. The time and costs will be too much.

DR. KING:

All right, Matt?

MR. MASTERSON:

I think we'll figure it out. I think a hallmark of election officials are that they always figure it out, right, that there's always workaround solutions, whatever. But, I think what you'll see, and have begun to see, is, states and even localities move to their own solutions. I mean, Dana is already there. Neal is starting it. Dean Logan, in LA County, has already begun it. Other states have begun to withdraw from the federal certification process. And so, what you're going to see five years from now if nothing is done to address this, both at the state and federal level, is that 50 -- perhaps 50 plus certification type scenario, because states aren't getting what they need out of it and they're looking to purchase. And so, there's going to come a point where states are just simply going to say testing to 2005 standards does not provide that indemnification, confidence, whatever you want to call it, that we need, and we're going to find a

different way to move forward. And I think that's likely what you'll see.

DR. KING:

Right, and I just want to emphasize that the Voluntary Voting System Guidelines did bring people to the table voluntarily, but they may also choose to leave the table voluntarily.

Dana?

MS. DEBEAUVOIR:

Under your "do nothing" scenario what could -- what would happen to the EAC if we did nothing? I think there is one good piece to the EAC that if we do nothing it will -- it has a good piece in it, and that's the innovation class. It has the possibility for doing some good work now, right now, under our current circumstances. And I'm putting a little faith in that segment of the EAC structure.

But, more importantly, I think if we do nothing then, as Matt just suggested, I think that the rest of the jurisdictions in the United States are going to move ahead anyway and leave all of this behind. And, I think in a number of ways that's very disheartening. I think we're likely to see the Internet movement take off on its own without the proper security that's going to be needed, and that's not good news. I think that you're going to see more local jurisdictions put their initiative out -- initiatives out there seeking no security, except perhaps at the state level. But, I think we're -- I think the house of cards is going to come crumbling down is potentially what we're looking at. And I don't mean to be, you know, signaling that the sky is falling, but I fear that it's not good news.

And I have always been a proponent of the EAC because it was created to help the voter and to help the election administrators at a time in our lives and in our careers when we had nothing. And I'm a fan of the fact that we finally had somebody -- you know, 2 -- the good news about 2000 and 2004 was, finally, somebody recognized that elections was public administration, that it was, you know, this magic thing that happened behind closed doors wasn't all that magic, it was hard work and it was made out of people doing this, and it was high time that everybody recognized here's what was going on. As far as what, you know, the middle ground what reforms can we do right now, you know, if there's one thing that I would say the EAC should do right this second it's that if we could find a way to either disconnect a piece from the Commissioners it would be, let's adopt the 2012, or I believe it's called the 1.1 standards. Let's get those newer standards up there. Let's find something we can at least all work with. That would be one thing I think that we could do. And, in terms of the action items for the EAC, you know, right away, can you find a way to help those of us who are trying to get ahead of this interim time period, those of us who are doing public initiatives, try to find ways to help us. If it's not innovation class, then, you know, within the existing structure that we've got right now, help us figure out how to do these software only projects. That would be my offer.

DR. KING:

All right, and I want to come back in, really, the last part and focus on the actions, but I wanted to ask you a follow-up question. When the EAC was formed and dispersed the funds to jurisdictions to buy

systems, I think many of us were very encouraged by that, because it not only meant that the Orange Counties and the Travis Counties would be -- have equipment available to them, but it meant that the Tolliver Counties, the small counties. And so, one of the concerns that I have on the scenario that you've described is when jurisdictions begin to do more of their own thing, if you will, will that be uniform, or will it, really, just be those that have the resources, and then, it will be catch as catch can?

MS. DEBEAUVOIR:

Yes, I think it moves into a situation where the larger counties, we will try to collaborate with each other, but we've got to deal with different requirements in different states. I think the best you can hope for is that the larger counties within the state will then become the big sister or big brother to our smaller counties, and will do our best to help the counties within our state. But I think it begins to fall apart.

DR. KING:

Trey, what do you think? If we do nothing, where are we headed?

MR. GRAYSON:

I'm pretty concerned in the short run. I guess I'm less concerned in the medium to long run, because I can see a scenario where if nothing really happens the states will be forced to sort of go back to the old regime, which was, sort of a NASED, NASS, ESG. Somewhere in there is probably a solution, but that will take awhile. And I think about the states that have laws right on the books that say you have to follow FE -- Kentucky's law just says FEC, but it still works with the EAC. That's a fairly common method. I talked

earlier about all the smaller jurisdictions. I really worry in the short run with the number of jurisdictions, that in the next couple years, need systems, money is really tight, and trying to convince their local jurisdictions to buy things, that when they look at them they're like, this looks like it's ten years old, it doesn't look like it's going to last long, this looks like a poor investment. And so, they don't -- and so, they put off those investments and, you know, trying to find the laptops with Windows 2000 or whatever you need. So, I guess my concern is, in the short run, we have -- I think we have a real problem, and that whatever the solution is -- and admittedly, the Commission, on the status of the EAC, we punted, we didn't want to get -- we didn't get into that. But something -- the status quo is not acceptable, and if we don't do something in the next year or so to try to address that, I really am concerned that we might start to see confidence undermined in elections, because systems are breaking and failing and things like that. That's my concern.

DR. KING:

Good, let me shift over here and start with Neal, and then work out. And then, I want to come back and get your perspective.

MR. KELLEY:

I want to continue the dialogue that Matt started on the states doing their own certification. You know, California just this year, adopted a new law that separates itself from the EAC certification, and is doing that. And, to me the danger really is in the marketplace, and it's for the consumer. In this case the consumers are the counties and then that goes down to the voters. But what happens when manufacturers start saying, "You know, I'm going to design to these

seven states, because the market is big enough for me to sell there?" And what does that do for other jurisdictions? It limits innovation and limits the ability to buy systems.

The other thing, for us in Orange County, is do we need to start looking at the way voters are voting, and say, I don't think this is -- if nothing is done, I don't think is going to be the right thing to do is to field systems. Maybe we need to shift towards vote by mail, and maybe vote by mail is the solution, because we don't have to field systems. So, I would -- we can't not do anything.

The last comment I have is the TDGC, and I've been a member of that committee for, I think, two years, and I have yet to attend a meeting. And I know it's not the EAC's fault. I realize it's beyond that. But we've got to get this thing moving and that's just a broader discussion, so, anyway.

DR. KING:

Before we go to Ed, I think this is excellent, because it illustrates the scope of this problem, that it is not only, are we designing good systems that are affordable, but how do we pay for them, which is critical, and then, your point, how do we restart processes that have gone stagnant in it? So, it's good to get these issues out. Ed?

MR. SMITH:

Well, I can't disagree with any of the negatives I've heard thus far.

[Laughter]

MR. SMITH:

In addition to those, and looking to just, strictly, to manufacturers' market, for better or for worse, you're going to see a small number of manufacturers, as you do today. You're going to see systems

that, in many ways, are quite similar, because of the way VVSG is designed and the way it's somewhat dictatorial towards system architecture. The systems are somewhat different, too, in their approaches, but at the core. And, gosh, if you look back at those old 2002, I'll just take technology, optical scanners, Insights, and 100s, AccuVote-OS's, boy, they really look alike, for those who know those systems quite thoroughly. Those are the sorts of negatives you're going to see directly associated to the manufacturers and the manufacturers' marketplace.

DR. KING:

Ann?

MS. MCGEEHAN:

You know, I don't know that I have that much more to add, to be honest with you. I was involved with the certification process pre-EAC, and I found it very painful. And I -- like I think I said earlier, I don't feel like the election officials had the bandwidth that we needed. And I think, in many jurisdictions -- maybe California may have more resources to do a robust certification process, but most states don't have that technical expertise. And, I would really be concerned moving forward if we didn't have it at the federal level, it's going to devolve, and it may get ignored, and then election officials will be in a vulnerable position. And like Juan said, ultimately, confidence in the system will be decreased.

DR. KING:

Okay, thank you. Jack?

MR. COBB:

Realistically, I see two things, and they've already been touched on by both Matt and Ed, and that is that the states will do something to move forward, whether it's consortium, they do it independently, it's not going to matter. And, you're also -- if they don't do that, you're going to continue to see systems that are designed pretty much to the standards that we currently have today.

But, from the labs' point of view, I guess, there's -- it's going to be who we work for. I mean, are we working with the EAC? Are they auditing us? Are we going through NIST? We don't know these answers. Are we going through a consortium? It is NASED? Who are we working with? But, I have a feeling that the expertise that has been collected in the labs is still going to be utilized in whatever system is out there, or individual states' jurisdictions will utilize that expertise.

DR. KING:

Okay, thank you. Brian, one last vision of the Apocalypse?

MR. HANCOCK:

Wow, wow, I kind of like being last, though. I guess, I kind of want to disagree with the entire premise of the question, in that, I think I've never felt -- I don't think "do nothing" is an option. I've never felt and we've never felt, within our program, that "do nothing" is an option. We've been continuing to make improvements. And we're not there yet, but I think we need to continue to do so. I remember, Matt remembers, sitting a couple years ago at a NASED meeting here in Washington, D.C., and me being asked by NASED what I thought the optimum time for testing and modification should be. At that time, I said I thought the optimum time would be one to three

months. At this point, we're averaging two months for testing modifications. So, we're there. We're there in a lot of areas, but we need to move forward in other areas.

I'll even look a little further into the future, in that, I agree if nothing is done, or too little is done, states will move forward, either individually or in consortiums. And that could pose problems, right? It kind of gives me, sort of, a "Back to the Future" idea. Those of us that have been here a little bit longer remember where this all started, right? Back in the 1980s before there were standards, before there was an EAC, Congress got involved in this, because there were problems at the state level with voting systems, right? The states were doing their own things back then. There was no federal guidance, whatsoever. Congress decided that they need to legislate something, right? And so, we've moved forward from there. Every time there's a change, that's, sort of, what they want to do. They're legislators. They want to legislate, right?

In the states, you already talked about, resources vary from state to state. And frankly, the political reality is that political change is going to create different types of buy-in, at different times, from states, right? The administrations aren't going to always be the same, and they're going to have different priorities, so things may not always be the same. Even if it's in a consortium, states may opt out or opt back into the consortiums. And I don't want it to come back to a point where, you know, we were in the early '80s and '90s, Congress seeing problems at the state level and re-legislating, and sort of, you know, going through this whole agony again.

DR. KING:

Okay. I wanted to add my comment, and really pick up on something that I heard Dana and Neal say, and Trey also, which is, jurisdictions will do what they can do. And if you look at what they can do, they know how to save money, because they have to, and they know how to test functionality. And, as part of this discussion about understanding the testing and certification program is not monolithic, imbedded into it is this issue of standards; that no matter how hard Brian and his team work to optimize the execution of the program, that the standards development process is still part and parcel of that. And my concern is, as jurisdictions decide to make their own path, what will drive them is what is the cheapest way that we can cast votes, and it's either vote-by-mail or it's Internet voting, and what can we do to test it. We can do functional testing. We can see if it will capture voter intent and if it will tabulate, and not much beyond that. So, I think there are some risks that are good to keep in mind.

Now, with the time remaining, when we did the introduction we went in this direction, and often the penalty of that is that the last person says, well, you know, just ditto.

[Laughter]

DR. KING:

So...

MR. KELLEY:

I believe I did.

DR. KING:

Yeah, um-hum, um-hum, it's pretty common. So, we're going to let you start this time, and then we'll work sort of in this direction, but I want to let Brian have the last word. But, what I want to do now is to ask you for your insights and your recommendations for the action plan; that there are things that we need to be doing and some of those have been put in place by the Presidential Commission, some have been put in place by the EAC, some are initiated at the state level, some at the jurisdiction level. So, there may already be a lot of activities, but I think it will be instructive for all of the constituents to have some clear set of options, that, what can we begin doing tomorrow to start this process, either to restart it, as Neal points out, or to enhance it, or to remedy it. And, we'll start with you and then kind of work our way around.

MR. GRAYSON:

So, I guess, let me start with the thought that no one is going to disagree that Congress is broken, Congress doesn't like to do much of anything, right now. That's probably not going to change for the next two-and-a-half years, at best -- we'll just say at best, when we get to the next President. So, that's a problem. I mean, we could be in this sort of EAC purgatory. We don't know whether - - well purgatory is not the right word -- the live or dead, and this regime is live or dead. So, my action item would be that some of the constituent groups, NASED, some of the technical folks need to not wait for that. We need to have these conversations. And I don't know where the money comes from, or how this is organized, but somehow the dialogue on the next generation of guidelines/standards needs to be started right now, so that when

the current regime is resolved, either because it's removed from -- the EAC goes away, or the EAC is reconstituted, that we haven't lost that time. So, that would be my recommendation is for those organizations to somehow get that dialogue started.

DR. KING:

So, that whether there are opportunities to interact with a revitalized EAC...

MR. GRAYSON:

Yeah.

DR. KING:

...or whether a different strategy has to be mapped, we're not starting from...

MR. GRAYSON:

Right.

DR. KING:

...a dead stop.

MR. GRAYSON:

Exactly, yeah.

DR. KING:

Okay, good. Dana?

MS. DEBEAUVOIR:

I would like to echo what Trey said, but I want to take a little more practical approach, the local person. It's like, well, what am I going to do today? I'm a fan of the EAC. I believe in the EAC. As a local elected official and having lived before it was there, we need the support of the EAC. So, in this -- and I feel the pressure of, we just can't wait around any longer for this stalemate to continue. So, I

would certainly encourage, use the resources that you do have while you are in this problematic time period; innovation class, anything that you can do. And, I know you will. I don't mean to imply that you're not doing everything you can, because I believe you are. And certainly, the fact that certification has gone on, even without Commissioners, is something for you to be congratulated about.

As I mentioned before, adopting those latest standards, if you can find any way around the absence of Commissioners to get that piece done, that would be fabulous. Don't go away. Try to save yourselves, or reconstitute yourselves, in any way you can, because you cannot underestimate the amount of good that you have done, even though there are huge criticisms that we could all levy about the way the certification process has laid out. Let's face it. It was the first time it was ever done. We've learned a lot of lessons, so, that would be my number one to you is don't go away. Please continue with the good work that you have done. We need to clean up certification, but in the meantime, those of us who are trying to deal with the lack of innovation have to have some place to go. And if this is pulled out, if this continues to be as stagnant, all it's going to do is make it even more difficult for us to deal -- to cope with the lack of innovation.

DR. KING:

Okay, thank you. Matt?

MR. MASTERSON:

Thank you. I feel a little better about myself because a Harvard grad actually kind of expressed what's going on in NASED, with the plan now, so, I feel like we might be on the right track.

There is actually action and conversation going on within both the state election directors and the Secretaries of State to tackle both the short and long term. And so, what I'd like to see us do, and actually is being done now, is short term have something prepared, have something ready that expresses our expectations, tangible expectations for the EAC and Commissioners, if there are Commissioners, whether it's NASS, NASED, jointly, there needs to be a voice saying, here's what we expect the program and the certification and the standards to be, when you all have the opportunity to move forward, if you have the opportunity to move forward. And then, the kind of mid to long term approach of, well, if that isn't the case, if the EAC isn't viable, if it's still stagnant, what does it look like for the states to begin to tackle this again? And so, that's the conversation that's actually already happening within NASED and NASS, of creating a process that can be functional, that meets the needs.

And one of the things we haven't talked about, here, is a recognition of election speed. The certification process, right, wrong, or indifferent, has always been perceived as not meeting election officials' needs at election speed. We need it when we need it, and there needs to be a preparation. But, in order to bring that about, I think election officials, and this is the challenge I put to myself and other state and local election officials, we need to express what that means, and not just in a timeframe, two months,

three months, because to the EAC's credit, they're doing that. But in fact, what that scope looks like, what is our election schedule and what are we looking to get out of the certification program, so that they have tangible goals to build on, whether it's at the EAC or within a different type of process, to do that.

And then, not to throw the baby out with the bathwater, as we begin to look at how to change this process. As I said at the beginning, these systems are better systems than they were when we started. And we need to recognize the benefits of that, and keep those processes in place that are effective, while recognizing that we need to, perhaps, alter the way the standards are done, the way we do the certification, the way we interact with the labs. And all of that comes back to the need for the states to provide the feedback loop. We can't just be engaged when we're engaged. We need to be engaged all the time, in order to handle these problems and, frankly, get the systems we need out of this process.

DR. KING:

I wanted to just follow-up with one point, Matt, on the action plan of states needing to commit to creating infrastructure. Can you comment on the importance of the sustainability of that infrastructure?

MR. MASTERSON:

Yeah, and that goes to the engagement, as well. The states -- if we're looking at a new way or approach that pushes, as we've all kind of recognized, more responsibility both down to the state and locals, you know, the COTS scenario, whatever, there needs to be a commitment to build a knowledge base and infrastructure within

the states and localities to support that. And what we've seen, through just kind of a natural attrition, is an ebb and flow within the states, in that interest, you know. Depending who's in the state at that time, and what's going on, there will be a peak and a valley, in that, if it's an attractive conversation. And so, there needs to be a commitment, I think, from the states and locals to remain engaged, to remain focused on the holistic process, not just the ebb and flow that comes with, when we need new systems we're engaged, and when we don't need new systems we get less engaged.

DR. KING:

Okay, thank you. Juan?

DR. GILBERT:

Well, my recommendation is prepare for software. As I mentioned earlier what's going to happen, this COTS thing, the vendors becoming software companies. So, I would say, continue, because I know Brian is already working in this area, continue to emphasize that, and hook in with what Matt is saying, engagement with state and locals on that, because there's going to be a shift, and I don't know how that's going to work, no one knows. But you could start working on that now. There are active pilots underway. Get the data from the pilots. What worked? What didn't work? The report out of Wisconsin, read that. See what's actually happening in preparation. So, there's a lot of lessons to learn from these pilots, and I think that's the key, what you can do now in preparation for the software that is coming.

DR. KING:

Okay. How might states or jurisdictions discover what pilots are in place out there? Any recommendations for how they can begin doing this homework?

DR. GILBERT:

Start with the EAC. Pat, he's here, Pat would know about most of them, if not all of them, especially coming out of the EAC grants. So, NIST, Sharon is here, she's actively engaged in this, too. So, the EAC and NIST would be the two places I would start, and the two people would be Pat Leahy and Sharon Laskowski.

DR. KING:

Okay good. We'll come back to you, and I want to go to Neal.

MR. KELLEY:

Thank you. I'll just take the opportunity, real quickly, to thank the EAC for the invitation. Like Dana, I am a fan of the EAC. I think the EAC has done great work under difficult circumstances. So, I appreciate what you've done.

I have four specific action items. I don't know if they're -- if any of them are actionable, but want to give it a shot.

[Laughter]

MR. KELLEY:

The first is certify only what's necessary. Clearly distinguish between a voting system and election management, because they are two different things. And I think early on they got combined in that process.

The other is that COTS discussion. I'd love to continue that discussion. And do it in a cost effective and safe way. I think Jack, to your point, I agree with you. You don't want to throw a new

operating system on something that hasn't been tested, but find a way to do it in a reduced form of certification, so that that can be done quickly, and we can use COTS in a cost effective way.

Devise procedures for software modifications. And Brian, forgive me if this is already being done, I withdraw the comment. But, there's got to be a way for de minimis changes to software, so that we can have this done, and this is through the lens of a local official, a little bit more quickly, so that we can field these systems when we need to.

And then, finally, leave the design to the people that are the experts, the technologists. I love my FAA example, and maybe other people don't, but a comparison to the FAA is that if -- you know, Boeing is not designing aircraft to an FAA standard. Boeing is designing aircraft through innovation and saving fuel and keeping aircraft safe, and then, it's tested to that standard. I think we've got it in the reverse order.

So, again, thank you for the opportunity.

DR. KING:

Excellent point. Ed?

MR. SMITH:

I, too, have some tactical recommendations and I think they're things that can be done even without Commissioners, although they are just a number of things that clearly need to be done once there are, if there are, Commissioners, such as the new program manual's, new VVSG, which have been discussed.

First off, evaluate each step. I spoke earlier to using data to evaluate what resources, how much resources are being placed

into each step in the testing process. Evaluate those, in terms of their outcomes. What defects have those tended to unearth and how critical are those? What would they do to the jurisdictions if allowed to continue? I heard the comment earlier, we test to what's in VVSG. Sure, but can you work a different balance? Can you work a different balance towards functional, maybe enhance the functional, and not so much coding style. But, we've seen also with automation of coding. Dominion was involved in a recent effort where we automated the review of, I think, C sharp or C plus plus, whatever the language was, which went far more rapidly than the by-hand, line-by-line source code reviews that are currently in progress. So, one of the possible questions for today was, what works best in the program? And my response to that is, well, when we adopt tools and innovations within the testing, that's one of the things that worked best, and we saw an incredible example with automating this recent code review.

Next up, do more with manufacturer's testing. So, yes, we're the manufacturers. We're not a trusted agent in the process. Boy, that's been made clear. Especially...

[Laughter]

MR. SMITH:

...if you were around in the 2003-2004 timeframe, it was very obvious, you weren't trusted as a manufacturer. But nonetheless, we have testing. We have scientists. We have Ph.D. people -- Ph.D. granted people on staff. They're designing the testing. They're quality assurance scientists. And, we would like to see these thousands of hours we put in testing evaluated at the VSTL,

who also have experts and are a trusted agent in the process, so that some of the testing we do is, perhaps, not duplicated, then, at the VSTL, and is, in fact, accepted. There's some level of that, but it's really quite slight, certainly relative to the body of testing that we do. Because, we, as manufacturers, we want the systems to work. We want you to have smooth elections. That's how we garner a reputation, a good reputation, and sell more systems. That's why we do the internal testing we do, because the VSTLs can't be everywhere and cover everything.

The next component, level testing, that was discussed here, earlier, and then, software de minimis, which kind of go hand-in-hand. Different testing methodologies, can we define adequately, component interfaces, such that different components within a voting system could be upgraded in a shorter, faster, less expensive timeframe and test campaign. The same thing with software de minimis, can we, the manufacturers, define to the VSTL, and the VSTL, and ultimately, the EAC, check and perform oversight that certain pieces of software can be changed within the system in a somewhat de minimis fashion, or in some manner with a lesser campaign? Right now, all software changes require full testing, okay? Can we move away from that philosophy?

So, those are some recommendations I have.

DR. KING:

I wanted to come back and reinforce a point that Ed made and make sure that everybody on the panel appreciates that it's really beyond just your company, but this -- the practice of manufacturers upgrading their testing procedures, and the transparency of the

testing, and their willingness to share test reports with customers, I think that's really an industry trend. Would you agree with that, Ed?

MR. SMITH:

Yes, that is a trend of some years now, to be more transparent like that.

DR. KING:

Okay, thank you. Ann?

MS. MCGEEHAN:

Well, I guess my comments would be, we still have an EAC, we don't have Commissioners, and obviously Commissioners are required to update the standards. But, within the existing framework, I would say, be bold. If the EAC could demonstrate that it can function and that it can serve as a certifying authority that the states want and rely, you may be more likely to get those Commissioners.

And I don't know how practical this is, but, you know, you talked about creating bylaws, but not a way to amend those bylaws. I wonder if maybe you did that with the innovative class. We said, okay, these are the standards, but yet, we know there are going to be systems in the future that may not meet these standards, exactly. What can we do under that innovation class? And it might not be the full -- you know, can we use that as a way to update standards beyond the current VVSG, not call them VVSG, but -- so my thought is, can you explore, act bold, assert yourself? You're still here. You're still getting funding, so Congress sees a need for you, and concentrate on what you do well, and maybe that will -- and I may be painting too rosy a picture there, but anyway -- I'm an

attorney. So, if there's wiggle room, try to find it. But, that's what I would say. You have some existing authority. Use it and see who challenges you. And you may have a lot of states and local jurisdictions that may want to partner.

DR. KING:

Okay, thank you.

MR. HANCOCK:

Can you give some pro bono hours to the EAC?

[Laughter]

DR. KING:

Jack?

MR. COBB:

As you mentioned earlier, by the time it gets all the way around, everything has kind of been covered. I would like to go in a little more about the software only solution systems, and the certification of those. I really believe that research needs to start being done into other certified body -- certifying bodies like CMMI, ISO, other things, because the role of the traditional manufacturer in the voting system world is changing, and they're turning into software shops. And from my point of view, I would believe that the testing -- you're going to get a lot of bang for your buck if they have to have certifications outside of what you're certifying. They -- if they have to be ISO certified, CMMI certified, that's going to take a lot of the weight off the labs. That's going to cut down on costs in the labs, time in the labs, because they have documented, well vetted processes.

One of the other things that I was thinking about with Neal's situation, something you could do to help out some of the local jurisdictions now would be, find out who's in the -- I know the system he has is deployed lots of places. There's no reason to say that we can't update that to 2007. I mean, it's got to be looked at. I mean, the manufacturer can tell you that. But they're going to have a cost. And if Orange County is the only one that's going to adopt this, they're going to do some kind of benefit analysis on whether to go in and do the testing at a lab or not, because most of these are NASED certified systems, the legacy systems. But, if you could pull together jurisdictions that all have that need, then, maybe there could be some means of actually getting some of that stuff updated.

DR. KING:

Okay, thank you, Jack. Brian?

MR. HANCOCK:

Thanks Merle. I'll try to touch on a couple points that, hopefully, each of you brought up, or some of the more important ones anyway. I think the point that Secretary Grayson made, and perhaps, one other related to the standards is a good one. Matt mentioned it as well. But, while we can't formally move forward, I don't think there's any reason that we could not convene a working group of folks, you know, perhaps from NIST, EAC, NASS, NASED, and perhaps some other organizations, to at least begin the work that would have to be done anyway, you know, once the TGDC got reconstituted. So, I think that's something we probably could do now, you know, and we'll talk to Alice about that. But I think that's certainly doable.

I'll come to that last. Neal mentioned software modifications, and we've known about that for a long time. In fact, the reason that was never put into our original program manual is because we had one particular Commissioner, at that point, that was very much against that, and we couldn't do that. That language, to allow software modifications in the de minimis class, has been in our revised program manual for two-and-a-half or three years, now, that's sitting waiting for Commissioners. So, we recognize that and we've done the work to be able to make that happen, you know, assuming we can get Commissioners.

Ed talked about a number of things; automated source code review, you know. NIST and the EAC have been working on that, working with the labs to promote the use of automated source code, review tools, for quite some time, and I'm glad, you know, it's starting to come to fruition for you. And, we definitely agree that we need to move forward and do more of that, so, definitely.

You mentioned using more of the testing that you all are doing. I also agree that that's a good idea. I think, at the meeting we had at NIST last year, we brought up the idea of use -- more use in our program of a Manufacturer Declaration of Conformance concept in certain areas. So, I definitely agree with that.

Ann talked about the innovations class and sort of going outside the box as much as we can. And we're doing that, you know. That clause has been in the VVSG, and that's kind of common for standards. There's sort of an extensions clause in most standards documents. We're using that. We have, you know, -- frankly, it's not public knowledge. I mean, everyone counts is in

our program, in our testing process right now. We are getting registrations from non-traditional manufacturers that have similar software based systems, right now. And so, I think they see that that's there and that we're committed to using that. And so, that is happening at this point, as well.

And the last point I want to make, and several of you brought it up, is communications. And I think it's supremely important, you know. We try to do as much communication down as we can. And I think we do a fairly decent job of reaching the state level, but the problem is reaching local jurisdictions. And I think, in that way, we need help from the state level to get down to your locals because we don't necessarily have outreach to every single county in the country, but you all do, in your states. You touch your counties on a regular basis. So anything that we can do, in conjunction with the states, to be able to reach down and get more information to those counties, I think, we'd be willing to do, and would be happy to talk with you, individually, or NASS or NASED, whatever the case might be.

DR. KING:

Okay, thank you. And before I turn it over to Alice, I want to make one suggestion for an action plan, and that is to recognize that the RFP that your jurisdiction issues for a voting system or an election system, those are your requirements. Those are, ultimately, how your standards are derived for that particular system. So, pay attention to those. Share those. Share those with other jurisdictions. Ask for them from other jurisdictions. Ask for lessons

learned from other jurisdictions. And that's one way to address some of these innovations that are not occurring within the VVSG. And then, the last thing that Matt mentioned, and I think Brian too, there is an annual conference for state certification testing. It's a great environment where people who do this testing get together, share ideas and best practices, and support that from your jurisdiction level.

With that, I'm going to turn the program over to Alice for some closing comments.

MS. MILLER:

Thank you, Merle. I can honestly say that when we put this panel together we knew we had the best of the best in terms of being able to offer suggestions and comments and a discussion on what we wanted this topic to generate, and certainly, we are very appreciative of it. It's been a wealth of information, a wealth of knowledge and we've gotten something out of it. I hope each of you have, not only those listening in here, the Webcast, and the panelists, themselves. So, we're very grateful to you for making yourselves available to us, just basically a phone call or an e-mail. And, we appreciate that a lot.

But, what I want to say with respect to where we are, obviously the EAC will continue to serve as a resource for this process, ever changing as it is. We're committed to assisting local election officials, and to better serve the voters to which you are committed to work with. We'll push forward as quickly as we can, given the constraints that we have. Brian, your idea about maybe pulling together a working group is not something that we cannot

discuss and figure out how we do that. We look to Quick Starts to try to get information out. We have those available from the research division, and we'll continue to provide whatever assistance that we can do.

At the end of the day I think it's true, and we all know, that we're all in this together maybe by various definitions, you know, the election official, manufacturer, researcher, whatever, we are still all in this together. The common goal is for fair elections, where the outcome is not questioned, I think we've talked about that, the function of the system continues to improve, so that the ultimate level of confidence is achieved, and of course, is affordable. So, those were some of the main things that we got out of this.

With some of that in mind, I want to point out that on Friday June 20th, EAC will co-host with NIST a Webinar entitled "Highlights of EAC Accessible Voting Research and Development; The Impact of Elections." One of our panelists today, Dr. Juan Gilbert, along with Daniel Castro from Information Technology and Innovation Foundation, will be presenting their findings from the EAC's Accessible Voting Technology Initiative. The Webinar will take place from 1:30 to 3:30. Details are on our Website or, as Juan has already indicated, contact Pat Leahy. I will give his phone number out, which you did not do, and it is 301-563-3953. But, feel free to go to our Website for that.

So, this kind of discussion and this kind of an event does not come together easily. And, I would be remiss without recognizing and thanking everyone who had their hands involved with this, not only the panelists, which, you know, obviously, we couldn't do this

without you. So, again, thank you for that. But, the staff time and attention that goes into this starts long, long before we get to the day of the roundtable. This room did not come together this morning. It's kind of like an election. You know, how people think you wake up and you just go vote?

[Laughter]

MS. MILLER:

Well, trust me, we -- this is kind of like what we do to get to this point today. And I'm just going to call out a few names, and I do it with all sincerity and appreciation. Obviously, Bert Benevides, who you all have been in contact with, that's how you got here, and assistance with Robin, who, also at the last minute, I believe, actually was very, very useful in us making sure Neal got here from California, as well as Jack. We thought maybe we would be Skypeing them in. So, I want to thank you, Bryan Whitener, who has always been there and available to try to help pull these things together. The entire Testing and Certification Division, I already mentioned Robin, but obviously, Brian Hancock and his staff, Jessica and Megan have also been -- played a significant role in this. Jessica has been sitting back there tweeting to death. I don't know if her fingers survived the past three hours or so, but she's still back there. Shirley Hines, she is standing back there in the back, very significant, all of your tent cards, you can thank her for that, as well as assisting with setting the room up. And of course, Mohammed Maeruf and Henry Botchway, they are our IT folks, without whom, obviously, none of this, including our Webcast individuals, could get this set up. And, we're thankful for them as

well as our transcriber. So, if I'm missed anybody, I'm sorry, I try to do this and recognize any and everyone. Obviously, our staff works very hard to try to put these things together. We couldn't do it without you, our moderator Merle, who, without any hesitation, is always here available and committed to us. I've said before, and I'll say it again, he does this without any pay, does not even want us to cover his travel. So, he is 100 percent supportive and committed, and we are very appreciative, as he walks down the aisle with his daughter and the other hat that he will soon wear. And, to Ann, again, happy birthday.

MS. MCGEEHAN:

Thank you.

MS. MILLER:

We appreciate your spending your birthday with us.

MS. MCGEEHAN:

Thank you.

MS. MILLER:

And, with that we will conclude this roundtable. Again, like I said, on June 20th the Webinar. Go to our Website for information or call Pat. We do intend to have at least one additional roundtable this year. We'll see if we can squeeze others in. All of these are archived on our Website, so you can go back and visit them, and feel free to do so. And, call us if anything else comes up. Thank you very much.

DR. KING:

Thank you.

[Whereupon, the EAC roundtable “Reforming the Testing and Certification Process” adjourned at 12:02 p.m. EDT]

bw/add