United States Election Assistance Commission
Voting System Lifecycle/Sustainability Roundtable

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VERBATIM TRANSCRIPT

The following is the verbatim transcript of the Voting System Lifecycle/Sustainability Roundtable of the United States Election Assistance Commission ("EAC") held on Thursday, May 5, 2011. The roundtable convened at 9:08 a.m., EDT and adjourned at 5 p.m., EDT.

EAC VOTING SYSTEM LIFECYCLE/SUSTAINABILITY ROUNDTABLE

DR. KING:

I'd like to call this roundtable meeting into session. And the mics are coming up. There's some things we'll go over in just a moment, but I'd like to now pass the microphone over to Brian Hancock for a welcome.

MR. HANCOCK:

Thank you, Merle. Good morning everyone. And on behalf of EAC Commissioners Bresso and Davidson and Executive Director Wilkey, I'd like to welcome you here today to our roundtable discussing the lifecycle of voting systems. Generally, on our roundtables, I don't personally make any opening remarks, but today, I just want to say a few words, hopefully to set the scene for the things we're about to discuss today.

I'm particularly excited about this roundtable because it not only deals with a critical issue related to voting systems, as most of ours do, but also an issue that I think is time sensitive, and one that must be addressed by policymakers at the highest levels of government. In its simplest terms, lifecycle, as we will use the term today, refers to the period of time during which IT hardware and software is going to remain useful to election officials.

Between the years 2000 and approximately 2006, the vast majority of election jurisdictions in the United States purchased and deployed new voting systems. As we approach the 2012

Presidential election, States and jurisdictions are facing the prospect of managing aging voting systems in an environment in which expectations for security and reliability of these systems has never been greater.

We know that IT industry lifecycle practices for technology average approximately three to four years, I think, between refresh times. Informal investigations or observations that we've made also show that the U.S. Government averages about three years in IT replacement for the majority of federal agencies. So, in the real world out there, you know, we're talking about lifecycles three to four to five years.

While we know that no system's life can be extended indefinitely, we also know that in this time of dwindling budgets State and local election officials must find suitable strategies for extending the useful life of voting systems. Today, we'll discuss a variety of issues related to extending voting system life, and look for potential recommendations for things that election officials can do to successfully extend the life of their voting systems. But beyond any recommendations that result from this meeting, three realities will remain essentially unchanged.

1.) Successfully meeting the challenge before us will require a concerted effort from all parties involved. At the federal level, we at the EAC must continue to explore ways to reduce the cost of testing voting systems to assist manufacturers in remaining viable business entities and to promote free market competition, but more importantly, to hopefully allow manufacturers to reduce system costs that are most often passed onto State and local election

jurisdictions. State and local jurisdictions, they can help themselves by limiting one-off requests for changes and modifications to voting systems and by harmonizing requirements from State to State as much as is practical. Every instance of a manufacturer making a State or local jurisdiction change increases system costs for everyone. Voting system manufacturers must work to help themselves by designing systems that are secure and reliable from the start and go through rigorous internal testing, so that State and federal certification efforts go as smoothly and quickly as possible with a minimum of discrepancies. VSTLs should not be viewed as the research and development departments of the manufacturing community.

2) The risk to the election process related to our aging systems has the potential to lead to a disaster or series of disasters as great, or greater, than that which we experienced in Florida in the year 2000. We may quibble about whether this is most likely to occur in 2012, 2014, or 2016, but the fact remains that the risk is present and will grow with each passing year that the problem is not addressed in a systematic fashion.

3) In spite of best efforts of State and local election officials to continually do more with less, there will come a time when voting systems will absolutely need to be replaced. Obviously, this will require significant expenditures of funds which many States simply do not have. The ugly truth is that in this age of increasingly smaller federal and State budgets, money will need to be appropriated for this activity.

Election reform is neither easy nor inexpensive, nor can we succeed if we think of providing funds on a one-time basis. We need to view the administration of elections as a continuing challenge for the entire government and one that requires the highest priority of our citizens and our government. Those last two sentences are a quote from the bipartisan Carter-Baker Commission report, "Building Confidence in U.S. Elections" which was published back in 2005, so experts in election administration have known of this problem for quite some time. Finding this money is not going to be an easy task, but it is one that must be done.

We hold our elections as models for other emerging democracies around the world, and as a nation we've made a commitment to bring our system of democracy to others by funding democracy building around the world. From 1990 to 2000 the United States Agency for International Development gave over $9 billion to support democratic governance in over 100 countries. In 2004 and 2005 the U.S. spent approximately $130 million to provide assistance to the Electoral Commission of Iraq for their National Assembly election. In 2009, the U.S. spent $263 million to support the Independent Election Commission of Afghanistan in holding the Afghan elections that year. In 2010 and 2011, USAID is contributing $14 million to support elections in recovering Haiti. And finally, in 2011, USAID is going to spend $8.5 million to aid the Election Commission of Pakistan in developing a computerized election registry for that country.

I believe in the adage that charity begins at home. I fully support the work of USAID and other similar agencies, and have personally worked on international projects partially funded by USAID and seen firsthand the great work that they do to promote democracy around the world. My only hope is that we can view elections in the United States with the same urgency and continued support that we give other democracies around the world, so funding can somehow be found to assist and continuing the modernization process of our own democracy, before we find ourselves in the midst of an election disaster which could have been prevented.

Thank you, Merle.

DR. KING:

Thank you, Brian. That's a great context, I think, to frame the discussion that we're going to have here today.

There's a couple of things I'd like to talk about in terms of how we'll organize the roundtable. And then, we'll have some introductions and we'll get right into it. The first is, I'm, please, asking everybody to put their phones and BlackBerries, or whatever other devices you have that might ring, beep, chirp, to put those on silent. We would appreciate that.

The second is, when you have something that you want to share in the roundtable today, one of the ways that helps me keep track of who wants to speak and in what order, is, if you would put your tent, your name tent up on edge. That helps me keep track, again, of who wants to participate in that particular question.

The microphones that are in front of you, they are on. They are being controlled behind the panel, and so, there's no need to press the button. Just speak into the mc when the time comes.

We will be taking breaks throughout the day, and those breaks are, in part, mandated by the off campus closed captioning facility. So, we've got to pay attention to those breaks to give them a chance to swap out personnel at their end.

And then finally, at the conclusion of today's activities everybody here will be given an opportunity, as we go around the table, to make some summary statements, and we use that opportunity for you to drive home what you believe to be the most important points that you would like the EAC and the participants of this roundtable to take away. So, even if you think of something later in the day that you wish you had responded to an earlier question, there will be a summary opportunity where you can come back and make your thoughts known on that topic.

What I'd like to do is make a brief statement about the purpose of this roundtable, and then, we'll do the introductions and we'll get onto the first question at hand. I'm making sure that my slides work.

In the years 2002 to 2005 there was an unprecedented surge in the acquisition of voting systems across this country. I think everybody here at the table was engaged in that in some way, shape or form. Old and antiquated systems and technologies were replaced with new systems. And now, as we approach the 2012 election cycle, the States are facing the challenge of managing these aging voting systems in a very different environment than

what we faced in 200 -- in 2002. It's an era in which there is sharpened public awareness of the issues that occur within voting systems, and there's heightened public expectations of the integrity of those systems. So, it's not necessarily a different game, but there are things that are very focused from the public's mind about their expectations of the performance of our voting systems. This roundtable seeks to explore these issues associated with the sustainability of our current deployed voting systems.

There are many stakeholders in this process. Most of the stakeholders are represented here at the table. We have voting system manufacturers, we have test labs, we have State and local officials, and we have the media here, all important stakeholders. But beyond that, there are stakeholders in the parties, stakeholders in the candidates, and then, the most important stakeholders, of course, is the American people, the people who expect these systems to function flawlessly, accurately, securely, on Election Day.

In the frantic and sometimes chaotic millennium decade, systems were deployed in a manner that gave little forethought to sustainability. As one who was engaged in the deployment of systems, we were focused on getting the systems rolled out, getting voters trained, getting poll workers trained. And the issues that were now coming home to roost were not really thought through. They weren't discussed. They weren't on anybody's horizon. And not unlike the American infrastructure of roads, bridges and water systems that are critical to this country, we have to vigilantly

monitor our voting systems and diligently remediate them when we perceive sustainability issues occurring.

We're not here to address how to avoid the inevitable. As Brian indicated, eventually all voting systems have to be replaced. So, we're not here to discuss how we can keep that issue at arms' length forever, but, rather, how we can optimize our current investment in voting systems, and how we should be contemplating our next cycle of investment in voting systems. So, this roundtable will assist all the stakeholders that I've mentioned in consolidating the experience of the last decade in the deployment of systems and help create an agenda for action as we prepare for the 2012 election cycle coming up.

So, that's what we want to accomplish here today, and we've got a great team assembled. And at this point I'm going to ask people just to briefly introduce yourself. And Mike, I'm going to start with you and we'll just kind of work around the table. This is not necessarily the order, as you see on the overhead, that we'll go in. But who you are, what your interest is and experience in elections.

Thank you.

MR. DeBONIS:

Thanks, Merle. My name is Mike DeBonis. I'm a reporter at the Washington Post. I cover local politics and government. My -- I think my expertise and where I think I can most contribute to the conversation is in the District of Columbia last year we had probably one of the most ambitious rollouts of election procedures and technology in the country. And I don't know if there's ever

been quite that ambitious a rollout. And I covered that quite intensely.

Also we talk about how the media has changed how we cover elections, you know. I think we should talk about that, in particular social media. And hopefully I can contribute to that and hear what other people's experiences have been.

Thanks, Merle.

DR. KING:

Okay, thank you Mike. Chris?

MR. THOMAS:

It's Chris Thomas. I'm Director of Elections in the State of Michigan. My expertise is I've been here a long time.

[Laughter]

MR. THOMAS:

And so, I've actually worked at the federal level of the Federal Election Commission, and have been back in the State of Michigan since the late '70s and have been in this position since 1981. We've gone through statewide purchases, and we're currently in the midst of an RFP with manufacturers on long-term maintenance contracts.

DR. KING:

Very relevant. Linda?

MS. LINDBERG:

Linda Lindberg. I'm the Register of Voters from Arlington County Virginia, which is just across the river from Washington, D.C. I've been in elections administration for about 17 years and the last eight years in my current position. So, I've seen HAVA, I've seen

NVRA being implemented from a local election official's perception. We've gone through transitions of systems and evolutions of systems in Virginia, and I hope to bring that perspective to this conversation.

DR. KING:

Thank you. Lowell?

MR. FINLEY:

I'm Lowell Finley. I'm the Deputy Secretary of State in California for Voting Systems Technology and Policy for the past four years. And now, I'm also serving as Chief Counsel for the agency. We have severe budget problems, so everyone is doubling up. I practiced as a private attorney for 25 years in the elections and political law arena, but only became interested in these technology issues in the aftermath of the 2004 Presidential election, I should say, coming up to that, and represented some private citizens who've been raising these heightened concerns and expectations about the need for secure and trustworthy voting systems, and then, was hired by our new Secretary of State who shared those concerns. And California has tried to provide some technical and scientific evidence for problems that existed and, hopefully, can lead to the development of better systems.

DR KING:

Thank you, Lowell. Andy?

MR. RODGERS:

I'm Andy Rodgers. I'm Vice-President of Engineering for Hart InterCivic. I am responsible, in that role, for both, the development of new systems and the sustaining of our existing systems. I have

about 30 years, now, in technology products, hardware and software, including products in the electronic instrument class that have expectations of 20-year lifetimes equivalent to the kinds of products that we have in elections.

DR. KING:

Thank you, Andy. Traci?

MS. MAPPS:

My name is Traci Mapps. I'm Director of Operations at SLI Global Solutions, one of the voting system test laboratories. I've worked there for about three years and have been involved in testing for approximately 20 years. And I'm just interested in the discussion about how we can better help this process.

DR. KING:

Thank you, Traci. Tom?

MR. CADDY:

My name is Tom Caddy. I'm an EAC Technical Reviewer. I've been working in elections for a long time, as well as designing, manufacturing, maintaining a variety of Department of Defense and government equipment for my entire career.

DR. KING:

Thank you, Tom. I'm going to skip Brian and myself and go to Frank.

MR. PADILLA:

Frank Padilla, Program Manager, Wyle Laboratories. We're one of the EAC's VSTL laboratories. I've been in voting now for six years, 20 years in system and design testing with the U.S. Government, retired U.S. Navy. We've tested almost all the systems that are out

there today, or seen them in the six, seven years that my team has been together. So, we have a lot of insight into what's out there in the public today.

DR. KING:

Thank you. Ken?

MR. CARBUILLIDO:

Good morning, I am Ken Carbuillido, Senior Vice-President of Systems at ES&S. I have responsibilities for the design, engineering, manufacturing, development, certification of the ES&S tabulation voting systems that includes both hardware and software, as well as the support of those things as they are out in the field. I've been around ES&S for over ten years and am very happy to be here to participate.

DR. KING:

Thank you, Ken. Neal?

MR. KELLEY:

Good morning, I'm Neal Kelley, the Registrar of Voters for Orange County, California. We have more voters in our county than 21 States in the country, and we are the second largest county in the State of California. And I don't give you those statistics for sympathy. I give those to you because we're one of the largest users and deployers of voting systems in the country. And we're right on the forefront of this issue. I deploy 10,000 voting systems or booths every election. And since we acquired them in 2004, the -- at the time, the estimate was, they would be deployed eight elections between now and where we're at today. They have now been deployed 31 elections. So, you can see that the expectation

or the lifecycle of that voting system, perhaps, is being extended much further than the anticipation was, originally.

I'm glad you brought up bridges, by the way, Merle, because I really want to focus on that later. And, in the interest of making the introduction brief, I just want to say that previous to my job here, which I've been doing for eight years, I was in the private sector in operations management, in dealing with the same sorts of issues, but not the same scrutiny.

DR. KING:

Okay, thank you Neal. Kathy?

MS. SCHEELE:

Good morning, I'm Kathy Scheele from Vermont, and I'm one of those 21 States that's much smaller than Neal's county. I've been with the Secretary of State's Office there for 12 years. When I arrived in Vermont -- I should mention Vermont and the other New England States administer by township, rather than by county. So, even though I don't have very many -- much population, I have 246 different town clerks and personalities of local boards to deal with. When I first started, we had four different voting systems being used in the State, and by State law, our office is required to prepare all the ballots. And so, we quickly decided that we were going to use the HAVA money to go to one system. And so, we went to a system that's been -- an op scan system. It's been in use since 1994 in Vermont, and I'm hoping to keep it in use past 2014. And I think the key for New England has been the manufacturer's rep support we have for maintenance.

DR. KING:

Very good. Thank you, Kathy. Wendy?

MS. NOREN:

I'm Wendy Noren. I'm the County Clerk of Boone County, Missouri, which is Columbia, Missouri. And I would like to bring a perspective of medium to small jurisdictions, because so much of what I see when I come to meetings like this, is, the perspective of large jurisdictions with much greater resources. Missouri has 116 election jurisdictions. The fact that they -- I guess, there are many of them that have no idea that the equipment should be stored in something other than the horse barn down the road or something like that. So, you know, there's a lot of issues going on in the way this equipment has been maintained. Although, you can read all you want and say all you want, the reality is, in most of America, this equipment is in very small jurisdictions. And so, I bring that perspective.

The second perspective, coming from a college town, I have real concerns about the fact that we aren't looking at how we're going to serve the next generation of voters. I know, how I communicate, how I work with young people is very, very different from the way I deal with the rest of my voting population. And so, I think we need to start thinking, now, when we have a generation of people coming up who doesn't -- they don't use pencils, they don't use pens, they don't, you know -- there was an article today about the volume of people not knowing what civics classes are, going to polling places. They have a totally different world that they have grown up in, and how they want services from their government is so radically different from what we sit here and think about a

machine in a polling place. And I think we've got to start looking at that perspective, also.

DR. KING:

Thank you, Wendy. And Jim?

MR. SILRUM:

Jim Silrum, good morning, I'm from North Dakota. And I'm the Deputy Secretary of State, have been so for the last eight years. The perspective -- in addition to that, I also serve as the Chair of the EAC Standards Board. But the perspective I'd like to bring, today, is that North Dakota is right on the verge of thinking about when are we going to be replacing our current voting system? And, unlike the other States around this table, perhaps most of all of them, just last week when our legislature departed for the session, they passed a final bill, in which they gave a half a billion dollars back to the citizens of North Dakota because we just have too much money, we have a surplus. And yet, even though we're in a situation where we have a surplus, that doesn't mean we're ready to run right out and buy the next system that is currently available on the shelf. We want to make sure that we make a prudent decision about what it is that we purchase, in whatever environment that it is. And yes, I too represent the small population jurisdiction. But, that's the perspective I bring.

DR. KING:

Thank you, thank you all. Jim, I don't know if you work for the tourism and economic development unit of North Dakota, but you may have helped the cause quite a bit with that introduction.

MR. SILRUM:

Well Merle, I can also say that we just had our last blizzard of the year last weekend. So...

[Laughter]

DR. KING:

Everything equals out. Well, thank you all, so much.

We have a series of questions. I'll be projecting those questions behind me on this screen. And what I'd like to start with this morning is questions that most directly impact the media, and the media's role in the elections effort. And election officials, as those of you who are elections officials clearly know, we have a peculiar relationship with the media. We desperately need their assistance. We need their assistance in voter education. We need their assistance in voter outreach. But, they also have a need from us. And that need is often about the mundane, but more often about the spectacular, or the perceived spectacular, the inexplicable phenomena that seems to happen in every election. And one of the issues that has characterized the election science, if you will, this body of work that we're involved with, is, unlike other science disciplines that develop a very descriptive vocabulary to describe phenomena, we still kind of borrow words to describe what's going on, and my particular favorite word is "anomaly." If a poll worker forgets to pull a memory card out of a machine and send it in for tabulation, that's an anomaly. And it goes on and on.

So, my first observation, up here, is that when somebody else screws up in an election it's a disaster, but if it happens in my jurisdiction it's an anomaly. And so, one of the first things is, when we say a voting system anomaly, what do we mean when we talk

about that? There is certainly a definition of anomaly. It means an inexplicable occurrence that is effervescent, it usually goes away. Things go back to normal. But we have a tendency, I think, to use that term, and perhaps, over-use it, to describe things that are, in fact, not anomalies, but may be, in reality, systemic to the system. So, that's my first question to the panel, is, when you hear the term or you use the term anomaly, voting system anomaly, or for Mike who is our media representative, when you hear the explanation, anomaly, what are you talking about?

MR. DeBONIS:

I guess, I should get started. There are a lot of -- you know I think reporters are very much where there are a lot of things that can go wrong during an election. During the voting process itself, I think there's sort of a continuum of things, you know. We get -- we will get reports from voters who had issues. Now, were those issues that they couldn't vote when they wanted? Was it that they couldn't vote the way that they wanted? Was it that they couldn't vote at all? Obviously, if someone was -- couldn't vote at all and was turned away from a polling place, that would certainly be the most serious thing we would hear about. If maybe, a machine was down and they couldn't either scan their ballot immediately or they couldn't -- instead of using an electronic machine, they had to use a paper ballot or vice-versa -- in the District of Columbia we have both, we use both systems -- someone would consider that an anomaly. Now, after the voting process is complete, perhaps there's problems closing out polls, that delays the tabulation. That's also considered an anomaly. Now, whether that's something

that actually affects the outcome of the election, it rarely is, but it's still an anomaly. It just may be a matter of people waiting a little longer, that's still an anomaly.

So, I think Merle, what you're getting at is that there's a whole range of seriousness issues here. There's people who can -- who just aren't -- maybe aren't able to vote exactly how they want to, and that's an anomaly, and there might be a situation where votes are lost or a memory card is lost, and that's an anomaly. So, I think, us, in the media, have a sort of responsibility to explain beyond one word how serious an issue is. So, that's what I try to do, and I think, my colleagues do, but some outlets aren't as mindful of that.

DR. KING:

Okay, thank you, Mike. Neal?

MR. KELLEY:

I think that the term anomaly is interesting, and I like to think of it more as everyday life, because you could get up in the morning and go to the bank and the ATM might not be working. You go to the next ATM and pull your money out. You get on a plane, the plane's air conditioning might not be working, you get on another aircraft. Those are things that are going to occur.

What's interesting to me is -- and I have a good relationship with the media in Orange County, and I work very closely with them. And they've come to understand that this is the same thing as life, and we're getting those systems up and running and we're getting them working. To me, an anomaly, or a serious issue, would be the results of the vote. Are the votes not being counted

correctly? Are there issues with the reports of those votes? Are there issues with those reports getting out?

The other things that you described -- and I agree, we need to address them and we need to respond to them and fix them, which we do, and we have those mechanisms in place -- I think it's, and I'll be very careful with my words, the media tends to, on Election Day, some of the media, suspend normal life and act as though this operates perfectly, but everything else in life does not. And I think that is, sometimes, a difficult problem.

DR. KING:

Okay, Wendy.

MS. NOREN:

A little bit of follow-up on that. I like to give a little perspective sometimes, you know. We've just gone through the census. The Census Bureau asks, I think, five questions this year. We have a thing called Census Day, which is like, you could think in terms of it of Election Day. Let's pretend the Census Bureau had to collect the answers to those five questions from every household and report it by the 10 o'clock news. You know, this is the -- this is what we expect of local election officials and that concept, that hundreds of millions of tabulations have to occur in a 13 to 14-hour period and be out by the 10 o'clock news and be perfect, or it's an anomaly. Even the Census Bureau, if they, you know -- everybody recognizes there's a certain percentage of error rate on these types of things.

We all strive for perfection. I think every mistake is a potential disaster. For me, I could lose my job over it. I mean,

whether it's, you know, it's the perception of it, one scanner being down at a polling place, you know, all of these things. So, I can't really think of these things as anomalies when each little item could be projected to the point that is a disaster for me. So, you know, I -- we can try to educate the public. Are we ever going to have a perfect system? You know, I've been through punch cards. I've been through central count. I've been through optical scanners. I've been through DRE. I did the online download for our UOCAVA voters. So, I've been through multiple systems over the last 30 years. You're never going to have perfection on them. And in fact, the more complicated you make them, the higher your error rate, or anomalies, are going to be.

DR. KING:

Okay, thank you. I'm going to call on Lowell in just a moment, but I wanted to comment, though, on something you said in your opening comment, Wendy, which is, that the emerging younger voters have differing expectations across a broad range, in terms of convenience, speed, all of those issues. Do you think that they also have a differing expectation of the specificity of responses from election officials regarding, particularly, technological anomalies? So many of them have grown up, now, with technology deeply embedded in their lives, and do they have an expectation of more detailed descriptions from election officials?

MS. NOREN:

No, I have been very lucky to have a very strong college poll worker program, thanks to the EAC's grants, and working with the University of Missouri, and so, I've watched these kids a lot. They

tend to be more accepting of a little glitch here and there, you know. They've grown up with it. They've been through multiple -- you know, their Nintendo died when they were seven, you know, and it's like they recognize these things happen. So, I do find them actually a little more accepting of that kind of technology and the kind of glitches that may happen, than a lot of older people who may not understand some of that.

One thing about these kids, when somebody said, you know, the media, for get out the vote, and I don't want to downplay the media, I'm -- you know the University of Missouri journalism school is the oldest, I've got more reporters per capita than any place in the country covering me. But I -- you know, these kids don't communicate that way. It's like they found out -- they didn't watch the normal media for this event Sunday night, they got it through texting. The first words out of my son's mouth, "I've got Twitters going wild. I've got to get on," you know, things like that. So, their informal network of communication, it's hard for us to control. They're getting different sources of information than we are. They are more accepting of the technology we put out, but they're more susceptible to all kinds of influx of information that I have less control over. I used to sit down with my local reporters. That's how people got information. I can't do that anymore.

DR. KING:

Okay, thank you. Lowell?

MR. FINLEY:

Well, I'd like to endorse what Neal Kelley said a few minutes ago, in terms of focusing on systemic problems with systems, and

particularly those that can lead to the loss or the mistabulation of votes. And, even more particularly, in a setting where there's no recovery, there's no auditability, nothing where you can go back and figure out what happened or correct it. And I think it's been shown, in several instances, that current voting systems have those kinds of defects, and they're defects. They're not anomalies and they're not glitches. And the best way to get things like that fixed, is to identify them, tell those who are affected by them that they exist, what they can do in the way of workarounds until the problem is corrected on a technical level, and move forward.

And this happens in private industry. It wasn't something that came easily but, you know, Microsoft now puts out regular security updates in which it acknowledges that its products are extremely susceptible to hacking, and that new things are discovered all the time. If they didn't do that, I'd say that very few people, at this point in time, would be using Microsoft software.

California has tried to systematize this. Our legislature passed a law last year that required voting system vendors to notify the Secretary of State of defects, errors, flaws in their voting systems whether it was hardware, firmware or software. And in turn, the Secretary of State reports those, in a spreadsheet systematic form, to the Election Assistance Commission. We just delivered our first report, and it will soon, I believe, be appearing at the EAC's website.

I think that clearinghouse function that the EAC plays is a critically important one. And I think that it's those deeper issues that deserve focus. This is often the case, I think, for the media.

It's harder to get an editor's attention on something that may be a longer term issue, may not have shown up in this particular election, but I think, in the end, is far more significant in terms of the risk it poses than the kind of, you know, battery failures, individual machines going down, things like that, that can occur in any Election Day, I certainly agree about that.

DR. KING:

Okay, thank you, Lowell. Chris?

MR. THOMAS:

One of the issues of dealing with the media between anomaly and disaster is trying to -- during Election Day, itself, is the rumor control. I think the media are often inundated by various groups that are reporting, from their perspective, and claiming that there are various problems here and there. And usually those are blown way out of proportion. They're not sounding, initially, just like an everyday occurrence that will be quickly remedied and voting can continue and all of that. So, the big fear is, is that, one, you really start to dampen down the vote, because people just hear about these problems and really are not going to show up. So, that's an entirely new challenge. And, as I think as Wendy indicated, there are many other sources than just the traditional media by which people are getting their information. So, it continues to be a challenge as to how you put those fires out, keep them in perspective. When they're disasters, they're disasters. You need to treat them that way and not try to cover them over. But, so many of them are, the tabulator goes down, it's being corrected, people can continue to vote, the voting doesn't stop, so those types of

things. And, you know, in '08, we chased lines. That was the big deal, you know. Every group in the State was reporting, you know, huge lines which, you know, by and large, when you'd check it out really did not materialize. So, those are things that voters don't want to hear. And it's discouraging to voters when they hear that kind of information. So, that's a role that we all have to play.

DR. KING:

Linda, and then, Mike.

MS. LINDBERG:

I would like to piggyback on the comments that Lowell made about systems having known issues and known problems. We're going to see that more and more as we are continuing to deal with our legacy systems. In Virginia, we have a number of voting systems that are no longer being manufactured. So, we don't have that same sort of potential remedy of going to the manufacturers saying, "What are your known issues? How do you work around them? How will you correct them?" We simply have to continue using this equipment, because we don't have the funds to purchase new equipment. And that's in some localities, not in all localities, but I'd say, maybe, in about 50 percent of the localities in Virginia, we are beginning to see, now that these systems we've had in place for eight -- seven, eight years, we're beginning to see anomalies, strange occurrences that we had not seen back years before. The system that we use in Arlington County is the Winvote system by the now defunct Advanced Voting Solutions. We're just trying to maintain that, as we go along.

But, we are running into machines that do not behave the way that we'd like them to behave, and that's become a real problem for us as -- and I think it will continue to be a problem, as these systems age and we just -- we're not able to replace them.

DR. KING:

Okay, thank you. And Mike?

MR. DeBONIS:

Yeah, I just wanted to bring it back. What Chris said was really valuable in pointing out that just how Election Day reporting has changed. For newspaper reporters, in particular, where ten years ago a newspaper reporter during an Election Day would be, you know, going from polling place to polling place interviewing voters, maybe we'd get a phone call from the campaign saying, "Oh, there's a problem at precinct such and such", you know, "you need to check this out. We think there's a real problem there." And, you know, you'd have the whole day, basically, to figure out what was going on. Twitter has changed everything, and there's really no way to understate it. Any time -- any voter who's on Twitter who has a problem at the poll, will tweet about it, they'll get retweeted, it will get back to a reporter. And we're in a position where have to chase down, you know, someone says that, you know, "Both the scanners are down at precinct 40," you know. And now, you know, I'm on the phone to the Board of Elections saying, "Hey what's going on at precinct 40?" And sometimes you can knock down some of the stuff, sometimes it's not. But, you know, I don't want to say it's a bad thing. I mean, it also is very useful in explaining what's going on.

The other sort of pressure that we're dealing with is, that for newspaper reporters who, you know -- every newspaper now has a website that needs to be fed during the day, and our editors want news on the elections. So, that means that, you know, come 10 o'clock, come noon, 2 o'clock we're going to have to put updates on what's going on and, you know, that involves collecting reports of problems. And there's simply more reports from people who went out to the polls, had an issue, and have tweeted it. And that -- you know sometime, you know, we'll have a chance to go to the Board of Elections and say, "Hey, this is what we're hearing. Can you tell us what's really going on?" And that will get reflected. But sometimes, you know, if you're not, either in elections authority that's on Twitter yourselves, and is able to address these things head on, or you're not responding to the media who are asking you for, you know, the truth about what's going on then, you know, you have the potential for there to be, you know, a false scenario. We'll put it that way.

DR. KING:

Okay. I'm going to follow-up on a question with Mike, Neal, and then I'll come to you.

In February, we did a roundtable in Oklahoma City and a gentleman from the AP dropped a phrase at that meeting that was very thought provoking. And it was, he felt that his mission was, "To get it first, get it right, but get it first." And that seems to speak to the Twitter phenomena, where, the urgency -- and often you'll see people identify themselves as the first poster of something, is kind of like taking kudos. How can election officials, who, I think

would almost take the opposite of that point, which is, get it right, get it out, but get it right, so to speak, how can they engage in that Twitter arena, and manage that tension between the urgency and the volatility of the data, versus the accuracy and completeness of it?

MR. DeBONIS:

Well, I think there is value in acknowledging that people have reported problems. And I want to just give kudos to the Board of Election and Ethics, here in the District, who are on Twitter and realize that this is the way that people, you know, learn about, get news about the election. And they monitor, you know, the tweets for any reports of problems and they're very good about saying, "We understand that there were reports at precinct 103 and we are checking it out now." And then, once they're able to, you know, get a report, they'll put something up there. I think that it's more important that for, you know, in elections authority, if you're going to be communicating with the public, communicating with the public now, means directly interacting on Twitter, so that's -- I think that more and more is going to be just sort of a standard part of the job for an elections authority.

DR. KING:

Okay, thank you. Neal?

MR. KELLEY:

I think you sort of asked and then answered my question, or what I was going to say. But I'll just add briefly that since Twitter has been out, I've been using it ostensibly. And on Election Day I do have the benefit of some resources, Wendy, and use that. And we're

hooked into our sheriff's department's frequency, and we use separate frequencies. So, I get the reports of these in the field and I tweet them immediately. So, rather than saying, "I'm responding to a tweet," I'm saying, "There is a problem at precinct 123. We're en route." I then clear the problem and then tweet what it's about. That has really stopped a lot of those issues, significantly. And in fact, we have reporters that re-tweet those throughout the day. So, I would encourage anybody to do that.

DR. KING:

Okay, thank you. I want to drill down through one more question in this slide that's behind us. And it -- and I'd like to get the test labs and the vendors, if they would, to weigh in on this question.

One of the challenges of technology has been mentioned, here, is that many of the faults that occur in a system are effervescent, that is, they don't leave an audit trail, they immediately self-correct, or in some way correct, and very difficult to reproduce. And yet, both the vendors and the labs have a tremendous responsibility to be accurate and complete in their descriptions, because if they are premature or inaccurate, and I think we all understand how difficult it is to put the Genie back in the bottle, that once you make an assertion for a cause, and then you have to come back and correct that later and then correct that later, it creates its own issue then to be managed. So, for the testing labs and the vendors, people who work at the technology, at a developmental and a very elemental level, could you weigh in on the issue about the steps that you take, for the labs, and notifying the vendors of anomalies that are in the system? And then, from

the vendors who have deployed systems in the field, a glimpse into how you go about identifying what's communicated to the public, how that's vetted internally, and how that's managed.

I'll start with Frank, then. Thank you, Frank.

MR. PADILLA:

No problem, thank you Merle. I do want to answer one other question before I get to that one, that I wrote a note on, and I heard Wendy saying about technology, with that, we're going to discover more problems and all, as we're evolving in technology. And I don't really think it's technology that has the problems. Technology is showing problems. We see problems and we're able to use technology to discover problems always existed. The problems existed when we counted paper ballots a long time ago. The public just didn't know about it. The election officials might not have known about it. I mean, I read reports of States where whole cemeteries voted back when it was the paper ballot day. Now, you know that pretty quick. So, I think it's the evolution, it's not the technology. So, I don't really want to blame the technology. The technology is out there to check itself. The advantage is, we see it today. We see it by minute. The voter sees it by minute. In the past they didn't see it. As people referenced the ATM being down, you're seeing that. The bank being -- not getting your money, you might not see that right away.

What Merle said was really unique on anomalies and issues. In the voting system test lab world, we're limited. I mean, we test to the VVSG. Our -- we do conformance testing, and we try to stress that to the public, the election officials, the EAC, and everybody

around. That is our guideline. That's our Bible, per se, that we follow. So, there's a limited set of test cases we can run. I mean, there's a million tests, as a lab, that could be done to a voting system that's out there, but nobody is going to pay the lab to do those, or the public or anybody else, because there's no requirement for those. The EAC and the government came up with the set of requirements that we are obligated to test to. We do that, and write out reports. If I came up with a thousand extra tests, the voting machine manufactures, or eventually, the States and the taxpayers aren't going to pay for those, even if I thought it's a great test to do. I've got to work it in the system and there is a process for doing that, and we're working at that constantly with new changes to the standard and all. So, we're going to find, as technology changes, and we evolve technology, new ways to come about testing and adding tests and everything else. But anomalies we track, we take through tests.

And I think Merle said two things. We take and log every issue at the lab, whether we see it once. Really, there's a difference that we look, is what's called a recreatable anomaly and a one-time anomaly, as we call them two things, which is a unique perspective. Can we recreate the problem? Or is the problem, as Merle put, so unique and so out there, that it's -- you just never can recreate it? It doesn't mean we don't track it. We report it. We track it. We want the election officials to know about it. We want the manufacturers to know about it. We tell them, because as we use more and more and ballots get cast on these and more people

test it, it might show up again. So, we want you to know about it. We want that data to come back to the labs eventually.

The EAC's clearinghouse, as I mentioned in several roundtables, kudos to them. That's a great tool for the labs. We look at all that data. We look at the reports that California has submitted and we're going to go back -- we go back through all the tests we did. Could we have caught things like that? Or are they that one time that, because the millions of ballots that went through -- we can't cast a million ballots at the lab. We just -- the test campaign would take forever. But, we do cast hundreds of thousands, sometimes. But sometimes that's just not -- you know somewhere you got to do that price of testing. You can test forever. Even NASA and everybody else has a limit that they say, "How much testing can you do before you're going to let the people go rocket to the moon?"

I mean, so we have to weigh all that. So, we're looking for those, and there are those situations, but they're always tracked. I mean, I think that I speak for both labs, is that's a very important feature that I don't want anybody to think that we even have those, but they do exist that we can't recreate. We go back and we ask them, "If you ever see this, let us know immediately because maybe we can take all that data between the community, and then recreate that problem." But we challenge the manufacturers with it right away, "Can you help us recreate it?" But sometimes even that, in technology, it's just that one-time thing that everybody's had, like I think somebody said a glitch on your TV. Nobody can tell you why it happened. It just happened and we've accepted it.

DR. KING:

Thank you, Frank. Traci, did you want to comment?

MS. MAPPS:

You know, I agree with Frank. We do track anomalies in our lab. Everything that comes up during our testing certification, or any testing that we do, we track as an anomaly. And then, what we do is, we work through those with our experts in the lab to determine whether or not it's truly a discrepancy. I mean, you might have a problem, a glitch, something that may be an issue with the way that we configured the system. Or, you know, it could be user; a user issue with the way that somebody, you know, tested it, and they tested it incorrectly. We track everything, as an anomaly, and then, we determine whether or not it's a discrepancy.

You know, as far as tracking anomalies in the field, we have a vulnerability list that we track. And so we do the same thing. We go out and we look at the State's reports. We look at what's being tracked over the EAC website. We track all of those issues. Can we test all of them? We do tie them to the VVSG requirements and see how they match up there. And we do share those with the vendors and with the EAC as we track those.

DR. KING:

Thank you. Tom?

MR. CADDY:

Yeah, I just wanted to add a couple of things with regard to the conformance testing and the VVSG that Frank mentioned. One of the dynamic aspects that is built into the VVSG is the concept of evolution of testing. And that evolution of testing does incorporate

all of the things that, for instance, are in the clearinghouse that have come from each of you folks out there, as well as the past learning of failures, and, in essence, obligates the laboratory to modify their testing to be able to capture those kind of events in the future. So, it's not a static checklist that would repeatedly overlook issues. So, I just wanted to bring that out.

DR. KING:

Thank you, Tom. Ken, would you like to weigh in on that question?

MR. CARBUILLIDO:

Sure, you bet. Well, there's several aspects here that I think maybe we can all feel better. I hope I can make you feel better that all of these issues aren't ignored, absolutely, they aren't, or anomalies. We try -- and I will say that the -- some of the testing of the past ten years, and the VVSG, and the things that have been done in the EAC program, and the labs, as much as I will sometimes say I don't like those standards, they really have forced us to improve the quality of our systems. And the partnerships we've had with the EAC and the labs have forced us to a testing of our new releases and products to a degree we never had before. And I'll admit it, it does make the products better.

But -- and let me tell you about some of the things where we hear of issues in the field. And we have the luxury of many who can tell us, and they do tell us, our customers do tell us, we do capture that. We have a help desk system where all of those are funneled through. In -- back in our offices, we have replicated systems for all our customer's infrastructures, and when we can, we have their data, so that we could try to recreate and put some

facts to the issue or not. Oftentimes, we have to sort out the noise from the real issues and, fortunately, it's not a systemic issue. I would say, 99.99 percent of the time, it's, maybe how it was used or even how it was perceived. It's not, you know -- the anomaly is something that is not a system issue, but there are cases where either by use or the system there are issues. And so, for years now, at the -- at the behest of a very active advisory group, ES&S has, we have had a customer portal, where we have published all of the issues that we know of, technical bulletins about the issues and workarounds. And that's available for all our customers to see on our website, so they're aware. We've published that for some time now.

So, I think though -- even though those issues are known, even though there's great testing through the development processes, even though we take issues, and every time we learn of an issue we add it to our regression test bed, there will be more issues. And so, a good methodology of trying to sort out the noise, understand the facts, and then partner with our customers to really then determine what the impacts is, and then how to communicate that out, we won't just draw a conclusion and publish it on Twitter. We will absolutely talk to our customers and say, "Do you see it this way? We have theories. Maybe this is good. Can we both conclude that?" And then, together, we will have a plan on how to communicate that and really participate with them on that.

DR. KING:

Thank you, Ken. Andy?

MR. RODGERS:

Yeah, I'd like to emphasize that -- there's a process necessary to discover defects, anomalies, whatever, and have fast feedback. In the situation we're in currently, where you have a product that is in sustain mode, an awful lot of the feedback back to customers is about a workaround. The -- but there's really two parts of that. We want to get -- duplicate an issue, which oftentimes is a challenge. And it's not something that's unique to voting systems, all of technology have those issues, but developing all parts of the system so that the manufacturers get information quickly and accurately. Some of the new communication methods, such as Twitter, may help us with that. Being able to see a screen shot of what exactly happened on that machine can be valuable because of the duplication issue that you have.

But the -- another part of the issue is that we need to have fast methods to get the real fixes for those kinds of issues into the product, rather than just the workarounds. And so, creating and improving a regulatory system that allows very fast incremental change to products, and being able to get those back into the field quickly will help us knock these things off. And over time, the list of items to be tested is greater, but the things that occur out in the field become less.

DR. KING:

Okay, thank you. Wendy?

MS. NOREN:

I think we are just starting to bear the fruits of this testing program that the EAC has in that they are -- when they do identify problems in the testing, in the area, they do develop workarounds until the

problem is fixed. When I train poll workers, when I train my staff, I always say to them, "I can't fix something I don't know about." The problem we have with the current equipment, that probably 90, 95 percent of the people are using, is, it has not been through this newer form of the testing. And, yes, you have a portal. Our problem is, we're dealing with systems that have never had that kind of scrutiny, develop that kind of database of issues. I have my own little database of every single issue that happened with everything, so, you know, on every checklist item, so I can develop workarounds, develop preventions and things like that.

So, you know, unfortunately we're going to start seeing these. It's not going to be able to happen in the lab, it's going to be happening real time, in the field, on this equipment. And so, we're going to need to try to figure out how to collect the data and develop communications back to the local jurisdictions, sub vendors.

I do want to say a lot of these things, for smaller jurisdictions, they don't deal directly with an ES&S or a Dominion. They have a local, you know -- in a lot of States, it was the person who used to do their printing of the ballots, when they hand counted. It's the person who maintains their voting equipment and those kinds of things. So, you know, we really got to start figuring out the issues going on with equipment that never had this good testing and development.

DR. KING:

Okay, I'm going to let Frank have the last word on this question.

MR. PADILLA:

One thing we can do is, and I want to stress this, is, I think, go back to the point that the EAC clearinghouse is a great thing. And I really don't think, in my opinion working with them, that we're getting enough feedback from the States and the local jurisdictions. And I don't know the answer to it. I think part of what Merle says, up there, is a different one. Nobody wants to let out their dirty laundry, would be one I'd put up there; that we're scared to tell the EAC or the government about some of the local problems. And I know I work with a lot of the southern States and hear about them. And it's like, well, how come the EAC has never heard about this problem? And, we don't want anybody to know we had this problem in our jurisdiction. But, we can't help you if you don't help us get that data. The more data we get the better off.

I mean, one other challenges that we face, as a group, in Wyle, we read all the press reports. We take them all and we look back at them and we try to weigh out the -- what's real and not real. But we go back and look at all the press reports, all the e-mails and websites and say, "Okay, this is what they found. Is it a real problem? Is it something we should have seen in the testing? How can we get rid of these issues that the public doesn't perceive them?" Perception is reality. We all know that. To change the public's perception is our goal of what's real. And if they really knew how much testing goes on on these -- and I challenge all the States that are here and everything else, if you haven't been to one of the labs or anything, you're welcome. I mean, I know Wyle welcomes. We tell every State and everything, "Come there, we'll be glad to show you how much testing is really done, and how

much work the reviewers do." And it will maybe make you feel more comfortable and everything else, that has changed in the last six years I've been there. The testing today is a lot different than it was six years ago, definitely a lot different than it was ten years ago. And I commend the EAC in their job in continuously coming up with improvements.

DR. KING:

Thank you. I've heard some common themes, in this particular question, that I want to take just a moment to summarize, before we move onto the next question, that deals specifically with Twitter and completeness of information.

But, Linda pointed out that the anomalies that systems experience change over their lifetime. And one of the current trends in aviation maintenance, now, is to shift away from scheduled maintenance to maintenance as needed, because of the recognition that, any time you touch a system you change the system. So, what we're seeing is different anomalies than what we experienced at rollout of the systems. And that requires addressing those issues and learning those issues as we go forward.

Lowell and Andy mentioned the significance of the workaround, or some mitigation. And I think from an elections official's point of view, even though we certainly appreciate information that's provided by the vendors, if it only describes the problem, and no immediate solution -- because typically the problem manifests itself in a critical time of the election. It's usually not six months before the election. So, the need not only for short-

term workarounds but, Andy as you pointed out, for persistent addressing of those issues.

And then, I heard both Mike and Wendy talk about the use of accurate but simple language to describe the phenomena. And I think one of the important issues that election officials deal with, with information that comes from the vendors, is translating it into plain text, so to speak, so that it's communicable by election officials, and it's understandable by the public who receives it. So, it's interesting that I hear a lot of consensus on this issue, going forward.

If I can, let's look at this next issue, which is, really, addressing that election officials and journalists share a common goal of informing the public about election processes and election outcomes. One of the things that I think most of us that work in elections try to do is to educate our media partners about changes in technology, changes in election procedures, things that will be coming up in the election cycle. But very frequently the staffs have been cut, critically in newspapers, but also in other media outlets. And their ability to invest that upfront time six months, eight months before an election, to really get a baseline on the technology and perhaps there's been a change in technology in a jurisdiction, is very limited. And we understand that.

But I'd like to really kind of come back and focus on the last question up there. We can certainly address the partnerships and conflicts. But, is this recognized potential advantage of using social media to not only address misstatements that may be appearing in social media about issues within the jurisdiction, but to reinforce the

correct statements and to add accuracy to that, how does this media address what is often the very complicated issues of explaining why something is the way it is with a voting system?

And I'll give a quick example. If you live in a jurisdiction where you have a lot of people moving in that have an experience with another voting system, they will often misunderstand the use of the voting system that they're now working with. And how can we use social media to address these complicated issues that often can't be boiled down into a ten or 15-word synopsis? So, that's the question I'll put before this panel. Mike, I'm going to ask you to lead that discussion.

MR. DeBONIS:

Yeah, I'll get started with that. I think that in terms of understanding what can go wrong on Election Day, it has to start well before Election Day. If you're an elections official, and I would say especially if you're an elections official who's rolling out a new system or a new procedure, you need -- you know, even aside from Twitter, aside from anything else, you know, it's very important to reach out to traditional media to at least get the word out that there will be changes, you should have different expectations than what you had last time.

Now, there's also, you know, there's different kinds of media now that you may want to reach out to, you know. In a lot of communities there's a very active political blogger community, you know. There's ways -- you know, you can certainly get the word out versus Twitter, but I think it's important to have a broad sort of communications effort to make sure that, you know, newspaper

reporters, broadcast reporters know that there are going to be significant changes, so they can do, you know, that -- and we will do stories on the fact that there are changes.

You talk about, you know -- the question talks about shared goals and conflicts. And when it comes to Election Day, you know, when it comes to any story, a reporter is interested in conflict. A conflict is a story. And a malfunctioning voting system is a conflict. A voter who is upset about not being able to vote is a conflict. Those are things that are going, you know, appeal to a reporter's sense of trying to find some news.

There's something else I think we want to mention here, which is, you talk about elections officials and journalists sharing a common goal of informing the public. One thing that I think bears mentioning is that the candidates in these elections, often, if something comes up with an election have an interest in, you know, getting the word out about that. They have a narrative that they're trying to tell. In our past mayoral election we had some issues in certain precincts and one of the candidates thought that they were mostly in his precincts that the problems were occurring. And via Twitter, via phone calls to reporters they're saying, "Listen, we have a problem here. Our voters didn't get to vote." And, you know, it ended up in Court at the end of the day. So, you know reporters, especially traditional newspaper reporters, are covering an election in the context of a campaign, in the context of the politics of the day. And if a candidate is trying to drive a narrative driven by election problems, that's going to be powerful and that's going to be something you're going to have to especially respond to.

DR. KING:

Okay, thank you Mike. Any other comments on this question? Chris?

MR. THOMAS:

I would just say that it's always a challenge, to talk to technology, to get the background, so the reporter, one, feels comfortable of going out and saying exactly what the issue is. And we get called upon to do that a lot when there are issues on Election Day. So there's, again, a translation issue from local units of government, what really is going on, can we get somebody there as well, and then, reporters have heard. Most reporters don't understand the intricacies of a voting system, and I don't think we should have an expectation that they would. And so, when one glitch occurs, there's usually a wide education that is necessary to see how this falls within the entire system. And that can be a challenge on Election Day.

DR. KING:

Okay. Neal?

MR. KELLEY:

To Mike's point, I think it's well put because -- and I just want to tell a quick story about what happened to us in 2006. And I may have said this at one of these roundtables already, so forgive me if I did. We had a report of 30 poll sites down, in Irvine. And if you have a report of 30 poll sites that are down that is huge, that's significant. And the report came via the Huffington Post. And it was blogged, and as soon as it was blogged I started getting phone calls from producers in New York, at CBS Evening News, about 30 poll sites

being down, in Irvine. So, the time with which you probably could have dealt with this, in the past, before social media and before all of these blogs, was completely different. Now, it's lightening speed, you have to react immediately. And to make a long story short, I went to those areas, determined there were no poll sites down, quickly had negotiations with CBS and were able to get a good story out on the news about that, that it, in fact, was a false report. The reason it was a false report was because of what you were saying, Mike. The candidate was trying to advance a campaign that was losing, and so, this is what they put out to get this attention. They knew it would flare-up and it would explode. So, my comment in that, is, you must as an election official react quickly with lightening speed, and do it in terminology that voters understand very easily.

And I think, by the way, we should have a funeral for the word "glitch."

[Laughter]

DR. KING:

I'll be a pallbearer for that.

MR. KELLEY:

Great.

DR. KING:

Great suggestion. Any other comments on this? Wendy?

MS. NOREN:

Yeah, I got one. You know, it has always been difficult to explain problems with the election process, you know. Newspapers are the best to work with. They have more space. I had this same problem

35 years ago, you know. Even though I only had two TV stations, three TV stations, you know, I got five seconds. I probably don't even get the 140 characters that you get with Twitter that they give me to explain that. And there may be a picture that they decided they'd put on. So, you know -- and there's always been a certain immediate reaction and rumor control. I mean, you know, it used to be on the radio station call-in shows. People would call in over the air, unless I was monitoring from that.

The difference now is trying to keep track of where the next wave of these things are going to be. I mean, a few years ago, you know, people did e-mail or you had bloggers. Then we moved to Facebook. Then we moved to Twitter, you know. By the time I catch up with that technology -- and you're thinking it's great, you're one of the few doing it, and I told my public information officer, I want to do this tweeting of the problems at the polls my next election -- people will be off tweeting on something else, you know, probably. So we -- we really have to have this constant trying to figure out where the next great wave of communication is going to come, because it changes so quickly. You think the last six years going from people coming to a website to how we're communicating with them has been very revolutionary.

DR. KING:

Okay, thank you. I'm interested in hearing from other election officials about how this may have changed how you allocate your time on Election Day. And I think all of us, there's a rhythm and a pattern to Election Day, you know. It starts at either three or four a.m. and there's tasks that you go through. And, traditionally, after

the polls open and after all of the unpowered outlets are identified throughout the jurisdiction and corrected, there's kind of a lull. And that lull lasts through the afternoon and many election officials use that time for a variety of things. How has this appetite for news, this voracious appetite changed how you plan your day, or how you anticipate your day going forward? Linda?

MS. LINDBERG:

Well, for me, I think it's not just Election Day, it's how you plan your who communications program, because once I started using Facebook and Twitter to communicate about my office, it takes a chunk out of my day and that of my staff on an ongoing basis when there are deadlines coming up, when we have something newsworthy to say, "Candidates filing, the ballots now set," et cetera, et cetera. Election Day is just part of it, and I think, certainly Neal pointed out, that if you have issues on Election Day, it takes a significant amount of your time, because you have to deal with it right away. But, I think that you just have to build it into part of your daily schedule, and part of your regular election procedural schedule, either you or somebody else on your staff.

DR. KING:

Do you think that's being done uniformly?

MS. LINDBERG:

No, I don't think it's being done uniformly. I think there are some more wealthy localities that have the staff and the resources and the know how to be able to do it that are doing it very well. There's others who have set up accounts and barely use them. It's very inconsistent in the industry.

DR. KING:

Okay, thank you. Other election officials? Jim, what's your Election Day schedule like regarding providing information to media and the public?

MR. SILRUM:

Just like everybody else, as you said Merle, it starts very early. And for most of us it doesn't end that day. It goes on through the next day. And even in the midst of all of this wanting to be quick with our responses, my instruction to the staff that I work with, is, still the order of the day, "Let's know what the problem is and let's communicate what is appropriate to be communicated in terms of what is the truth." We don't want to respond to -- we don't want to respond quickly to rumors. We want to respond quickly to what is the truth. And we struggle all the time with the fact that these things are not generally soundbytes. They are more complicated. So, we're still struggling with that on an election-by-election basis to find the best ways to communicate. And the fact that I'm married to a CBS news anchor is helpful. She does indeed help me to understand that whole media. But we have to get our arms around this whole aspect of social media.

So, I don't know that I've answered your question Merle, but it's constantly evolving. We constantly have to stay on top of it. And there's no other way around it but just due diligence.

DR. KING:

Ken?

MR. CARBUILLIDO:

I was just going to say Jim, you said it. It's almost like you wake up, go to sleep with the media and you just never get away, right?

[Laughter]

MR. SILRUM:

You do.

DR. KING:

As long as she continues to protect her sources, I think it's going to work out.

[Laughter]

DR. KING:

All right, any other comments on this question? Kathy?

MS. SCHEELE:

Maybe it's because our reporters in Vermont understand my age, but ours have been very willing to continue to use telephone and e-mail. And I think part of it is if you build a relationship over 12 years with the media as always giving them the best background that you can, and as soon as you can, they'll be willing to call you back. I mean, we all wear headsets on Election Day and the staff all funnel media calls to the Secretary of State. If the Secretary is unavailable, then they'll come to me. But we have not felt pressured to use the social media.

DR. KING:

Do you think that will continue into the future?

MS. SCHEELE:

I do, because of the demographics of Vermont. We have only one college town that has more than 20,000 voters. And so, in all but 14 of our towns, there's only one polling place. There's not multiple

precincts. We have 140 towns and half of our towns have less than 1,000 voters. And so, I just think it changes. The culture is different. Yes, are there young people using Facebook in Vermont? A lot. Are very many tweeting? No.

DR. KING:

Okay, I want to come back to Mike, if I could. Kathy just said something that certainly has a history to it, which is, developing relationships with media in advance of the election is important so that there is not only knowledge of who to call, but some level of trust about how that reporter can be addressed and the types of questions being asked. What advice could you give election officials about laying that kind of groundwork, first, in kind of a broad sense with journalists, but then, specifically with journalists who may be specializing in social media or, as you pointed out, even bloggers who often identify themselves as journalists?

MR. DeBONIS:

I think as with any sort of, you know, source relationship, you know, contact early and often is the best thing. And I think for elections -- you know for an elections official, it's just important to know how people in your jurisdiction are getting their news and figure out who you need to -- you know, if you don't know who's going to be covering you, call the assignment editors, call whoever, you know, whatever news outlets are going to be covering you, and at least make some sort of contact. The bloggers, you know, in terms of bloggers that are covering you, that's another thing you sort of figure out. I mean, you know, in each case it's going to be different. But I think that in D.C. they've done a good job of that. And like I

said, you know, there are going to be situations where you need to get out ahead of things.

And, you know, in D.C. just to sort of explain what happened last year, they rolled out, all at the same time, let me see if I can get through all this now, same-day registration, no-fault absentee voting, new -- two new voting platforms, a touch screen and a ballot -- the touch screen with voter verifiable audit and new optical scanners. There was -- what am I forgetting here?

MS. NOREN:

The electronic poll books.

MR. DeBONIS:

Oh, yes, Hart's electronic poll books and ES&S did their scanners and the iVotronics, so, all of this at once. And, you know, I think that there's a lot of people in this room who were really shocked that they would do that all at once. I think there were a lot of people at the Board of Elections that were shocked that they would do that all at once. But that's what our local -- the D.C. council made them do. And they realized that when you're doing all that stuff at once, there are certainly going to be problems. So, they were very helpful in taking -- me personally, having me in, explaining everything, explaining why all of this had to happen at once, why we needed electronic poll books, because we're doing -- oh yes, early voting, I forgot, standard site early voting -- and explain how all of this stuff was interconnected, how, you know, we're going to do the best we can, this is the magnitude of our challenge, this is the magnitude of our training challenge. And, you know, we did more -- at least two stories ahead of Election Day, explaining that this was going to be a

great technical challenge, but it was also going to make it very -- much easier to vote in the district. And I think that that was valuable. And then, on Election Day, it was, I had some understanding that there's a reason why they're having trouble at the precincts closing out the machines, so we can get timely results. Obviously, my editors had a different opinion when we're at midnight and still waiting for results. But, I mean, I had some sympathy and I had some -- I think empathy is the word. I understood why we were still sitting there. So early and often.

DR. KING:

Okay, well thank you. We are going to take our first break in about 20 minutes, and I think that's enough time for us to look at really maybe the first technological question dealing with how the cost of developing, testing and deploying systems are allocated. And I think all of us know that voting systems are an expensive enterprise. And perhaps, that's a relative term, but the reality is, particularly in States that use uniform voting systems, it's a very daunting decision to change voting systems because of the requirement to change out all systems concurrently.

So, the observation, in this particular slide, that the cost of introducing a new voting system, either modeled on existing technologies or a new system consisting of new technologies, is not a trivial cost. And the cost is an aggregate of the research and development expenses, the marketing, manufacturing, testing and, finally, deployment. There seems to me, to be some misunderstanding in, at least the public's mind, about how those costs are spread and where those costs are generated, the source

of the generation of the costs. And yet, as Brian pointed out in his introductory comments, the advantages of States harmonizing their requirements is one way of driving down development in testing costs, is an important goal, but it's a goal that is, at least in part, dependent upon stakeholders understanding those costs, and that perhaps they will be bearing those costs whether they believe so or not. And so, my question to this panel then, is, who bears the cost of introducing new voting systems? And, are the costs well understood by the stakeholders and those jurisdictions?

Let me -- if I can, let me start with the manufacturers. I think you guys are probably closest to the ground in understanding those development, deployment and testing costs. And I think I went with Ken the first time, so I'll start with Andy, and then shift to Ken.

MR. RODGERS:

Sure, I think it's obvious -- should be obvious to everyone that the manufacturers bear the responsibility for the upfront costs, long before product is ready for voting. In the public, we've had to make investments in not only the development of the product, the set-up of manufacturing and all of the certification costs. And all of those processes are serial.

One of the points related to the use of the term "lifecycle", that Brian started us up with, is that the beginning of the lifecycle is when you make the decision to apply certain technologies to a new product. And that can be multiple years before that product comes to market, in the best of circumstances, with commercial products. In our industry we have several serial processes. As you know, federal certification can take some time after development is

complete. But then, we also have the multiple States' certifications that you spoke of. And if we apply a lot of resources, we can get much of that to occur in parallel and shorten the cycles, which is very desirable for all of us. But in a lot of cases the -- we not only have borne a lot of cost in the -- for a long period of time, but we now have a product that's already aging before it's ever ready for the voters to use. And certainly, our present situation is an example of that, you know. The products that are in use now are truly based on technologies that had their infancy in 2000 and earlier. All of the voting systems, even the most current ones, are really modifications of systems that, probably the newest technologies are 2006, 2007 vintage. So those -- those just indicate the amount of investment that is borne by the manufacturer long before there's a return.

DR. KING:

Andy, you mentioned one of the concerns is that the product is already aging before it's deployed. Can you speak to what some of the implications are, and why that's a concern?

MR. RODGERS:

Well, one of the principles that I have for a sustainable product is, the better it is when I first purchase it, the longer I'll make constructive use of it. So, in my personal purchase of a home PC, I always tried to stretch a little bit and buy something that was, you know, the newer technology, so that as it aged, I would, you know, be able to use it for a good 18 months.

We have the situation in our industry, because of the care with which the customers make their decisions, because of the

risks that are inherent and the perfection that we want in voting, that we can't often take the leap on the most new, razor-edged technologies. So, the implication is that even though we know that there are some solutions to some issues with technology or how the technologies are assembled, we may not be able to deploy those. And so, that's the -- that's the crux of it. There's risk required in order to get the best, which means you will have -- not have the best, almost by definition.

DR. KING:

Thank you. Ken?

MR. CARBUILLIDO:

Yes, the manufacturers bear the risk, the cost of that development and that introduction. And it's a fairly large risk because of all the planning before you -- and creation and investments before you ever sell anything. We have built products, finished that, and then the market changed. Not the technology, but the market, changed, so we never sold one. That's something we bear, it's a risk we take, and those are choices we had to make.

On the other hand, I do appreciate the risk of which our customers have in deploying the technology. That's maybe even greater -- that is greater exposure. So, I respect that process which they go through to try to make that the best, most sound decisions they can make. And they're really balancing a lot more in that deployment, with training, with education, and the fit, and the changes that affect so many people. So, it's two part. We certainly bear that risk upfront, but the customers really bear the risk when

it's time to go, not alone, we're certainly with them and we want to be with them. And it's that first usage that's always most difficult.

In terms of the sustainability, it's not only just the technology change. So, Andy is correct. By the time we go to market in 2010, those were architectures and technologies selected and state-of-the-art, in 1995, almost. And then, while that product purchased in 2010 can really operate for quite long with certain techniques, it's the changing market, the changing requirements, the ability to keep people around who understand 1995 technology, to work on that stuff. It's the parts supply that is dried up for those components you selected which were state-of-the-art in 1995. Yes, the stagecoach can continue to run for 40 years, as long as you can find the parts and the people. But the standards -- I talk -- I heard an analogy the other day. Try to run that on the interstate, it's a minimum of going 40 miles an hour. That's the new requirement. Someone try to take a stagecoach and a couple of horses and see if you can still meet that requirement. So, you can't use that forever.

So, a lot of things, not just the selection and age, but it's the support, upkeep, changing requirements, even standards that are really shortening the lifecycle, sustainability and use of products, shorter than the actual operation of the system that may dictate shortening that.

DR. KING:

Thank you. I have Jim, and then Brian.

MR. SILRUM:

Merle, forgive me for stating the obvious, but I think I have to. Who bears the costs? The American people. Ken, you're absolutely

right, you have had to put some systems forward that have never actually gone to use, but I would imagine that you've had to recover some of those R&D costs by passing them onto the sale of other kinds of equipment. So -- and ultimately, it's our tax dollars that are paying the bills for these. And do the stakeholders understand? I don't think we always recognize the reality of that, because, so often I will hear, "Well, it's federal dollars that are going to pay for that." Well, it's State dollars that are going to. It's your property tax that's going to pay for it." It seems as though we're so willing to say that federal dollars are somebody else paying the bill, when, in effect, it's our own tax dollars that are paying that. So, that drives this question, too, is, how much do we -- where is appropriate advancement? Just because everything is possible, does that mean that we should do it? And so, no, I don't think we all understand who bears the cost.

DR. KING:

Again Jim, is there -- are there steps that election officials could take to improve that communication and improve the understanding of voters and the public who ultimately does pay for these systems?

MR. SILRUM:

That's a good question, Merle. We're always trying to wrestle with that. And I think the way that I have been able to best wrestle with it myself is to never forget that I'm a taxpayer myself. So, at the same time as I'm an election official, I'm also a voter. I'm also somebody who helps to fund these systems. So, if I can go along those lines, then perhaps I could communicate the same to the people that I work with, and for.

DR. KING:

Okay, thank you Jim. Brian, and then Lowell.

MR. HANCOCK:

Thank you, Merle. All this talk, you know, there are models for extending the useful life of a product. There are models out there. There are products that have been used for a long time and will continue to be used. And there's a couple of common threads there, right, for those products; superior design and manufacture upfront, and the willingness to continually invest funds to update those products, right? A good example is the B-52 bomber, right, its first flight in 1952. It was in production from 1952 to 1962. So, there haven't been any new ones built since 1962. Unit cost of that bomber in 1962 was $9.28 million. 1998, the unit cost of a modified B-52, not a new one, a modification, was $53.4 million. The current end-of-life expectation for the B-52s from the military is 2040, right? So, just think about that, 1962 to 2040. But what are we talking about here? We're talking about money, right, money upfront for good, superior manufacture and design, and money for continuing investment. Policymakers have to decide is democracy worth those type of investments or not. That's the bottom line. And that goes back to what I talked about at the beginning.

DR. KING:

Okay, thank you Brian. Lowell, and then Chris, you're going to get the last word before we take a break. Lowell?

MR. FINLEY:

I think we need to approach this in a historical manner. This has often been remarked upon, but I'm going to repeat it here because I

think it's highly relevant to this question. When HAVA was enacted, it called for a certain sequence of events and activities to take place. They took place in an inverted order. And so, instead of forming a Commission that would then oversee the development of a new set of standards, and those standards would be the basis for the development and purchase by the States of new voting technology, what we had instead was, you know, the Commission being established very late. And even before the Commission was fully established, another agency of federal government dispersing most of the funds to the States, which were spent on existing technology. So, there was a tremendous windfall for the vendors who had been farsighted enough to have developed something relatively new and already have it available to sell. And those that had not have now fallen by the wayside.

But, I think we're now at a point when, I certainly agree, there needs to be new funding appropriated. And I think the most appropriate level for that to occur is at the Federal Government level because it's most efficient to be able to support the high quality set of standards and testing, at the federal level, and not to try to reproduce this over and over at the State level. And I include California in that. I would rather have the Federal Government do it, even, than our large State which is larger than, you know, most of the economies in the world, et cetera, et cetera.

But I think this time it needs to be done with several things in mind. One is having something that's cutting edge. And the latest is not what matters with voting systems. What matters with voting systems is a high level of reliability and that they meet certain

critical criteria effectively. Not that they be fast, not that they make it possible to, you know, get the results onto the 10 o'clock news that the networks have reserved the space for, but that they are secure, that they're highly usable, that mistakes don't occur with them because people don't know how to interact with them, that they're durable, that they're built with a lifecycle in mind, in terms of making sure that the technologies and the parts are going to be available. And, you know, I think that we're now at the point where we have a testing program in place. We have a set of improved standards that have, basically, been put on the back burner. But, we have, I think, a strong EAC testing program, and simultaneously, we have people in Congress trying to terminate the EAC and turn over the responsibilities of this agency to, what is in my view, a completely dysfunctional agency with no expertise in these areas, whatsoever.

So, I think talking about, you know, media and the message that needs to be delivered, it's not an Election Day message. It's a message about doing this right in a second round. I think we've now, as Wendy said, the benefits of all that's been learned since 2002 are now finally coming together, I believe, through this combination of development of standards and testing, better methods of collecting the information on what's wrong with the existing technology and making that available. I think we're actually at a point of tremendous opportunity, if we stick to basics and are willing to finance the use of high assurance development methods and really rigorous internal testing before products, you know, go into the formal testing system. And the best way to do that is for

Congress to say, “We’re going to appropriate funds. We’re not going to make them available for, you know, two years or four years,” or whatever the experts advise them is the time it should take to finish the job on new technology that’s been developed well, thus far, or, if not, provide the incentive to manufacturers, old and new, to develop sound products, and knowing that there’s going to be a funding stream that will reward them if they do it right.

DR. KING:

Thank you, Lowell. Chris?

MR. THOMAS:

Well, Lowell certainly made my point on the sequencing, which is what I was going to add and maybe a few other points that I’m not sure I was going to say today, but I’m glad he did.

I would just say that, you know, so far looking at it, on who funds it, HAVA is sort of an anomaly, right? Most people look at federal money as like laundered money, you know, “Whose money is that, you know, that’s been washed?” Historically, it’s been municipalities and counties that have paid for voting systems, and that has now gotten lost in this federal money. So, the question is, going forward -- Lowell’s comment about the Federal Government stepping up again, I think, is well taken, because if they don’t we’re going to be right back into the soup of local government, this falling back on them, and on State government, in terms of who is going to buy the next generation. And that’s coming at us, so that decision is going to need to be made soon.

DR. KING:

Okay, thank you. Lowell, later on in our roundtable, there's a section on lessons learned, and I hope you'll recap those observations. I think your observation about if there's a second round, then, let's do it better and let's take advantage of what we learned in the first round. So, I really appreciate those comments.

We are right on top of a mandated break, and so, I'll ask -- and Wendy, we'll get to you when we come back. So, let's take a 15 -- it will be a hard 15 minutes. And we'll reconvene at 11:15, all right? Thank you.

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[The roundtable panel recessed at 10:58 a.m. and reconvened at 11:16 a.m.]

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DR. KING:

If I can call the roundtable back into session, there's a couple of things that I'd like to address before we get onto the next question, that I've already projected up behind us.

One is, remember that we have an audience that's viewing this on webcast and we appreciate them joining us. But we need to be diligent in our definition of acronyms, and if you introduce an acronym, for the first time, please help by describing it. I think we've already talked about the VVSG, which is the Voluntary Voting System Guidelines, VSTLs, the voting system test labs. And the EAC will be posting a full list of the acronyms at the end of the webcast today. The other thing is to encourage viewers that are following on the webcast to go to the EAC's website at eac.gov and they'll be able to find additional information on the EAC, including material that's been referenced in the clearinghouse function. So

again, we thank the folks that are joining us on the webcast and encourage you to take advantage of those resources.

The next question that's being displayed, is that commercial IT products differ from voting systems in several ways, among these differences is the customer's expectation of the usable life. And earlier today I think Linda talked about, again, the maintenance issue, and some of the unanticipated costs and issues that have arisen and whether your system will last through 2014, 2016 or beyond. One of the ways in which I respond to the question about how long will the voting system last, is to say "forever." And, of course, that's on one hand it's a nonsensical response, but what we know about maintenance, whether it's B-52s, or anything else, is that the day you decide that your voting system is EOL'd you will begin to cut back on maintenance. And when you begin to do that, then the anomalies will begin to accelerate. And so, one of the strategies that we take is to presume that the system will last forever and that we will continue to look for the consumables, we will continue to look for ways to optimize storage and maintenance. That's not to say that reality won't eventually overtake the process, but it does address that issue about what is the difference in expectations between, Andy, as you said, an 18-month lifecycle on a consumer PC versus what may be unrealistic expectations on the public's and the election community's part on how long these systems should last.

So, the two questions up here, is, can the serviceable life of the voting system be extended beyond the typical life of an IT product? And, what are some of the obstacles and associated

strategies for extending the life of the voting system? And I would hope as we go through this discussion, whether from the election officials or the vendors, to introduce the implication of COTS, common-off-the-shelf or commercially available products, and their impact on extending the life of voting systems, in that, COTS products have their own lifecycle, and it's a very typically short lived lifecycle.

So, let's open the discussion to these two questions. First, can it be extended? And perhaps, if it can, how -- what are some of the strategies that are working? And then, what are some of the obstacles? We'll start with Frank.

MR. PADILLA:

I always said -- so as a test lab I'm going to throw input -- more of my insight of testing over the years in the military. And I want to reference Brian's anatomy of a B-52, and it's a good analogy. But there's a different flaw to that analogy when I look at it, and that's who bears the cost? The systems I worked on were extended 20 years. What changed were who bore -- beared the maintenance costs for upkeep. Yes, we didn't have to purchase the new system, but the upkeep costs and the follow-on costs, then, were borne by the bases, the local areas versus buying a new system. I look at it as a car. Yes, an old Model T can still run and be used today, except on the interstate, probably. But, it's going to be more expensive to run than a new Prius that I rode in the other day with the batteries that got 50 miles to the gallon. Who's bearing that cost? "Oh, the taxpayer," I love that analogy. I use that one all the

time. But the States are, the jurisdictions are, because now it's your cost.

As I've traveled the country looking at States and analogies one, I'll say, flaw system is how we bear these costs in storage. As the costs go up from upkeep, as Merle said, do we look at these as long-term forever? Storing stuff in barns and things like that, or warehouses that aren't air conditioned or piers out over the ocean, electronics are never designed to be done that. So, yes, you're right then marking days off the backend of that or adding costs to the upkeep. I don't know you fix that as a State or a jurisdiction because free rental space is free rental space and you got to take it sometimes to store these machines and everything else because we're only using them every two to three years. But that's the expectation I think we need to sell to the public, and I think technology is going to help with that. As technology and we look at technology, I think we are looking at buying, and I'm going to say a different approach here, the 20-year approach. Is that the approach really that's the smart approach? Or is the try to do the three to five years and know you got to refresh the smart approach? So I'm actually going to break your question into twofold, because I think there is two different thought processes in that. Buy the new car with the warranty every five years or two elections. Is that really cheaper or more expensive than this has got to last 15, 20 years and you as the person is probably going to bear that cost for upkeep?

DR. KING:

I'm going to ask Chris to comment in just a moment, but I do want to respond to one thing Frank. In 2012, the State of Georgia will have five statewide elections. So, we drag those things out, they're in constant motion, particularly in even numbered years.

Chris?

MR. THOMAS:

Well, from our perspective the question is more, what is the lifespan? And I would ask the vendors that, what is the lifespan of the products you're putting out on the street? Do you know? Now, I've had one vendor tell me on an optical scan system, seven years. Well, you know, nobody is buying that, because, one, the system he was talking about, in some areas, has been out there far longer than seven years.

Second, as I indicated at the top, is that, we're in the midst of an RFP to extend for eight years, now, pricing on post-warranty maintenance. So, I'm assuming any vendor that's bidding on that, and there may be some in the room, obviously, think their system will last that long; that in fact, that they are looking at bidding on a contract that will have fees locked in for the next eight years, that they have high confidence that their system will actually be a legitimate, functioning system at the end of that eight years, probably with more and more of their assistance. But I think that's a real black hole for us, is, we don't know how long these systems are designed to last. Unlike a PC that may get used every day, we use them once -- four times a year, at the most, for a few days, testing, then Election Day, and then they're back in mothballs. So,

when we're talking about extending the life, our question is, what's the life.

DR. KING:

Let's toss that to the vendors. Ken, would you like to respond?

MR. CARBUILLIDO:

Sure. We have systems that customers are -- have been using for over 15 years. They're reliable. They were designed rugged. They're very capable. It is getting more difficult and more expensive, as time goes. And they are -- they're at risk. Not at risk that they will actually operate again, but the risk of support has to be considered. If a State law changes in that State, our ability to adapt to it is quite diminished. I'll have to admit, the people who engineered that system in the beginning have retired, and I cannot find developers who understand the language that that was written in any longer to make any changes. The parts -- the way to keep those systems up, we've resorted to third-party brokers, refurbishing parts, cannibalizing systems that we can find, buying back old systems from other customers who have traded them in eight years ago and trying to keep them in our warehouses, and hopefully we don't run out of them before we have to go find more of them. So, you know, it just gets to be a challenge the longer the systems are out there, not only with the hardware, the ability to change software and have people around who can work on those systems just because the knowledge goes away.

So, they're built -- and today they're built, you know -- 15 years ago they were built in a manner. Today, they're built stronger. They're built better, they're tested better. So, I think the

useful life -- like I said earlier, the stagecoach can run for 40 years. I don't know if it will satisfy you more than ten years. Or I don't know if I can still find people and parts who can work on that more than ten years. But the systems are built fairly solid. I think the lifecycle of a system -- early on there's almost always invariably some things that shake out that you can't test, that you really find in the field. But the maturity of systems does find some stability as long as you don't have new requirements upon it. And so, some of the techniques are the things I just described; cannibalizing, maintaining, buying backups, things like that.

But other techniques you have to now start to be vigilant and resist change. In other words, you have to make certain your legislators don't ask for something that the system cannot be adapted to. And sometimes you don't know that upfront. I've had requests from States to say, "We've got this law change. Can your system do that?" If it's a current system, I can actually do that analysis. If it's something that was built 20 years ago, I'm hunting around for somebody who can know whether that can be adapted. And if it's asking for some things that are, you know, of very high security, yeah, those systems can't even run that kind of cryptography anymore. So, right away I can say, "We're going to have a problem if your State is going to require those systems." And we can now not -- we are -- well, let me say, it is difficult to make -- if I can even make the change, there is no federal testing program that allows me to bring that test -- that change through any longer, because the federal program is geared against the newest standards. That system was built pre-standard, or at least, not the

latest standard, and there is no program or organization that's testing it at any longer. So, I may be able to make the change. I don't know if anybody is going to give you a seal of approval that the change is good unless you yourself make those tests, or you work with us and do some kind of separate testing program.

So, those are some of the challenges that sometimes curtail the useful lifecycle. It's not so much that the buggy or the stagecoach can't run. It's that it won't do the job for you anymore, or we can't have people around who can continue to maintain it.

DR. KING:

Okay, thank you. Andy, and then Neal.

MR. RODGERS:

To kind of restate one of Ken's points, that one of the big issues is if your expectations of the system are changed, design can't anticipate everything about the future. So, the systems that we all built back in the early 2000's had incorporated some new ideas about security. But the ideas have evolved. The attacks are different. An awful lot has changed. So, one aspect is that if you as a small jurisdiction or a large jurisdiction have the same expectations our products will last a very long time, even if you do 30 elections a year, you're not using that equipment anywhere near the amount of time that normal IT equipment is being used. And so, if you think of the election system as an appliance, that appliance is built physically to last a long time. The secondary problem is finding those consumables and replacement parts. After a certain period of time, there's a growing difficulty. And part of the difficulty is that when we use commercial parts, we're using them in

very small volumes. Very small proportion of the manufacturer's supply goes to voting systems. So, we have -- we're a limited part of their demand, and the manufacturers of ICs and disc drives, et cetera, make decisions, not thinking about us.

So, in the technology industry one of the ways that we talk about building a product that has to be supported for a long time is to use industrial components. And, more or less, what those industrial components are, is, there may be a little design put in to make them more reliable over the long-term, more robust for, you know, bad use conditions, et cetera, but in reality, what you're paying for is kind of an extended warranty. You're paying more money so that we can -- we, or the manufacturer of the component, can save larger stocks of those parts, put them in a warehouse, and so, that when you come back in 12 years and you still need a hundred of these to fix your units, there are some around. So, there are a number of strategies that people employ in IT, as well as in our industry to make those things sustain.

DR. KING:

Okay, thank you. I've got Neal, and then Chris, and then Kathy. Neal?

MR. KELLEY:

Thank you, Merle, real quick on Andy's point about the use of the equipment. You're right Andy. We used it 31 times in the last eight years or so, unlike your PC that you use every day. I guess the difference is is I don't put my Mac through a baggage handling system when I go to use it. And that's kind of what we're faced with with this equipment. It is transported in semi-trucks. It's handled

very roughly. As much as we want to train our poll worker people to be nice with it, you know, those things can get dropped.

But I also, Brian, wanted to comment on your aircraft analogy, because I'm a private pilot, and I really like the analogy. In many ways it applies, and in other ways it doesn't. For example, Boeing, when they manufacture aircraft are not relying on Microsoft to operate those systems. They are proprietary to Boeing and they manufacture those. As an example with the Hart system, and I'm not picking on Hart, it's just our vendor, we are operating on Windows 2000 for all of the other components of the system. For example, the optical scanning system, the results portion of the system. And that is certified with Windows 2000, so we cannot go back and upgrade that. At some point Microsoft, and I think it's this year, I could be wrong, Microsoft is done supporting Windows 2000. So, that creates other dilemmas where you could say, yes, your system is going to last 20 years, 25 years, but we have this other problem of what that systems resides on. If the firmware were just internal to the Hart system and that's all we were using, it would be fabulous. That would be great.

As far as the question Merle, I think, yes, in a blended sort of way, and that's that one, can they be extended beyond the three to five-year typical lifecycle. I want to just give a brief plug to how valuable it is to work with California and Hart. We have identified a situation where the connectors on the back of our booth, and this is down in the weeds for people, over time are starting to bend. Those pins are starting to bend. And what you have on Election Day is a failure of that system. In other words, the booth itself will

not power up or you'll get a test screen. And the problem is as you set up these booths most poll workers when they set them up against the wall they're reaching around the back to plug that in. Well that causes those pins to be bent, not through the fault of the manufacturer, but because the poll worker is doing that. So, what we want to do is put a port protector on there that is a very durable protection, so that you can't bend the pins.

And under that sort of an approach, when we can go to California and present the problem and California works with us, and then gets it to the -- we get it to the manufacturer, it goes through the test labs and if the report is satisfactory to California and it's a de minimis change, in other words a change that doesn't require a whole lot, we can get this done. And I think that's great from a jurisdiction standpoint. That way we can keep these systems running for a long time. So, if we can continue to do that in that sort of fashion, I think the answer to your question, number one, is "yes."

DR. KING:

Okay, thank you. I have Chris, and then Kathy, and then Lowell.

MR. THOMAS:

Another factor involved in the end of life and how far you can extend it is, how long the vendor will support it. I think that's an issue that we're all quite concerned about. They have new products out there. They, obviously, have an interest in people buying new products and moving from the older ones. And, obviously, there's a cost to maintain the older system. So, it just strikes me that that issue, in terms of when they decide to pull that

plug, has a major impact on the upfront time that's needed to get funds to buy a new system. And I do wonder to some extent how the federal testing program contributes to that because of the requirement for end-to-end testing really forecloses what may be upgrades or fixes. I guess we shouldn't say fixes in elections either, should we?

[Laughter]

MR. THOMAS:

Glitches and fixes and -- I don't know, early and often I didn't like either from the media. We're not supposed to say that either.

[Laughter]

MS. SCHEELE:

You must have grown in Chicago.

MR. THOMAS:

Yeah well, you know, it could happen. But I do think that, you know, the manufacturers do have a control there of when they decide to pull the plug on support of a system, which then forces us to move. So, does the testing process contribute to an earlier decision there? And what level does the sale, the bottom line, to move people to a new system? And, quite frankly, I mean, we all have -- you know, we're looking at these systems that do better things with digital and all of that, which are some of the shortcomings on the systems we have now, would love to make the shift but, again, the finances are a big issue.

DR. KING:

I want to comment on something that Chris said that I think is very thought provoking, and that is, that the actual lifespan of the system

is not from the deployment of that system until its retirement, but it may be from the deployment of that system until the deployment of the next system, and that gap between the retirement and the subsequent deployment is critically important. I think it's a good point that you make.

All right, I've got Kathy, then Lowell, then Frank.

MS. SCHEELE:

Merle, you made my day, earlier, when you said that your answer is forever, because that's what my answer is when people ask me how long we're going to keep using the same tabulators. And we made a conscious decision to hold down our costs. We have convinced the legislature not to change requirements. We have a system where we don't use the manufacturer's software, because we don't download any results. Our clerks all report on paper. We have -- when the manufacturer decided they were no longer going to support the tabulators we use, we went to the regional tech support people and said, "Look, we think this is a good product, we want to keep using it." I said, "I'll buy all the cards and consumables if you'll try and take care of some of the other parts that I don't have any space to store. And we think we'll keep these going another ten years," because it's a stagecoach, but it works for us. They do -- we have used HAVA funds to take over the maintenance for the locals, so we've reduced that cost for them.

And, I think the other two points I want to make, one is, adequate tech support on the days of election. Whenever you have something happen -- in the State of Vermont, we have somebody from this regional tech support within one hour of any town that

uses any kind of a piece of equipment, because we still have a lot of hand count towns. 95 percent of the time they can fix whatever it is. And I shouldn't use the word "fix," but they can take care of whatever needs to be taken care of, over the phone, because most commonly it's a memory card that needs to be changed. But the most critical thing that will keep those tabulators going is -- and this regional rep has told us that he doesn't know why other States and counties don't do it -- is, the State pays for refresher training for every presiding officer. So, anybody who is going to be in a charge of a polling place where a tabulator is used is invited for refresher training within two months before the election. No matter how good a memory you have, when you only use a piece of equipment once a year, or in some cases every other year, because with some of our smaller jurisdictions only use them for the general election, having that training makes all that difference in the world. It also reminds them of all the things like pins and maintenance. We do a pretty funny training and we have some pretty good illustrations that will make things stick in people's minds. But we can do it in an hour to an hour-and-a-half. And it means that we're comfortable that when somebody goes out there and takes that tabulator out of its case to set it on top of the ballot box, that they've been well trained. So, we're going to go for 30 years Merle, and then probably all retire. I don't know what my successor will do.

DR. KING:

Is that 30 years from now or 30 years total?

MS. SCHEELE:

No, 30 years total.

DR. KING:

I wanted to…

MS. SCHEELE:

It's 18 now.

DR. KING:

Wow. I wanted to highlight one of the things you said Kathy that -- it's been mentioned, I think Ken mentioned it earlier, and that is your efforts to convince the legislature to not change requirements. That is notable, because that is the one wild card that we all know no matter what we invest in the maintenance of our systems that can be undone very quickly by a legislature that imposes new requirements that are not doable on the existing system. So, it looks like you've got a very comprehensive strategy.

MS. SCHEELE:

We do. And we also, and this may seem off point, but one of the ways we've convinced our legislature, is, we had some recounts which were all mandated to be by hand count in Vermont. One involved a Senate district with vote printout more than six. So, that meant even if you had the ballots in stacks of 50 you were trying to do a recount of 300. Needless to say, some of our counters were having difficulty with tallying 300 at a time, so that we actually had a law change two or three years ago to allow a candidate to ask for a recount using our tabulators. That's how much faith the legislature had in them. So, the primary election this year, Democratic race for Governor, we had a recount and he asked for it all by tabulator and it was done within two-and-a-half days where our hand count would have taken -- for a primary, would have taken probably five weeks.

And it has really built the confidence so that [inaudible] actually was going to mandate for tabulators this year, but the Senate won't pass it.

But it's been a real evolution in the past 12 years, but part of it is by having the tabulators out there, we invite the press, we invite the legislatures, we did a demonstration for the Court, we had our regional rep come up and do a demo with me. So, it's really education.

DR. KING:

Okay thank you, Kathy. I've got Lowell, then Frank, then Wendy.

MR. FINLEY:

Kathy, when you mentioned aiming for 30 years, it was exactly the figure that I was about to mention as the expectation that I think a lot of people went into the last decade with for voting systems. And I think that was because they were using either lever machines, or punch card systems. And the punch card systems went back to the 1960s, '70s. And suddenly there was a change to these new technologies and it didn't look the same. I think that's especially true for the DRE systems, but I think to some extent for op scan systems. I think we're seeing in California that the op scan systems have a greater potential lifespan.

There are a couple of points that I think deserve emphasis. Neal talked about this one example of proving a de minimis hardware change. And I just want to stress that there, and the vendors all know about this, there is a process in place to get those kinds of changes approved. And it's not only when there is a problem, where something is getting bent or other defects

appearing, but also when components reach their end of life. And what you're talking about is going out into the components parts market and finding something that is a suitable replacement, and then, having the level of testing done on it to ensure that it actually performs in the same way and doesn't introduce unexpected problems. And I think that's something that more and more is going to have to be employed, and it's in everyone's interest to streamline that process.

In California, we found, in dealing with a large number of these requests that we needed to persuade the lab involved, and the vendor, to provide us with very comprehensive documentation that used plain language, so that we who are not, you know, hardware designers could understand what the change was, why it was needed, and why no testing was required, or why only minimal testing was required. We needed explanations, not just conclusions. And as soon as we got that cleared up, I think we're now in a place where we can process these things much more quickly.

I also wanted to throw out an idea, and it's easy for me to do this because I've never been in an industry that produces and -- designs and produces and sells products, so I'll just throw this out there. But it seems to me, one of the problems with having people understand the costs of keeping a system going is the fact that the cost structure that they're currently paying is increasingly unrealistic. If a system is in use and it's continuing to use the same software and firmware that the jurisdiction purchased it with five, six years ago, and there haven't been changes in part because of the

testing cycle, and it's doing the job and they're continuing to use it, but they're encountering some increased costs for hardware upgrades or maintenance to keep the product alive, it seems to me it may really make sense to put that up front and for the vendors to consider reducing their software and firmware licensing fees. After all, you're not continuing to, you know, have to spend money doing it for that particular version and increasing the cost of these component replacements to a realistic level and just making it clear, this is what's involved. And that's how you know when, you know, what the real cost is as you're assessing whether to abandon a system as it gets older or not. Anytime I think that the expectations get out of line, or the needs get out of line with the way a contract was written or the way a fee structure was established, you produce these tensions where the vendor's interests and the customer's interest start to diverge and you run into problems. So, I think those things have to be brought out in the open and dealt with in a way that allows everybody to make the best decisions.

DR. KING:

Okay, Brian wanted to make a comment.

MR. HANCOCK:

Yeah, thanks Merle. I just have a quick follow-on to what Lowell said and to what Neal said. Yeah, we also have a de minimis change process at the federal level and we've seen that it's worked well. Currently, we're also thinking to continually streamline our process to expand, somewhat, the definition and parameters around de minimis changes in the next version of our certification program manual. So, I just wanted to mention that.

DR. KING:

Okay, I've got Frank, then Wendy, then Ken, and then Tom.

I also wanted to respond to something that Lowell said, and it has to do with really what you said before the break, which is, perhaps not only the failure of HAVA to contemplate fully the implications of the order in which the events occurred, but also at the jurisdiction level, our failure to contemplate and envision within the contracts the lifecycle of these systems. And I think one of the realities in State government that we face, at least in the State of Georgia, is, we're prohibited typically from contracts longer than a year. So, we think in one-year cycles. And the notion, in a voting system, that we need to be looking ten, 15, 20 years down the road towards language within contracts contemplating issues related to consumables, et cetera, that is out of scope for many State governments and, certainly, I think out of scope for many local governments to have that kind of vision. So, I think the point you made earlier about, if there ever is a second opportunity to reload on this, there are many, many lessons learned at all different levels that need to be addressed.

Let's go back. I've got Frank, and then Wendy, and then Ken, and Tom. Frank?

MR. PADILLA:

A couple observations I had on that is the technology refresh change that Chris and you brought up. I think one thing is the manufacturers do a great job at building a lot of these systems that will last forever. I mean, Alabama's got one that -- the Optech Eagle that's -- when did that -- when was the Eagle...

MR. CARBUILLIDO:

Just yesterday it feels like.

MR. PADILLA:

Yeah, I mean, it's one of the oldest systems…

MR. CARBUILLIDO:

Still using it.

MR. PADILLA:

...out there is still using it. And I know our Secretary of State loves it. But it's the technology peripherals, I'll say, that change. And I put that analogy with computers and all. Yes, your IBM PC "junior" that I still have in my garage somewhere still works. I don't know where you're going to find a 5-1/4 floppy to boot it. I don't know where you're going to find DOS 1.0, except eBay. I mean -- and that's the problems you're going to have. They can predict, to an extent that, yes, USB cards are the thing right now. Three years from now – we were talking about Tweeter and Twitting. USB cards next year could be gone. Nobody uses them and it's driven by the COTS market and commercial technology. And, I guess I'll relate that back to one of the Air Force's B-51s. The B-51 in flying today the electronics is nowhere the same as what it was in 1950. It's all been upgraded, all been pretty much gutted. It's the structure that's the same and we lose that in that analogy. Yeah, I can take the op scan, rip all the guts out and rebuild it. Do I really have the same op scan? I mean -- and really that's what we got to do. There's machines out there that use I call them the old 8-track players to load…

[Laughter]

MR. PADILLA:

Some of you probably have those in your States that you put the cartridge in. You can't buy that today. I mean, it doesn't exist. I don't even know if they can get made. I think you still have to find them. So, it's the peripherals sometimes you got to look at that makes it more of the challenge, not the machines. The machine is robust. It will be there forever if you can keep that peripheral going. And I don't know how we'll adapt to that challenge, because we don't know what the future is going to bring six months from now in technology that's evolving so quick. And that goes back to my other question.

The other thing I heard was testing for that with States. I mean, I know both the labs and under the EAC program we're allowed to do State testing and help the States, the State specific testing that he brought up. If it's not ready for the federal, you know, old standards and things like that, to try to help the States out if the requirements are clear. And I know the de minimis change part, the EAC has done great strides to streamline that process and they're continuously doing strides to help with that process, getting it on line and speeding it up, so we can get these changes and evolutions to the machine out there for the States to see and use in a quicker and more efficient manner, and give you the satisfaction that they were tested and the assurance that you know that you don't have to do any other testing to save costs at your level.

DR. KING:

Okay, thank you. Wendy, and then Ken.

MS. NOREN:

There's another factor in the useful life of the equipment, in that, I mean, some of you are assuming it's just that piece of equipment and you can keep putting parts in it. But there are those jurisdictions that are very high growth, seeing increasing populations. What I was allocated to buy was based on my number of polling places in 2000. And our population in my community has increased considerably, you know, 30 percent since then. And we have jurisdictions that have 45, 50 percent population increase. And so, if you're talking -- we're basically right now locked into our number of polling places based on the fact -- either that or, you know, we can't go out and buy new equipment of the stuff we bought, because it's really not there anymore. And that becomes a significant problem. If -- those of you say it's going to last 30 years, yeah, a box will last 30 years. But, you know, if you're in a jurisdiction, your only choice is going to be closed polls or, you know -- that's your only option. And that's what I'm having to do. I can't expand my number of polls, because I can't have multiple systems going on out there. I've already got too many systems, you know, as it is. And so, if you think it's just the box that matters, those of us who are in growing areas have to face the problems of not being able to serve voters, because we're locked into a certain piece of equipment and a set of number of them per polling place.

DR. KING:

Thank you, Wendy. Ken, and then Tom.

MR. CARBUILLIDO:

I think I've heard many good points here, and I just thought maybe I would add maybe the manufacturer's perspective. Chris talked about the lifecycle. There are two aspects. One's a support window, which we all agree, as long as things don't change, you got enough parts maybe it's longer. And we have never withdrawn support, but our -- the marketing window is different.

In the last ten years we've come out with four different generations of central scanners. And you may have bought generation one. We're not really doing much development on that. We're not forwarding it to any large kind of testing program. So, if you bought the first generation, you're kind of at a bad place. We'll support you. We'll keep running it, but it's a bad place to be.

So -- and the marketing window appears to be just, you know, four years. That's about it. By the time we come out with a product, we are already working on, on the drawing board, because the competitive nature of voting systems is you've got to have something better than the other guy. And so, today it's as good as maybe four years before you better have something else, if you want to win the next deals in four years.

Long-term contracts from a manufacturer's point of view, they help us help you. If you only can do a one-year contract, our desire to stock a bunch of stuff, because you may not buy it, we have thousands of pieces of equipment that just continue to collect dust and we've spent money on it. We'll never, you know -- we're trying to -- so that's -- the long-term contracts help. And we know you're, in some cases, prohibited.

Lastly, I think preventative maintenance. As you get into those later cycles it may be somewhat tempting to say, "I'm just going to do break/fix." But preventative maintenance is more important on older systems. And so, it may feel like it's more expensive because you may be visiting machines that didn't need it, but the number of machines that are going to fail, and you don't want them to fail in broad numbers on Election Day, I think it's very important that you try to promote that program rather than save costs. So, it doesn't get necessarily cheaper, as time goes, to extend the lifecycle.

DR. KING:

Okay, thank you. Tom?

MR. CADDY:

Yeah, just a couple of things on -- comments on what other people have said. I think Chris mentioned a lot of this lifecycle can be dependent on the vendors. And I think many jurisdictions have experienced that in sort of a dynamic that's not even easy to forecast, and that's even in the case of vendors going away and there's not even an option out there as to how some of that happens. And that can be on either a prime vendor or on a COTS supplier, as you were mentioning with memory cards or some of those technologies, so even some of the more recent systems are employing memory techniques that aren't really commercially available anymore. So, the disappearance of those are really hard to predict in a lot of ways.

And, I guess the concept I was going to put out there is, it seems as if at multiple levels, potentially, even at the EAC level, but

certainly the States, the jurisdictions, the vendors, it seems like sort of a comprehensive strategy or contingency planning needs to be considered for how to, at least, anticipate the things we can out of that process. And it seems like maybe that's not a cohesive process at this point, that's maybe fragmented.

Another thing that's been mentioned is the COTS part of it, and some of the marketing associated with having new features was mentioned. I think procurements did, after the -- after you mentioned the punch cards and those things -- a lot of times the procurements were based on bells and whistles, features, technology, things like that. And they weren't necessarily looked at for total lifecycle costs, including what's going to go on downstream with some of these things. So, I think the shift has to be made to consider total ownership costs versus just, "Oh, well, I'm going to purchase the one with the most features for the least cost." I think that was probably a trend that kind of happened in that -- with that change, with the HAVA money.

DR. KING:

Okay, thank you. Lowell?

MR. FINLEY:

Another practical suggestion that may be completely useless, but I throw it out there, you've all probably seen individual or small lots of voting machines showing up on eBay. And it can lead to, you know, a lot of hysteria about them getting loose in the world, things like that. But I think on a serious level it would probably be worth thinking about trying to set up a market, an interchange amongst local elections officials who do control the purchases, and have to

deal with, you know, getting replacement machines or a larger number of machines, because in other jurisdictions things may be hitting exactly the opposite direction with that same system and same set of equipment.

I know in California there's been a very rapid trend toward use of vote-by-mail or absentee voting. We don't even call it that anymore, and it's over 50 percent of the ballots in many elections. And I think we're within several years of likely going the same direction as Oregon and Washington have gone. Well, that means that a lot of precinct scanning equipment no longer has any use for the local jurisdictions in that State. And other States are going to vote centers or radically reducing the number of precincts just to -- and polling places to reduce costs. So, I'm not sure which organization might be the best suited to this. There's the National Association of State Elections Directors, but it probably needs to be closer to the county level. But that may be something where -- or even the vendors might be able to facilitate it with their own systems and equipment. That may be a way to deal with this issue of extending the lifecycle of a lot of equipment.

DR. KING:

Thank you, your observation about eBay is very apropos. I think one of the issues that it presents is the transfer of license on the software. And I think your suggestion about the vendor's involvement is critical because you really can't just sell the hardware to another jurisdiction without in some method accommodating the IP, intellectual property, issues that go along with it.

I want to make one final comment on this question and then we'll move onto the next. And we're going to try to stay right on schedule for lunch. Chris, you were talking about the importance of the lifecycle and synchronizing it with maintenance replenishment, Tom, your observation about the total ownership perspective. And I think one of the unique opportunities that happens in IT, and it happened in voting systems, in the first HAVA funding cycle, is, you rarely get an opportunity to do a total replacement. And as an IT manager, that's what you crave. What you crave is the ability to take everything out of deployment and replace everything else at the same time. I don't know that that will ever happen again in voting systems, because now our voting systems are not just vote capture systems and they're not just vote tabulation. We have electronic poll books out there, that are a part of the voting system. And so, we're talking now about not so much managing a single lifecycle, but managing multiple phased lifecycles of products, in which the integration of subsequent systems with those systems that we wish to extend on. And so, as Lowell pointed out, looking forward to perhaps the second opportunity in the lessons learned. I think the reality is is that very few jurisdictions will be able to start with a blank piece of paper again, and that the integration of what were new systems five and seven years ago, but are now legacy systems, are going to have to be integrated again in a more complex way than we did the initial time.

All right, let's move onto the next question. And this is really predicated on a model that's been around for a long time. It's called product lifecycle model. I learned it when I was a business

student back in the ‘70s. I suppose they’re still teaching it in business schools. But consumer IT industries attempt to extend what’s called the maturity phase of a product. And if you can envision at that maturity phase that’s where a manufacturer/supplier is able to optimize their profit. At the introductory stage there’s a tremendous burden of education. You have to educate the users about the product. You have to persuade people to get involved. At the growth phase there are start-up issues related to it, market expansion. And so, the idea from a consumer products perspective is that you try to move a product to the maturity phase as quickly as possible, and then you try to extend its duration there, because that’s where your optimum return on your investment will come. In the decline phase, you begin to optimize your costs. You begin to sell off, you begin to clear out. And the notion is, on a very few products, is, if you can re-inject the product back into the introductory phase by adding a feature, you can quickly recycle this again.

So, one of the questions has been posed, do voting systems behave like this? Is this a model that’s instructive in voting systems? So, to restate the observation again, consumer IT industries attempt to extend the maturity phase of a product, which is the most profitable phase, and then refresh or reintroduce the products when sales enter into a decline. Is this model applicable to voting systems? What are the indicators that a system is in decline? Kathy and I have already agreed that phase doesn’t exist, right?

[Laughter]

DR. KING:

But, in reality it does exist. And are there predictors? For folks that are viewing this on the webcast that are looking within their own jurisdictions, what are the predictors that a product is in the decline? Is it, consumables are no longer available? Is it, as Ken's pointed out, that the people who actually developed and knew the language of the development, that they've moved on, and no longer exist? And then, finally, when a voting system enters the decline phase, what are suitable strategies for extending the life of that product when it reaches that decline phase? So, we'll put that forward, and we'll start with Tom.

MR. CADDY:

My thought, on your graph that you've put up there, is that, in general, it -- the model might apply, but I believe that the parameter over there with sales or volume is a different parameter. I think that parameter is trust or reliability. And for most of the election officials and for this process, I don't think it's totally -- I don't think the lifecycle is dependent upon the sales of that product.

DR. KING:

Okay, can you expound on that further, Tom?

MR. CADDY:

Yeah, I think it was mentioned earlier that, really, in extending the process, I think Wendy mentioned it, that they're seeing more failures, more random failures in some of their systems as they're getting older and so forth. And that may be one of the indicators that it's getting harder to support, might be harder to get consumable, supplies, replacement parts. Ken mentioned it earlier.

I think one of the key factors is finding the skills and the talent to be able to support some of the technologies. They certainly don't have a lot of that that comes out of the schools today. So, I think that those are indicators of when it starts to reach a decline phase. But I think that sales is relevant to a specific product or an organization, but I don't think it's for the voting system as its sustainability is in use out in the field.

DR. KING:

Okay, thank you Tom. Linda?

MS. LINDBERG:

To give a real-life example, to piggyback on what Tom was saying, in Virginia, with our DRE systems, we have in essence planned obsolescence, because our General Assembly has prohibited us from purchasing any additional DRE equipment. However, we can use the equipment that we purchased through HAVA funds through its useful lifecycle. And that's a real conundrum for local jurisdictions because now with redistricting you're looking at adding additional precincts. You cannot purchase the additional equipment. We have a temporary reprieve that allows us to purchase additional equipment, this year only, for accessibility purposes. But the issue with us, is, we have reached that point where if you, again going back to what Tom says, if you substitute the trust and reliability with sales or volume. As I mentioned earlier about 50 percent of the systems in Virginia -- and we do all have different systems, each jurisdiction has different systems -- are from manufacturers who do no longer exist. And that includes Advanced Voting Systems and UniLect primarily. So, those vendors aren't

there to support us in the way that Hart and ES&S and some of the other -- Dominion and some of the other vendors can. We're finding it more and more difficult to find our consumables. Well, consumables aren't too difficult but, again, it's the skill set. As Ken mentioned, the skill set, finding the support people that can just keep our equipment going.

A further issue that we have is, as some of the pieces of – the components of this equipment, say a motherboard in a DRE, if that motherboard fails there is an increasing supply of equipment for us to beg, borrow and steal from. We cannot go get a commercial off the -- a COTS, commercial-off-the-shelf product motherboard to go into that piece of equipment, because that's not the equipment that was certified for use in Virginia.

So, as I said, it's planned obsolescence. And what we're seeing is some of this equipment, a good bit of this equipment is in that decline phase now, and we're just doing whatever we can to keep it going.

DR. KING:

Okay. Ken, and then Frank.

MR. CARBUILLIDO:

If you rewind 12 years ago, maybe 13 years ago, there were -- well, let's say, today, the voting system, it's an industry, and the sellers and manufacturers, there's really only one left who was still selling 12 years ago. The lifespan of all those other is impacted, clearly. You feel it in Virginia. But the number of companies that have come and gone is long. And there have been some substantial companies in this business over the last 20 years that you would

think would have stayed within it. But it's a tough industry. So it's -- we may have thought there was a windfall in this industry, but there was a lot of failure in the industry and it's tough to stick around.

DR. KING:

Okay, thanks. Frank, and then Neal.

MR. PADILLA:

No, I agree with what Tom was saying. And one thing, you know, when I look back through the election years is, I agree, I don't look at -- I mean, I know money in volumes in the manufacturers' eyes eventually is what drives it. But as we find issues, I mean, we can all go back and look at Florida. There's a reason punch cards changed technology. There's a reason DREs our out of favor and optical scans are in favor. If we have a major optical scan thing, we're going to go to a new technology. And I'm not saying anything new. That's just the way the American public is. And that's changing. As we find security problems, that's what's going to impact a lot of other things, you know. As we're learning new things and new technologies, we've stressed the point testing has evolved. The program today is a lot more robust than it was ten years ago. We test for a lot more. We know a lot more. We know people can do a lot more. So those machines are vulnerable. I mean I talk to people that have those and say, "If you're willing as the Secretary of States offices, you got to mitigate those vulnerabilities." There's ways, but there's vulnerabilities there because the technology that was used back then -- as long as you're knowing that going in, you got to mitigate that thing. And I

think that's where the manufacturers are looking, as they're developing new systems and everything else is. what are these new challenges that the technology people, that we're reading about in the newspapers and the blogs and everything else, that they're finding new ways to hack things, new ways to do things that nobody even thought was possible five, six years ago, they're finding now and they're fixing. But you can't do that with the old stuff. You got to let technology evolve with them and that's their goal.

DR. KING:

Okay, thank you. Neal?

MR. KELLEY:

Merle, thank you, I want to focus on one specific part of your question, which was what are the predictors of when a voting system is in decline and can these be anticipated? And I don't think a lot of jurisdictions do that, understandably, because they're focused on getting through Election Day and that process. But data analysis and the understanding of that data is so critical. I was able, over the last couple of years, to start identifying trends within this data. And we captured everything on Election Day that -- and I'm sure many of you do too -- that test screen or bent pin, or whatever those issues are, and then, start to really crunch those numbers and analyze it and look for those trends. And the trends that we saw, which is what I was describing earlier, was, we had those test screens that really started to increase. And when you're looking at 10,000 of those booths, you really do have to look at data.

We built our own internal system to capture that, and I don't think that is robust enough. So, we're going to the next phase of using CAD software. The acronym is computer aided dispatch, which is the exact thing that 911 systems use. Much more detailed in the analysis. And I want to use the analogy of crime. When you start looking for the predictors of when crime is increasing, you're going back to the CAD software and you're looking for the trends. And so, it's the same thing that we're going to be doing using this CAD software. So the data analysis, capturing the data and understanding it and looking for those trends is so important to predicting when the systems are starting to be in decline.

DR. KING:

Neal, for the benefit of the folks who may be on the webcast that, as Wendy pointed out not all jurisdictions are equally resourced, data analysis -- data collection, data analysis using automated tools is a powerful technique. Could you make suggestions for smaller jurisdictions that may not have those kinds of resources, but could still accomplish a similar goal?

MR. KELLEY:

Sure, there's actually two ways I think that are very, not easy, but easier. Many jurisdictions, even if they're small, give cell phones to their poll workers to be able to contact their jurisdictions. And to work with your cell phone vendors, or there's other vendors out there that will do this, to have a simple call-in number and a number that's input for whatever the issue is. And then, you're capturing that data automatically. And the poll worker doesn't have to take a whole lot of time out of their day to do that. It's simply calling a

number and punching in a number, and then you, instantly, are starting to build that database and that data. It can be done on a small level or it can be done on a large jurisdiction level.

DR. KING:

Excellent suggestion, that's great. Tom?

MR. CADDY:

I'll add one other to that that a few of us have been involved in. And that's all the machines, to one degree or another, collect information in their logs. And those can help a lot statistically, because a lot of the events that happen are very random. I mean, as these systems are in the maturity phase, it's either a single machine that's got a unique situation, or whatever the case. But a lot of times things in those logs can give you indicators of something's one percent or two percent or normally -- and it's up at ten percent, and you say, "Oh, well, why is this?" And they're not fatal errors yet, but they are likely to turn that way with time. So, doing some log analysis, it can really help even during those off times.

DR. KING:

Okay, thank you Tom. Kathy?

MS. SCHEELE:

We keep it even simpler in Vermont. When we put everybody onto the same tabulator, because remember we had had four when I started and we wanted everybody to be on one uniform one, we developed our own vote tabulator guide. And it's just a notebook that has -- we took the instructions from the regional rep. And because we had some people that had concerns about the

tabulators we wanted to make sure the instructions were coming from the Secretary of State's office and not from the manufacturer or from a regional rep. And within that we just developed a technical assistance form. And so, it's in the same book where they have to log their custody of their memory cards, where they have to track all of their use -- when they've done their test deck, they keep their test deck in it. We train them that they have to keep that notebook in a certain pocket in their vote tabulator machine. And then, they send those into us after Election Day. But now, I'm only tracking 250 tabulators or 300 compared to what you're tracking. But it can be done on paper. It doesn't have to be a fancy database to give you a sense of when you're starting to have more cards go, or other things, you know, scan heads go.

But the other thing that's very helpful is the regional reps have kept great historical records for us, so that they can tell us when any particular town's tabulators had any kind of technical work done, because we have annual maintenance, and we plan on keeping that annual maintenance there. The other thing that happens with the annual maintenance is their staff that does the annual maintenance are trained to be trainers. And so, if a clerk has any questions, they almost get like a personal one-on-one training session. And I think that's as valuable as the maintenance.

DR. KING:

Okay, thank you. I wanted to comment on Tom's suggestion and this is, again for the benefit of our webcast viewers, that log collection is a relatively routine operation. The analysis of the logs is a different level of sophistication. All of the vendors are very

adept at assisting in that analysis. And so, I would say for any jurisdiction who may be concerned that the collection of the logs may not lead them to decisive conclusions, the vendors will know how to interpret those logs. And providing them with those logs is providing them a window into their operations that normally they cannot get to. So, they appreciate that. So, I think that's an excellent suggestion.

We are right up on top of our lunch hour break. And a map was placed on your table prior to the meeting that shows some of the finest dining available in -- within walking distance of the EAC. And we will keep to our schedule. It's a hard start at 1:30, so with that, let's adjourn for one hour. Thank you.

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[The roundtable panel recessed at 12:23 p.m. and reconvened at 1:31 p.m.]

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DR. KING:

I welcome back all of the viewers to this conference that are viewing by webcast and again, would remind them that information related to this webcast, as well as the clearinghouse, is available at eac.gov and hope that you'll take advantage of those resources.

This afternoon we're going to push forward. We will finish by 5 o'clock. That's my promise. I suspect many of you have flights. And we have eight questions to move through. So some of it will be recapping some earlier topics perhaps, and we can pick up some speed there, but my goal is to get through all of these topics and then still have time for those summarizing statements at the end.

The question that I have up here is dealing with the replacement of systems. And we talked about, in a broad way, right before lunch, the notion that when voting systems or any technological system enters into a decline phase there may be predictors of that. It may be scarcity of consumables, lack of skilled technicians to support the system. But we want to, now, kind of come down at a more specific level to voting systems.

So, indicators for replacement, technological innovations, changes in election law and rule, and changes in voter expectations all impact the life of a voting system, and subsequently no system has an infinite lifespan. But the question then becomes, when is it practical for a jurisdiction to replace a voting system? And, maybe we can break that down into more granularity. When is it appropriate to begin contemplating the change of a voting system? When is it appropriate to begin planning the change of a voting system? And then, when is it appropriate to change the voting system? What are the dependent factors? What are the things that you're considering in your jurisdiction? What are the, if you will, what are the tea leaves telling you about your voting system? And I'm going to start with Linda, because Linda is in a unique situation, and her jurisdiction has, what could be called an orphaned voting system. So, I'm sure many of these predictors have manifested themselves. So, we'll start with you Linda.

MS. LINDBERG:

Yes, thank you. Well, when we purchased our current system in 2003 we had expected that about this timeframe we would be looking at where we were going in terms of replacement. Probably

by the 2016 election, for sure, we would be replacing our current equipment. However, because the General Assembly intervened and said that you can't purchase anymore of this equipment and our vendor has gone out of business, we're kind of stuck. So, where we are right now is we're looking at mixing systems, potentially in the future, because Virginia law says, if you are a DRE locality and you wish to purchase additional equipment you must purchase optical scan. And I am hoping that that will extend to the digital scan. It looks like we're going in that direction, because the State has started to begin certifying some of the digital scan systems. So, that probably will fall into that category, as well.

Some localities in the same situation as mine, including the largest county in Virginia, Fairfax County, has already gone that route. They run a mixed system with the DREs, which provide the accessibility component required under HAVA, and they have optical scan systems available. What we've chosen to do in my locality is to lease optical scan equipment when we need it, which really translates to the Presidential elections. And we're, Wendy mentioned this earlier, we're in a high growth area too. Fortunately, Virginia does allow us to have mixed systems in a precinct, which I believe you don't have that ability. It sounds like you're pretty much stuck with the equipment that you have. We can have mixed systems, so we can have certain precincts that are all optical scan. Of course, you still have to have an accessibility component, so you either need a DRE or an AutoMark device to meet that requirement. And some localities are indeed running three and four, probably about three different systems. I know of one that has optical scan

in the precincts, under HAVA. They were already an optical scan locality in the precincts, and under HAVA, they were given funds to purchase accessible DRE units. And because they didn't have a lot of money, that's all they did was they bought one per precinct. And then when they had to expand, they were at the point where the law had been changed and they couldn't purchase anymore DRE, they had to buy optical -- I'm sorry, they had to buy the AutoMark device. So they're running three different systems within the same localities. So we have these cobbled together systems.

We had hoped, as I said, that we would be able to start looking at new systems out there, and that's not to say that we're not, because as we move forward in looking at the 2012, I'm at the point now, that I'm ready to contact vendors to talk about leasing equipment for next year. Leasing we're hoping digital scan, not optical scan, this time around for next year. And eventually, because that's the only option available to us in the near future, we will likely go that route as our equipment wears out. But we do intend to squeeze as much possible life as we can out of our current DRE equipment.

DR. KING:

Okay, Linda if I could ask you a follow-up question. I've often heard that the supreme law of elections is the law of unintended consequence. When the legislature was contemplating sunsetting the current technology, was there consideration given to that consequence of running a mixed system? Was that an anticipated outcome or an emerging surprise?

MS. LINDBERG:

Yes, indeed it was. And that's the reason why the systems were just simply phased out, as opposed to other States, I believe California, where you have to use the optical scan systems. DREs are not permitted as the primary voting system, except for accessibility purposes. So, instead of going that route in Virginia, our legislature recognized that we had put considerable investment into purchasing these systems, both at the local level, because many of us had already had electronic systems, or optical scan systems, we switched to DRE systems after HAVA, once we got the HAVA funds. And that did require a considerable local investment, because HAVA didn't pay totally for that replacement. HAVA funds only paid for replacement of the punch cards and the lever machines. So, there was considerable local investment, including with some of the larger localities such as -- mine is more of a medium locality, about 140,000 registered voters, but Fairfax County, with over 600,000 registered voters was one of those that put out considerable local investment. So, the General Assembly did recognize that and we already had a law on the books that allowed us to have mixed systems. So they -- the intent is that we're able to keep going along with these mixed systems, indefinitely.

DR. KING:

Okay, a question that I have for the other election officials at the table. In your jurisdiction is there a particular time in which voting systems can be optimally changed out? And I'll give you an example. In Georgia, we run a uniform voting system, which means it all has to be changed out at the same time. Any change

that we make to our voting system, we try to restrict it to odd number of years, because the election cycle in the even numbered years, particularly Presidential elections, doesn't permit the change. Is that similar in your jurisdictions? Chris?

MR. THOMAS:

Yeah, I would say it's similar. And I would also throw in that the optimum would not be to run that system in a Presidential election for the first go through. So ideally, you'd like an odd numbered year to do the changeovers, maybe use it in some of the city elections, and then roll into the gubernatorial year, but certainly not the Presidential year.

DR. KING:

Okay. Linda?

MS. LINDBERG:

Whereas, in Virginia, our situation is different, we have elections every year. We have State elections in the odd numbered years. So there is no true optimal time. However, having said that, you want to try to use the odd numbered year that is after a Presidential election. That gives you ample time to get everything in place and everything worked out before the next Presidential.

DR. KING:

Okay. Jim, I'd like to ask you a question as an election official. Earlier today, I think both Tom and Frank commented that the metric of cost may not be the most important metric in measuring the deterioration of a voting system. So, normally I think in an analysis are we ready to switch out a voting system, we would look at the cost of maintenance of the old system versus the cost of

maintenance of the new system perhaps. But in your jurisdiction how do you factor in issues like reliability, dependability, some of those other qualitative measurements, into a decision about the appropriate time to change out a voting system?

MR. SILRUM:

Merle, that's a good question. Prior to HAVA, in North Dakota all of those decisions were made at the local level. HAVA changed a lot for North Dakota in that regard, and brought the State into a much more than they ever were in the past. And when we came about with that availability of money, the counties suggested, they said, "We want a unified system across the State, because we want to be able to depend on our neighbors to be able to help us answer some questions that we have. We're tired of using differing tax systems. We're tired of using differing software for all of these different things. So let's do this right under elections and have the State go with one system." So that was a callout from the counties, and we've obliged. Now, we're moving toward the time that we're going to think about replacing. And, obviously, I would like to -- we would like to make that decision before anomalies win the day, before anomalies force us to change a system before it's ready -- we're ready to change it.

But, in addition to looking at what are the factors, you know, about the reliability of a system, I think we also have to take a look at where is the political environment going these days? We've seen in North Dakota a real movement to vote-by-mail. We've seen a real movement to vote centers and early voting. And yet, at the same time there seems to be a cry out for the days of old

precinct neighborhood-based voting. And I wonder -- I was going to mention that today. Wherein does that discussion lie in this whole thing? Because do we know that super polling centers, early voting is the way it's going to be for the future? Or do we -- or are we going to return in some ways to more neighborhood type voting centers, if you will? I don't know that we know that, and I think we have to factor that into this, because we're certainly not going to buy even precinct based optical scans, if we're having them in the way that we used to run polling places in the 1950s, say for example. So, all of those are critically involved in this discussion that we're having.

Under the current model, as well, we would like to think that if we can replace our system that there would be a buyer for the system that we're outsourcing, but I don't know that there will be. But if we could get something out of the system that we have. All of those factors come into play in this whole decision and I don't think there is an easy one step, "This is how you make that decision."

DR. KING:

Okay, thank you. And Wendy, I have one final question I'd like to address to you. It has to do with how much of the replacement decision is opportunistic. And I think Jim makes an excellent point, which is, we don't want to be driven to replacement by a failed system. That indicates lack of planning, lack of foresight. But the reality is that the cost of replacing the systems does depend at times upon the stars aligning, if you will, within the legislature and elsewhere. What are your thoughts on how significant opportunity is in the replacement decision?

MS. NOREN:

Well, clearly, the last time around it was clearly significant when we had the meltdown in 2000.

[Laughter]

MS. NOREN:

You know as far as opportunistic, I think most people, particularly in this budgetary climate, are searching for something that -- I mean, I would go out and could convince my commission to invest in a new system, if I could document it's going to control costs in other areas. I don't -- I just don't see that we've had the kind of technological advances the last eight, nine years that allows me to do that. I would like to see much better usability design in these systems. So much of my costs go into training people how to use this. That's an ongoing cost. That if something was out there that significantly reduced my expenditure in those areas I could justify those kinds of increases. So, sometimes if the technology is developed, if there's innovations out there, that's an opportunity a lot of people would jump on. Not only might it improve the process, but it can decrease our costs.

So, you know, that's basically what I look at almost every time is it, you know, when I look at a piece of equipment how can that save me money? Therefore, how can I justify the expenditure on it?

DR. KING:

Okay, thank you. Ken?

MR. CARBUILLIDO:

I think that's a very good point, Wendy. But I'd like to speak about value of new systems, without trying to make this a commercial, There's value in new systems not only in may efficiencies gained reducing costs, but there's also value for the voter in capturing their intent better. And it's difficult to quantify that in dollars.

But, for example, we have taken the work of the EAC in the best practices in ballot design, the layout of the ballot to capture the voter intent. So, they've done a good body of work. And in our next generation systems the basic ballot lays out using those design practices. And what that means is your voter's intent will be captured better, both the accessible voters and those using traditional paper systems. There will be fewer under votes, fewer over votes. And how do you measure that? Capturing voter intent is also a great value. I'm not sure how you turn that into a business case, into a purchase, but it is what we're all here for. And some of the new systems are going to give you that.

DR. KING:

Okay, thank you. And Lowell, I'm going to let you have the last comment on this question.

MR. FINLEY:

Okay, well, this is just a direct response and I guess a challenge, Ken. I think that's a very valid point and the whole question about costs of comparing one system to another when you're considering whether to switch and then, if you are, what to switch to. And I think this goes back to what Neal Kelley had talked about earlier in identifying problems as a system ages; you need data and you need data analysis. And I think the best way for a vendor to sell a

system that it claims has better usability features and is, therefore, going to capture voter intent better is to run the trials, do the -- as you know the expression goes, do the blind testing. Have people vote on it, and have them vote on existing equipment, and show what the results are.

And I think the same thing is true -- you know, I think there was a lot of mythology about DRE systems reducing costs because you didn't have to print ballots every time and store them. And it took a long time before anybody did the analysis to look at, "Well, yes, but you need to store those machines in air conditioned, climate-controlled facilities," you know. When somebody actually sat down and tried to do the comparisons, it wasn't quite so clear. So, I think it's just tremendously valuable, and I think often the best way for this to happen is for it to be a third-party tester. I mean, I think it's great for a vendor to produce its own test model and test results, but I think it's also good for a government agency or a non-profit to be out there that can look at these things and say, "Yes indeed, this actually does what it says. It really meets these new ballot design standards and here's the improvement that it will provide."

DR. KING:

Okay, thank you. The next question I'd like us to address has to do with the risk associated with the continuation of existing systems. And we want to be careful here to recognize that the introduction of new systems carry their own risks. So, this is not a risk-free choice that we make. The advantages of continuing to run an existing system are many; the investment and training, the knowledge of the

voters, the knowledge of the poll workers, et cetera. But there are also risks associated with attempting to extend the lives of the systems that we're using beyond good judgment, beyond good IT practice.

So, the observation here, is, in a time of limited budgets, State and local election officials are making extraordinary efforts to extend the life of their voting systems. What are the responsibilities of officials to do so? And, perhaps more importantly, what are the risks that are associated with this extension? There's certainly an economic value that accrues to the jurisdiction. You're foregoing the purchase, but are we running risks by attempting to extend these systems beyond what good IT management would indicate is their lifespan? Chris, I'll start with you.

MR. THOMAS:

Well, I'll go back to my original comment, and that's we don't know what that is, what that limit is that's beyond. But for local election officials and, you know, we're assisting in our State with the purchase of ongoing maintenance, and I was surprised that the State was never involved in this before HAVA. So, when it came around and we happened to -- because we're such great stewards, we happened to have a lot of HAVA money left, taking the position of, "Well, you know, local election officials, we're always responsible for our own maintenance costs, so what's the big deal? Why the hue and cry?" Well, one, it's more expensive than it used to be. And two, they didn't always keep maintenance contracts.

MS. NOREN:

That's right.

[Laughter]

MR. THOMAS:

And it's like, "Okay, now I get it." And so, what we see from vendors now is that if you let those contracts lapse, or have some third party come in and work on that equipment, you can certainly void warranties, and when you have a problem and you have to turn to the manufacturer, the original manufacturer, for a remedy, they're going to want payment, in many cases, all the way back from when you lapsed your coverage. And so, I think that's something that needs to be considered as a State policy, and as a local policy. The only way you're going to extend the life on a reasonable and, not entirely risk-free, but reasonable basis is to have some type of coverage. Without that coverage then you're flying without a net and you're probably going to impact the rest of the State when you have your problems.

DR. KING:

Okay. Neal?

MR. KELLEY:

I think it's incumbent -- or, actually, it's a tremendous responsibility for local election officials to have that responsibility to maintain these systems. I'm the steward of that public money. And in Orange County, we have a system, let me talk real dollars for a second, it's over $50 million worth of equipment. And the State is in a fiscal crisis right now, and with realignment occurring right now throughout the State, and a lot of the efforts of the State to push back the requirements for State activities on the counties, there's now even fewer dollars to be had. So, there's no other choice. I

can say right now, for certain, that we're not going to be buying a new system in the foreseeable future, so we have to keep this working.

The risk, and I want to use the example that I gave you on that pin, those bent pins, we get that fix in place, the risk then becomes do the poll workers connect it correctly using the new training? And so, there is a risk almost like as if you were deploying a new system because you have a new connection method. So, you have risk both ways, I think. But, at least we're not like North Dakota in terms of dollars.

[Laughter]

MR. KELLEY:

So, it's another five to seven years, at a minimum, before we can even think about it.

And the other thing is I just want add, Lowell is right, about the tea leaves side of it, with the vote-by-mail, because L.A. County right now is going through a very long process of what kind of system are they going to live with. Well, if the State goes all vote-by-mail, that could significantly change what you're going to do and how you're going to do it. So...

DR. KING:

Okay, Lowell?

MR. FINLEY:

Actually, I just want to follow-up with respect to Los Angeles County. It is the largest voting jurisdiction in the United States, and they have not replaced their current voting system for longer than just about anyone else in the State. And they've engaged in a

formal process now, that they're really just in the initial phases of that, according to its own schedule, doesn't have them in the position to be actually acquiring a system until after the 2016 Presidential election. And, you know, I want to believe that this schedule is only because they've made the assessment that that's how long it's going to take to assess needs, look at the available technology, et cetera. But I also suspect that just the understandable instinct to sort of keep your options open as long as possible, is part of what's driving it; waiting to see what kind of shakeout there is in this second generation of technology, waiting to see how things settle in California law, in terms of changes in the way we vote.

Los Angeles County still has the vast majority of its HAVA money, as well as a matching amount of State bond money for purchase of a new system. And just that single county alone, if it chooses to buy from one of the existing vendors as opposed to developing its own system from scratch is going to have a tremendous impact. You know there's more to be said about it. I think one of the things that's happened with Congress and the question of providing ongoing funding is just looking at the simple, you know, spreadsheet and saying, "Well, wait a minute. We allocated -- we appropriated all this money and look how much of it is still not spent by the State, so we're not going to put any of it out this year." Well, a big chunk of what's not spent is in that one county that's bigger than half the States in the United States.

DR. KING:

Okay. A follow on to this question that I'd like to get the vendor's response on, if I could, and it has to do with, really, Neal your point, that it is a core responsibility of election officials to maintain the voting system, but the reality of the budgets in your jurisdiction and everybody else's, except for North Dakota...

[Laughter]

DR. KING:

...requires corner cutting. And often that corner cutting is done by people unqualified to make technological decisions, for example, on the equivalency of batteries; that if it's a 12-volt battery, it must be a 12-volt battery and the amperage and the duty cycle really is not relevant. And so, we begin to see that the combination of people stepping up to this responsibility, perhaps underprepared to do so, and certainly underfunded to do so, is creating inadvertent risk in the voting system as it ages because of the scarcity of consumables or the desire to find cheaper substitute components.

So, if I can, let me start with Andy, and then we can go to Ken. Could you comment on what you've seen in terms of jurisdictions attempting to cut corners on their maintenance of the systems?

MR. KELLEY:

Start off with Orange County not cutting corners, by the way.

MR. FINLEY:

Orange County never cuts corners.

DR. KING:

You don't have to name names. Just...

[Laughter]

MR. RODGERS:

We do occasionally have jurisdictions contact us wanting to suggest a substitute part. A battery is a good example, other consumables. And we make it a habit to try to entertain those alternatives because we know that we do have those kinds of economic forces. But the economic climate is not just out there in the jurisdictions, it's also with us as the vendors. If no one is replacing their systems, then our revenues are very low and our inability -- or are ability to support systems declines as well. So, we fight those forces, too. So, we try to balance though between someone who really needs, you know, an alternative for something less expensive and the fact that we have a product that we try to sell. It argues for -- on the jurisdiction's side, for having products that are built out of COTS equipment, so that there are larger volumes supplies of those pieces for those kinds of maintenance items.

But I don't see that that problem goes away in the -- certainly in the short-term, or even really in the long-term. When you get to this phase of the lifecycle, you're going to have those kinds of issues.

DR. KING:

Okay, thank you. Ken?

MR. CARBUILLIDO:

Yes, we've seen jurisdictions face the issue of trying to extend the life by maybe eliminating maintenance or maybe finding a lower cost maintenance supplier. We see them, in some instances, rent equipment from us, or bridge a gap by a lease of equipment. And

we've actually seen somewhat of a resurgence in the marketplace of old equipment. And we've become a broker, if you will, of equipment that Florida is done with, or Colorado is done with. And at least right now since others still want it, we'll take those as -- and either take them as trade-in on credit for new systems, or we will maintain a relationship with that -- the selling county and the buying county and we'll do the refurbishing. So, we've seen that and, actually, we're quite surprised at that after-market activity that's happening, everything from memory cards to whole systems. So, the jurisdictions get pretty creative.

DR. KING:

Is that without precedent, Ken? Is this the first time that you've seen that kind of focus on refurbishing and purchasing used equipment?

MR. CARBUILLIDO:

I think we've seen it this past year more than ever.

DR. KING:

Okay.

MR. CARBUILLIDO:

Um-hum, more than ever.

DR. KING:

Interesting.

MR. CARBUILLIDO:

It's surprising. We've actually run out of inventory of some legacy equipment. And we cannot take orders on that stuff, and we're getting more requests. And so, like I said, we've lined up a couple relationships with counties who have -- are moving away from that

equipment and we become the broker. And I think that will last for a little while longer, but pretty soon that, too, will dry up. And Jim was talking about getting a credit. We're good with that now while there's still a resell marketplace, but the longer you hold onto that stuff the less it's of value to anybody. So, there's a timing question there, too. If you want to make -- you know it's like the trade-in of your car. Hold onto it longer, it's pretty much not going to be worth anything to anybody. No one is going to buy it, then.

DR. KING:

Okay.

MR. CARBUILLIDO:

So something to consider.

DR. KING:

Thank you, Ken. Neal?

MR. KELLEY:

Merle, I think your point is valid, but I also want to give the other side of that perspective. And that is, as those financial pressures continue and as the budget climate worsens, and I thought we were at that peak but we're not, I have to find ways to save money by not using third parties or by not using other individuals to come in, but to renegotiate those maintenance contracts and to work closely with our vendor to do that. And I actually view my partnership -- our county's partnership with our vendor, Hart, as a tremendous investment, because I wouldn't even consider going out to a third party to do that because of the risk you're talking about. And cutting those corners is just not acceptable.

The other part of that is, and it's to Hart's dismay, but on the consumable side, I now have to go to their manufacturer and, because of our size, leverage some purchasing power and buy those, myself, directly from them. So, in that sense it hurts the vendor because we're having to deal with those budget constraints. So, it's the other side of the coin, too. It's not the risk of cutting the corner, but it's hurting the vendor's pocket.

DR. KING:

Okay, good. Lowell?

MR. FINLEY:

I think a lot of jurisdictions are in a tight spot on that particular question because of all the transactions that happened in the last year-and-a-half or so with voting system companies changing hands. Right now, there's a major player in the U.S. market, who's not represented here today, but has control over two of the systems that were, you know, widely purchased with money from HAVA. And we've gotten clear indications from the customers of those lines of products that that vendor is not going to extend their life, is not putting any further investment into developing upgraded versions, and that the vendor has its own product line which it represents as newer technology and so, understandably, I imagine would prefer to -- if it sells or even maintains anything would prefer to push it in that direction. So, in terms of ongoing relationships, there isn't one. It's not a vendor that people dealt with as a company for many years, as you've done with your vendor. And I would imagine as a result of that the options available to users of

those systems aren't quite as good as they might be with longstanding companies, not just Hart.

DR. KING:

Okay, thank you. And Tom, I'm going to let you have the last word on this question.

MR. CADDY:

Okay, I was just going to draw a couple connections between things. You mentioned COTS and talked about that. And a few weeks ago there was a roundtable on that topic, and so it's been an interesting topic in a lot of ways.

But one of the discussions I had the hallway was, the jurisdictions even sort of having to make a decision between are they purchasing a system that can be maintained for a long time, or more like your cell phone that has a short life at a low cost, you use it for a shorter period of time and then you replace it. And if there are systems like that out there that can be reliable, is that another option. And then the question where I think that connects with COTS is that, in general, our -- today's environment with COTS is one that's a fairly short time life was discussed earlier with IT equipment; three years, five years, whatever. And systems that are built entirely on COTS, it's hard to make products that may not be available at all in three years have 20-year life spans. So there's some interesting hard decisions associated with that that could lead different jurisdictions making different decisions on the kind of system that they want to choose.

DR. KING:

Thank you, move onto the next question, on really now, a chance to talk about what our collective roles are in this process. And we've already hinted to some of these things earlier throughout today's discussion. And Neal just restated it, that election officials have a very central role to it. But I'd like to kind of dig down a little bit, and on this particular question, I think I'd like everybody at the table to chime in with at least one contribution on their perception of appropriate tasks and responsibilities on extending the life of the systems. And particularly, for the testing labs, even though in the context of the VVSG, the Voluntary Voting System Guidelines, you're testing to a standard which may or may not address, explicitly, sustainability issues, there's also the opportunity with States or other jurisdictions working with the VSTLs that can require testing of systems that may include sustainability. So, I kind of want you to put on the big hat and think, perhaps, outside of just the VVSG, in terms of what the testing labs could do to contribute to the sustainability of systems.

So, successfully extending the life of a voting system is a collective effort, requires federal, State and local election officials working with their vendors and testing labs to continue to field a system that meets the voters' expectations and conforms to the voting system and IT standards.

So, let's start with -- and I'm going to start with Brian on the federal testing and certification. What is the role of the EAC in this process?

MR. HANCOCK:

Well, I think, you know, as I said at the beginning, you know, we're still a developing program. As Frank mentioned earlier, we do conformity assessments, so we have to test to the version of the standards that is currently out there. But that being said, there are a lot of programmatic things that we can do to streamline the process to make it more efficient and cheaper for the manufacturers and, down the road, obviously, for election officials hopefully. You know we've certainly done some of those. There are a lot more things we can do, you know. I mentioned the specific one earlier about the de minimis changes, you know, changes to make that process easier, to make changes that are needed immediately by election officials easier to implement. So, things like that can be done at the federal level.

DR. KING:

Okay. And if I can now go to the labs, and Traci, start with you.

MS. MAPPS:

You know, this is an interesting question for the labs, you know, and it's something I pondered before I came. And I think it's a tricky question. It's hard, you know, for me to really say what I can do in that process. I think that some of what we talked about before is identifying issues that are out in the field and looking to test those before, you know, during a certification process, before a system even goes out. I think other than that, you know, making our processes efficient, you know, streamlining the testing that we do when the State comes back to us, to actually do testing on any of the changes or the modifications that are made.

DR. KING:

Okay. And just to follow-up, I think the point you make of identifying issues of deployed systems in the field…

MS. MAPPS:

Um-hum.

DR. KING:

...prior to testing is excellent.

What is your primary method of doing that, through the clearinghouse?

MS. MAPPS:

You know that's a difficult one, and that's something that I meant to bring up earlier is that there's not a source that we can go to that says, "Here are all of the issues that are found in the field." You know, so unless we're going out and we're looking at each of the States and looking at the problems that you guys are finding in the field that you're reporting, or we hear it from the EAC, you know, it's difficult for us to really know and understand all of those issues that are being found. And that's something that we've talked to Brian about, you know, in the past is, you know, maybe there's a better way of us obtaining all of the incidents and understanding those better, so that we can include them in our vulnerability list, so that we can take a look at how we include those in the testing that we're doing. But right now, I mean, it is sort of a, "I hope I catch them by going out and looking at the different States' reports."

DR. KING:

Okay. Tom as a Test Reviewer, can you add to that discussion?

MR. CADDY:

Well, I think supporting the timeliness of the process I think it was mentioned several times, I think particularly for changes, updates, upgrades. I think that there needs to be a process within -- approval process whether it's a State level or at a federal level that makes it timely, so that it can be to the end users when they need it. So I think that's a critical part.

DR. KING:

Okay thank you. And Frank?

MR. PADILLA:

A unique question. I'm going to put on, as Merle said, the bigger hat. Looking at the bigger picture, how can we do it? There's a lot of things that can be done. If we're looking at systems that are out in the field, legacy systems, the older systems and changes need to be made, the labs can test to any standards; State standards, federal standards. Outside the, I'll say the EAC program with the State, issue a report, we're allowed to do that by the EAC because we're working for the State. The goal of the labs, and I know our lab definitely, is to lower the testing that's required by the States, because that's a cost savings, in our mind. I think the better we can explain what we do at the labs, the better we can understand that the vendors are bringing us the State requirements, what the States are looking for, then we can maybe alleviate some of the testing that the States need to see at their end. It seems to me that there was -- I don't like using the trust factor, but talking to a lot of States over the years that, "Did the labs do enough testing?" Was there that trust factor? And as I did earlier, we've invited a lot of States to our lab. We have a very open-door policy to that.

We don't think, you know, accuracy test as a whole -- if you're going to repeat the same accuracy test that we're doing, there's no reason for that. I mean, you're not getting any bang for your buck. I mean, we look at the same way when a manufacturer does testing, if I'm just going to repeat the exact same test he's doing, what am I doing except charging more money for the same test, if he can give me the solid results, as somebody said and everything else, and I can analyze that and the solid data, then I'm going to do that and I'm not going to add a cost just to repeat that test. We'll look at it and things like that, but we need to get a better picture of that.

The States reporting house, I mentioned that. The EAC does a good job for what they get. The clearinghouse now, that's part of our process, they give us that. It's part of our test plan. We look at every issue that's out there that's been reported to the States -- by the States. But I can tell you those reports are small, I mean, they really are. It still shocks me to this day, and I don't know why but, you know, I think it's that hidden, nobody wants to report this kind of stuff. Because when I talk to people at conventions and different things, I hear issues that we've never heard. Or I talk to other people I know in the industry that go around and do State certification and they're telling me problems they found in the State, and it's like very unique that those have never made it to the EAC level. And we're finding them and we do look at them. And we bring them up because the goal would be then that's just one less test you have to do as a State, we can find those problems and then maybe alleviate them. So, I think that will

help everybody in cost and everything else if we can come up with a more robust, upfront program, because then it lowers the backend costs. The State is still going to have to do the testing. I can't test every ballot style out there, every unique voting variation. But the core end of the testing, working with the EAC, we should be able to get a good handle on that; that anybody should be able to take these test results and feel confident and not have to repeat them.

DR. KING:

Okay, thank you. Let's go to State election officials, and I'd like to start with Chris, and then Jim, and then Kathy.

MR. THOMAS:

I would note a few things. I thought it was interesting with the HAVA money available and we did -- we ended up qualifying in Michigan three vendors, and then, we let each county select which vendor they wanted to use. And prior to that time the systems were bought and purchased at the city and township level, and rarely even at the county level. Well, as would not be surprising to anybody, the comfort level is what drove officials towards their vendor. We had counties with multiple systems in them and that was with the counties in which there was a little bit of a tussle over which way they would go. So I think there's an education level that needs to be done at the local level, in terms of this sales comfort, service level, because a number of our counties found out they did not get the best product based on who the people were that they had had a good relationship with. So, that's a whole different deal.

But having said that, I don't see -- when people talk about all this new stuff, new manufacturers coming up, I don't see new manufacturers coming in. Maybe they're out there. I haven't been looking real hard. It would take somebody with deep pockets to come in to set something up and it's -- to survive the long haul that it takes before you're profitable and can stay in business, go through some additional certification that might not have been anticipated. I don't see that out there.

I do believe that part of the certification process needs to be a financial analysis. And I think that that is an area that probably was lacking in a lot of our certifications, even though we may have required that they give us some information on that. It's nice to have start-ups, but if start-ups don't have deep pockets, they're not going to be around. All the start-ups that occurred after HAVA, you know, we're down to a handful of manufacturers, right now. I don't see that changing any time soon. So, I'm not so sure that, you know, when we hear about all new kinds of technology, unless they brought it out, which we really haven't seen, other than their next generations, I'm not expecting to see any great advances.

DR. KING:

Okay, thank you. Kathy, and then Jim.

MS. SCHEELE:

I actually don't have a lot to add on this.

DR. KING:

Okay. Okay, thank you. Jim?

MR. SILRUM:

We don't want to forget about our friend Lowell over there, too. So…

DR. KING:

Thank you.

MR. FINLEY:

I should comment at least on one of these things.

DR. KING:

It's just that I think of California as more than a State.

[Laughter]

MR. SILRUM:

Oh, okay.

MS. NOREN:

It's a way of life.

DR. KING:

It's a state of mind.

[Laughter]

MR. SILRUM:

Well, we've talked about it already, but I think there are two things that the States can do to extend the life and that is, number one, make sure that the voting machines deployed are being serviced regularly. Make sure that they are meeting what the States requires of it. Make sure that everything is being tested.

And I don't say this to throw any blame anywhere, but in North Dakota, because we have paper ballots and because we also allow for write-ins on our contests, within the ballot box there is such a thing as called the diverter that sends those ballots with write-ins to one side and those without to the other. And what

came to our attention a few years ago was that some of our counties were saying, “Oh, you don’t need to test the ballot boxes.” Well, the ballot box is where the diverter is. And so, we now have to make sure that every piece of equipment, even something that seems as insignificant as a ballot box, is tested for – to meet those standards.

North Dakota is a small population State. We believe a hundred percent in a federal, or a one certification of voting systems. And again, this doesn’t -- this is not intended to be critical, just informative, that in 2008, when we realized that we had a long ballot, and that it needed to go onto two pages of paper, our vendor was upfront with us and said, “Listen, the voting system that’s deployed in your environment will not handle a two-page ballot. What do you want us to do?” We had to go through a separate, independent testing to get that system fielded. It worked without a hitch. It tested well. It worked well. It did everything that it needed to do. And I’m not saying that the EAC or the federal testing could have accommodated us quickly, but essentially, what we used in 2008 is what was certified just a few weeks ago in -- well a month or so ago, in 2010 -- ’11, excuse me, and we’ve been using that for two election cycles. So somehow, we need to, if possible, speed up the process for this federal, this one certification, so that we can actually use those systems, because elections don’t wait for us. We have to run them whether we have a federal certification or not.

DR. KING:

Okay thank you, Jim. Lowell?

MR. FINLEY:

I think that what State elections officials can do is try to cooperate as much as possible with the federal testing system. And for us, that means monitoring very closely what they do, giving feedback when we think it may be helpful. But also, you know, we've been trying to move in the direction of coming to the VSTLs and observing the testing of specific systems so that we can have a greater knowledge ourselves of exactly what's done and greater confidence at the point where we're evaluating what we need to do in our own testing, and hopefully, reduce that.

We've also expressed interest with at least one other State in trying to combine our testing campaigns, even if they're just in parallel. Even if all the efficiency that's gained is taking time off the clock and having all of the personnel gathered in the same building, even if we're testing to a special California ballot layout requirement, and the other State is testing something else, at least you've got all of the lab people, all the vendor people in that one place and you're compressing this process, hopefully cutting some costs. So, we're trying to do what we can in that area.

There are still a couple areas that California feels are very important to continue testing. One is volume testing of equipment because we believe that things emerge there that are not going to emerge or are less likely to emerge when you're only testing a couple of pieces of -- a piece of hardware. And most importantly, open-ended vulnerability testing, which I know has been very controversial in terms of the next iteration of federal standards, but in our experience, it's just been critical to do that and to identify at

least some of the problems that exist in systems, so that jurisdictions are in a position to know if we go ahead and approve it, even with conditions, they're in a position to know that they do need to take extraordinary measures to ensure that problems in those systems aren't exploited.

DR. KING:

Okay. I'm going to call on the locals in just a moment, but I'd like to add a couple of things on the State perspective, particularly as they relate to extending the life of the system.

I think one of the best practices that I've seen is developing a network of colleagues in other States with shared technology, because the innovations and the mitigations that are developed in other States often will apply in your own jurisdiction. And then, within the State, many of our county election officials are extremely innovative and have come up with great small techniques for extending the life of the system, and making sure that those are identified and vetted, because sometimes they can be short-term positive, long-term not so positive, but once vetted, then disseminating those throughout the rest of the jurisdiction. And I think that's really a common theme that I've heard here, is, making sure that we can learn from the work of our colleagues, and then vetting it, and then sharing it.

Let me go to Wendy, and then Linda. From local election official, what are the things that can be done to extend the lives of voting systems in your jurisdictions?

MS. NOREN:

Well, tell the Federal Government to do their part in the State. I think of us a lot of times as the bottom feeders, you know. When the Federal Government has a budget crisis, they cut off the HAVA funding to the States. The States have a budget crisis, they start dumping services back on -- you know, things they used to do for us gets dumped back on us. Funding they used to do gets cut. We're down at the bottom. And that's one of the issues.

Now, we can all sit here and say, "Well, these local officials should have those maintenance contacts and do the preventive maintenance," but you know, I'm a County Clerk and the County Clerks in Missouri, most of them are also the budget officer. And we had the worst snow/winter ever and things have to be cut. Do we cut the e.911 contract maintenance, or do you cut the election equipment maintenance you aren't using this year? These end of being the kinds of very real decisions down at that level that county governments have. They don't have any place else to dump stuff on. You reach the bottom of the place where a higher level of government can say, "We aren't going to do that anymore, we aren't going to pay that anymore." County government is the one that's having to make the really difficult decision. Now, they can cut polling places and shift their equipment around but, you know, there's not a lot we can do other than try and maintain this, try and put it in good facilities. But I'll be very honest with you, we've got probably 20 counties that don't have any maintenance agreements and never had. We've got places where the stuff is not in good facilities and never has been. These are very poor jurisdictions.

And if we think that's important, then it has to be a joint effort by State, local and the Federal Government.

DR. KING:

Okay, I'm making a note of that.

MS. NOREN:

Yes.

DR. KING:

Linda?

MS. LINDBERG:

I believe the key is communication. And Wendy just touched upon that. We need to -- we, as a local election official, we need to communicate with our vendors about what our needs our, our vendors and contractors, if contractors are helping to assist us maintain our equipment. We need to communicate with our States. And I know that, in Virginia in particular, that's critical, because there are a lot of poor jurisdictions. There are a number of jurisdictions that do very, very well and they have the funds, like mine. We have the funds to be able to maintain our equipment on an ongoing basis, but there are others who don't. So, it's important for the local election officials to communicate that if they're running into problems with funding at the local level with their local government, to go to the State and say, "Look, we've got some real issues here. We need some help. We need some assistance." It's also important for us to communicate any issues with our voting equipment to the State. And we have a mechanism in place in Virginia, similar to the clearinghouse, at our own State level, and again, we don't get a lot of feedback from it either, but if we have

issues on Election Day, we're supposed to report those issues to our State Board of Elections so that they're not going to be surprised by it when they get calls from the press, and from candidates, and from others.

But I really think that that is the key. We do form user groups. Merle mentioned something similar in Georgia, but we have user groups amongst people who have similar types of equipment and we share information. We share information about, for example, where is the best place to buy batteries. It may not be the vendor. You might be able to get them cheaper from another source. So we do share tips and tricks and things like that. But it's really -- it's important to maintain that communication, keep those avenues of communication open between the vendor and/or the contractor, because a lot of jurisdictions do have contractors program their ballots and maintain their equipment for them and with the States. Probably not so much with the Federal Government, because that's not really our role as much, it's really with the State, for the State to communicate to the feds.

DR. KING:

Okay, thank you. Now, we're down to the vendors, and I'll ask first Ken, and then Andy what is the vendor's role in extending the life of the voting system?

MR. CARBUILLIDO:

Our role is key. Certainly with the design knowledge and expertise, we're probably in the best position to continue that life support system. So, we're glad to do that. The long-term relationships are more important to us than trying to stop the use of a system, so

hoping there's a new sale. We're in this for the long-term, and so, your success is our success and your ability to maintain. And we understand these times in this economy. So, it's critical, and we have a good track record of being there for you, we will always be.

There are a couple things I'd like to comment on that I think us as an industry -- and when I say "industry" I mean federal, State, local officials, labs, all of us -- there's a couple of what I think are dysfunctional behaviors that we're hurting ourselves on, in this goal of extending the lifecycle of systems. We can do something different in these behaviors that will help us. Right now, we're hurting ourselves. And I'll cite a couple examples.

One is where I believe there is this inordinate, excessive amount of scrutiny, which means delays, costs and disincentives for making adaptations to systems that will help you extend the life of the system. It's way too hard to make a minor change. It is way too excessive. I have an example where there is -- we have like two pieces of aluminum that we know will work better with a new change order that makes this one stainless steel piece of metal. Well, that has unbelievable to get through in our industry process. We've had two labs look at it. We've had federal staff look at it. We've had State staff look at it, and they got to get ten commissioners at the next board meeting, which is two months from now, to approve this. Is that -- that seems dysfunctional to me. And we put, you know, hundreds of hours to make something better and make this thing last a little longer, that's just ridiculous. We're our own worst enemy there. And so, the vendor says, "Are you kidding me? Why go through that? I'm not going to make any

money on these pieces of aluminum or I can continue to sell those." But it's way too hard. We can make it easier on ourselves.

The other thing I think where we're dysfunctional again and hurting ourselves in extending the life of systems, is, there is a gap. Many States either have mandated in their law or highly desire an EAC certification approval. That's of new systems and changes. Well, 90 plus percent of the systems out there do not have an EAC baseline right now. And if some of them do, they're at a previous standard. And so, to make even the minor of changes on those systems, there is no path in our world. There's no path for those States. There's no program. There's no way for them to get it certified. We've hurt ourselves in trying to extend the life of 90 percent of our systems in the country. There's no way to go there, unless some of us step outside and say, "Let's create a program, let's do some things directly, let's cut to the chase and let's get it done." So we're hurting ourselves. And I don't want to be that blunt, but I think it's the elephant in the room.

DR. KING:

I think Ken,, you make an excellent point that we do have a tendency to think about systems in the current context, those that are built to the 2005 VVSG. But the reality is that the majority of systems that are out there are not, and there is not a clear-cut path for them to go through revisions. That's an excellent point.

Andy?

MR. RODGERS:

I agree with Ken that there has been some, you know, dysfunctional behaviors in this regard, but I also think that there's

some emerging bright spots. We've been dealing with these problems for quite awhile. You've heard examples from Neal and Lowell about incremental changes to our systems where the States are taking that on themselves. Our customers in Washington have a process, as well, where we're hoping very soon to be able to upgrade the operating system, as Neal mentioned this morning, from Windows 2000 all the way to Windows 7 to give a much longer sustainable life for that product. And what we're hoping is that those examples can be shown to be successful, and then, with the additional communication, that we all share responsibility for, we'll be able to do together much more of that incremental change without having to wait for long periods of changing standards and statutes and all of that. So I think that's one -- a key area, definitely an elephant in the room.

Another thing that we have not really talked much about but goes to the concerns that jurisdictions have about the economics of extending the life of the systems. We worked very hard over the last few years with the realities of the "boom and bust" cycle in the industry to become much more economically efficient ourselves, so that we can provide the kinds of support, you know, that Neal needs and that other jurisdictions need at the most reasonable cost possible. And so, I think we're trying to contribute along those lines and tend to continue discussing the issues with customers and finding ways to keep everybody in the business of usable voting systems.

DR. KING:

Okay, thank you. Wendy?

MS. NOREN:

I kind of have a question for the vendors, and maybe a little for the federal.

The next iteration that got shelved, do you see that as stifling innovation, not knowing where this next set of guidelines may be going, what's happening with them? And, again, I take that back to the point of when you ask a local official where -- at what point are they going to start looking at a new thing. Well, I think a lot of us would like to look at what's on the horizon, when it's going to be there, when the R&D is going to start with that. So, if that process is stalled, is that keeping you from moving forward on the development of newer equipment?

DR. KING:

Ken, and then Andy.

MR. CARBUILLIDO:

Not really. One regard, maybe yes. But the EAC process, NIST process has been -- was participative, so we did have input into that. And we had good insight into it. And even though it has never made it through the final approval steps, we know what it is. There's potential it could change, but our new generations have that in mind. What might be bad is if it changed again before we got there and we would have skated, not towards where the puck is going to be, but where it was supposed to be, and it moved on us.

I think standards -- you know a standard a year is a bad idea.

MS. NOREN:

Yeah.

MR. CARBUILLIDO:

You know we've got to let them settle. We've got to let the labs get there. We've got to get ourselves there. And so, I surely hope the puck doesn't move on us, or where it's going. So -- but R&D for the past -- since that was created and drafted we understood where that was and that's where we're going.

On the other hand it is stifling, in terms of the previous systems, because new systems have to meet that standard. Some of the previous systems, we know, can't. So, you know, we don't put any more money into those older systems. So, in that regard, it hurts in the other way.

DR. KING:

Thank you, Ken. Andy?

MR. RODGERS:

I think I'd offer a slightly different view in that, like we want, and I believe, need, fast incremental change for our existing legacy systems. I think we need a process for fast incremental change of the voting system standards, as well.

We had a presentation a couple of years ago, now, in one of the EAC meetings from the Nevada Gaming Commission, where they talked about the ability to incrementally change the standards. When an issue is discovered in the field, and brought forward to the regulators, and it is understood and the causes are known, then not just do you apply a workaround and a fix at that point, you go change the standard, so that it now reflects what you found in the way to do things better. So, it becomes then a rapidly evolving

body of knowledge, and I think we'd find that that would very much help our situation with existing systems, over the long run.

DR. KING:

Okay.

MR. HANCOCK:

Andy, I'd just like to respond to that one minute. I mean, that's -- it's a good model and it was a great presentation. There's a drastic -- there's several drastic differences between what the Nevada Gaming Commission does and what we do, two things; regulatory -- absolute regulatory authority and a whole hell of a lot of money. And neither of those things are present at the federal level.

DR. KING:

I've heard that.

MR. KELLEY:

Merle?

DR. KING:

Yes, Neal?

MR. KELLEY:

I know you didn't intentionally overlook me. I don't mean to go back to the local election officials.

MS. NOREN:

I'm sorry.

MR. KELLEY:

That's all right, I'm used to it. My 16 year old daughter overlooks me all the time, so I'm used to it.

[Laughter]

MR. KELLEY:

So, that's okay. I just wanted to add, because I know I'm repeating a lot of the things here, but just -- I think our role as a local election official is to think long-term, and to keep the voters always in mind, because we're the ones on the street dealing with the voters on a daily basis.

And to piggyback on Linda's comment, it's really incumbent upon us to communicate with the State any issues that come up and work towards those changes that will help not only the voters but will help our counties, because long-term, you know, we have that duty on the financial side. Also, our poll workers, to elicit feedback and information from our poll workers. They're a tremendous, valuable resource to get information about what's happening on the street, and what's happening right there with the voter in the voting booth. So, that I really see as our role in this whole process is keep to that.

DR. KING:

Thank you. And I do apologize for that.

MR. KELLEY:

That's all right.

DR. KING:

On this particular slide I added others. And I'd like to speak to one of the others, and that is the third-party manufacturer of COTS components.

One of the experiences that I've had on multiple occasions is talking with manufacturers whose products have found their way into voting systems and are stunned at the constraints upon the migration of those products forward. I think what my takeaway from

those conversations was, is, that needs to be addressed; that if you're using a Windows 2000 operating system as the platform for your EMS, Microsoft probably needs to have somebody within the organization that's aware of that and understands the certification issues going forward; issues related to chipsets and servers that can't be downgraded, those kinds of issues.

And so, I think going forward, one of the things that I would ask the manufacturers particularly, but all of us, is in working with this third party providers, who may or may not realize that their products are being folded into voting system technologies, to work with them to make them aware of the constraints that exist on the maintenance of those systems, and that the customers have unique expectations of support. For example, trying to explain to a server provider that not only are we not interested in their maintenance, we couldn't use it if they gave it to us, because they can't touch the servers once they're deployed in the field. So, I think there are many others that are involved in this process, but certainly the groups that are here at the table are in the frontlines of this issue.

We've made good progress. We really have a couple more questions to address when we come back from our break. And again, this is a hard break, because of the closed captioning folks. What I'd like you to do is to use this 15, or so, minutes to start rolling around a couple of ideas so that we can make sure that we end on time.

The first thing we want to talk about when we come back is contracts. When RFPs are developed, when contracts are written, and both fail to contemplate sustainability issues there can be

disappointment, but there certainly cannot be surprise at the end of the day that there are challenges. So, what I'd like to talk about is, in your jurisdiction in your experience, or from the vendors' experience, what constitutes the state-of-the-art, state-of-the-practice in terms of identifying sustainability issues and rolling those into contractual agreements between vendors and jurisdictions.

And then, what we want to look at is the kind of going forward piece and the lessons learned. What have we learned from our experience over the last decade with voting systems that we are obliged to take forward into our next iterations of voting systems, whenever that may be. So I'll be asking again from the perspective that you bring to the table. And you may need to speak beyond the scope of your particular experience, but what have we learned that we need to keep in the front of our minds going forward. And then finally, what are the issues that we see coming up in 2012, in a cycle in which there's virtually no break in between back to back to back to back elections, that we would want to share with our colleagues and with our guests here at the EAC. And then, finally, your summations. So, we got a lot of work to do when we come back, but start thinking about those things, so that when we get onto those questions we can roll through them quickly.

Let's adjourn until 3:15, and we'll meet again at that time, thank you.

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[The roundtable panel recessed at 2:51 p.m. and reconvened at 3:17 p.m.]

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DR. KING:

Okay, I think we're ready to begin. And as I indicated before the break, we've got three more questions to go. And the first one deals with contracts. In the note that I've placed upon the overhead, it really talks to what is the essence of a contract. And essentially, it's a meeting of minds between the parties and deciding what will be exchanged and what will be delivered. I think one of the takeaways that we've seen in the past decade, is, we've evaluated RFPs and contracts for voting systems is that parts of those contracts are very dense; that is, they address many of the issues, always the payment schedule. That's always well articulated. But when you get to the sustainability issues, rarely contemplated, and rarely contemplated in a way that's actionable.

So, what I'd like to do now is to talk about the experiences of the folks at the table about contracts, perhaps RFPs or contracts that you contributed to, and the buyer's remorse part of it. If you had it to do over again, what would you have included in that contract and what the outcome of that inclusion might have been. So, that's where I'd like to start.

Kathy will begin. Thank you, Kathy.

MS. SCHEELE:

Well, I haven't had to do a voting system contract for the tabulators, but I've done one for our vote-by-phone, our ADA accessibility. And what you mentioned earlier was the biggest handicap. The developer was willing to give me an eight-year contract, and the State purchasing office didn't want to give me more than two. And they finally gave me four, and I went back after four and wanted to extend for eight again. They said, "You can have two and renew

them." So, it's -- once you pick a system like this, if you think it's got sustainability, you don't want to have to keep renegotiating with your vendor, if you have a vendor that's willing to say, "Yeah, I can calculate inflation."

DR. KING:

Other experiences? Jim?

MR. SILRUM:

In North Dakota, we thought long and hard about sustainability and we wanted to make sure that our system that we bought for the entire State was going to be well taken care of for some time. And similar to you, Kathy, in your State, we have some of those restrictions. However, we were able to write into the contract, that the vendor then agreed to, that the -- even though the contract says so, the vendor cannot hold us obligated for those funds if the legislature does not appropriate them in the future. And that's how we've been able to work around that scenario. And we do it in all kinds of things. I mean, even in distributed e-mail systems that are used, you anticipate using those longer than just a year or two. But that's how we got around those. And, in our situation, we planned for seven years in the original contract, and we've had to work towards the renewal now.

But that's -- it goes back to what Chris was saying earlier. What is the lifecycle of these systems? You don't want to through contracts, or whatever, guarantee that it's going to be around longer than it's expected to be in use. But, as long as it is there, we want to have -- we want to make sure that there is warranty and

maintenance and that they're being looked at regularly. And we don't leave it to the counties to take care of -- the State pays for it.

DR. KING:

Thank you. Kathy, and then Wendy.

MS. SCHEELE:

I just wanted to add quickly that, like Jim, Vermont has transferred the maintenance over to the State, so that we don't have to worry about finding out, like Chris did, that some aren't maintaining it. And I think that's probably the lesson that's been learned in the last ten years, that we'll all take forward, is that the States that have HAVA funds remaining will probably be taking care of the maintenance and making sure the warranties are maintained.

DR. KING:

Okay, thank you. Wendy?

MS. NOREN:

As far as -- there's kind of two pieces; one, purchasing. I've been in contracts where I'm the sole county negotiating, doing an RFP for a bid. And then, the State negotiated contract that we could purchase off of, with the last round of equipment. And from my perspective, it was much better for us to have the State negotiate that. They had much larger buying power. It was much -- the vendors would be willing to do things on a statewide basis, they won't do for individual smaller jurisdictions. So, that was very much to our advantage.

I do want to make a caveat, say something, that Missouri has picked up and provided grants out of the HAVA funding, this year, for the local governments to pay their maintenance. So, I

think that is something, you know, if nothing else, many of the States should do that. At least, they need to be aware whether or not these local jurisdictions are paying for it, or doing it and develop some solution for them.

At break, I asked Chris if I could, you know, become his stepchild and go onto his maintenance agreement…

[Laughter]

MS. NOREN:

...because ours is, the purchase contract, the end of it is going to be towards the end of this year and I'm not sure my State is going to renegotiate that as a maintenance thing for us to work off of. So, I'm a little leery about that. I am meeting with them and was hoping to push them into doing something like that for us again, because it is so much better than each of us just getting something from our vendor and saying, "Here, sign this and pay that."

DR. KING:

Okay, thank you. Chris?

MR. THOMAS:

We've just written an RFP, which we've received our responses and our RFP's essentially turn into our contracts. The one area where we thought the prices were way out of whack were with the EMS. There was different pricing schemes that were used and when they reached the maturation point, and you're still paying that year in and year out, and there are no upgrades coming, while they may have -- the vendors may have figured that was their time to collect…

[Laughter]

MR. THOMAS:

…it is a time that we're paying for something that we're really not utilizing. So, we've set up a different model within this, and one portion of it is, given that, what we've been told is that the annual fees include R&D, or some portion of it, is that on each two-year cycle, they've got to indicate whether or not there's any R&D going on. In other words, is there an upgrade being worked on. And the initial indication for the systems we've got, right now, the answer is "no." And so, we expect to see a lower price as a result of that. So, I do think that you know we need to look at that. So, it's all we need. We need technical advice for users and upgrades, if they're having any. Beyond that, there's really not much more you need from the EMS itself.

DR. KING:

Before I ask the vendors, and the question that I want to pose to the vendors is, from your perspective, what advice would you give to jurisdictions on addressing sustainability in RFPs and in contracts? But, I want reinforce something that Kathy and Wendy have pointed out, and that is the advantage of managing contractual issues at the State level. In, certainly my State, many of the county attorneys are part-time attorneys, may or may not have procurement experience, may or may not have any IT experience. And one of the advantages of working with the Attorney General's Office or the State procurement is they're deeply experienced in the authoring of those contracts and can really add value to the process. So, I think that's a good point that

you make about the role of the State in negotiating the contracts regarding the maintenance.

If I can let come to the vendors, Andy, first you, and then Ken, and pose that question, if you were to give broad advice to a jurisdiction about the things that should be addressed in the RFP and in the contract for sustainability, what might those things be?

MR. RODGERS:

Well, first off, I can't claim to be really an expert in the contracts portion of our business. But I think we've talked an awful lot today about communication. And we have experts in the company on contracts and on the support that's needed. And I think that's -- having a really good conversation in the course of preparing an RFP, and then, all the way through the bidding process and contracting process is really an essential element. We talk about those things in detail. We'd be happy to, you know, discuss what our recognized field failure rates are, what our issues that other customers have seen, that sort of thing, to give data that could be used by another prospective customer for getting an agreement with us for the kind of support that they want.

DR. KING:

Okay, thank you. Ken?

MR. CARBUILLIDO:

I too am not involved in the contract process. I hear about it. I tried it once. They wouldn't let me do it again.

[Laughter]

MR. CARBUILLIDO:

But, I think I've seen -- we see such a range. On one hand, we inherited a contract where the company we bought, actually, signed up for a 20-year guarantee that things are going to be running forever. And we didn't even want to bid on that, to start with, knowing that anybody who tries to bid on that is not really being upfront. And so, I think one thing you got to watch, you may negotiate the best contract ever, the lowest prices, the guarantees, but if it's sounds too good to be true, it is too good to be true. Such companies don't -- can't survive. And they haven't. So -- but the -- I think the most traditional is some type of term with annual renewable, at your option, and that's very traditional.

I wonder if there's some new ideas where there are ways of which we can share efficiencies, that maybe, should be explored. State deals certainly are much more efficient, because we can, you know, do maintenance in some type of regional fashion, or have technicians go through the State on one trip, hit many, many jurisdictions. I think the -- there's efficiencies to gain. We see -- through our help desk, we know where -- it's the 80/20 rule. 20 percent of the counties are making 80 percent of the calls. And so, that's -- you know that's typically where there's turnover in those counties maybe. And so, maybe together we can find ways to look at such data and provide special training for such situations and then reduce our workload, run -- have those elections run better and overall be able to deliver at a lower cost a better service.

Ongoing -- you know we keep inventories. We keep track. We know, by serial number, which machines continue to have that maintenance, and so, we need to find those and get those out of

the field and replace those. And so, I think it's important to stay with a supplier who has the long track record of your maintenance, if you're not keeping that yourself by unit.

So, looking at the 80/20 rules, looking at the auto logs, as I mentioned earlier, we can collect those, we can see the outliers by serial number. So working with the 80/20 rules, work with people as well as systems, and I think we could find efficiencies. And maybe, if we can somehow share those concepts in these contracts we can reduce costs to you and we can all run better elections.

DR. KING:

Thank you, any other comments on contractual issues?

Okay, well, let's move onto the lessons learned. This is where I'm hoping that -- oh, I'm sorry? Kathy?

MS. SCHEELE:

I just think -- I wanted to mention that we do an annual, or every two-year, contract with our regional rep. And I think it's good to build into the contract. As you say, I think it's much more efficiently to do it at the State. It was done by locals, until 2004, in Vermont and it's worked out much better for the State, for the provider and for the voters to have it be coordinated through the State, especially in one that's dealing with towns and cities. But we build the training component in there, as well, so that that's never going to get missed. And that helps you with your 80/20 rule. I'm hoping, in Vermont, it's the seven percent rule; that it's just the people who have characterological or other issues that are making those repeated calls, but that other -- every one else is getting that training so that it really reduces the calls. And it's not that

expensive when you have somebody in the region. And that's why even when you're going directly, not through a regional rep, it's much more efficient to do it at the State level.

DR. KING:

Okay, thank you. The screen up behind me, now, gets to the portion of lessons learned, where we hope that we could, as a group, kind of pause and reflect back. We've certainly been through a lot in the past ten years of election administration, 11 years. And the only thing that could be worse than what we've been through is if we failed to learn from what we've experienced, and repeat those mistakes, or make mistakes that we should have anticipated.

The past 12 years of election have been a mixture. There's been some experiments that were very successful, some experiences that had mixed results. Many of these events received great public scrutiny and publicity, sometimes to the embarrassment of election officials, and to vendors. And what we'd like to do is kind of pause here before we look forward and let's look back, initially. And what are the salient things, that, from your perspective, wherever you administer the election, of if you're a vendor or testing lab, what are the takeaways that you would want to share with colleagues, people that are viewing the webcast, about what we have learned in the past 12 years about elections, before we pause to look forward.

And I think what I'd like to do is start here, what have voting system vendors learned? So, we'll start with them, and I'm going to

start with Ken, and then go to Andy. And then, we'll kind of work down through that list.

MR. CARBUILLIDO:

Well, what have we learned? That's a long -- I could take a couple days for that. I've learned that change -- when they say, change is hard, it's understated. And that the best practices are those which -- I know in States who do it wholesale, boy, if you could pilot, rollout a few counties at a time, that would be better. You got to give time for adopting. There have been some great case studies of changing out systems in 45 days, and we've been part of it, you know. We don't ever want to do that again. So, you know, trial, adoption, involvement is -- can make or break the use of those voting systems.

We've learned that the expectations, today, are much higher than they were 12 years ago. The tolerance for error is zero. Even the most highly tested of systems will have error and -- whether it's user error, system error, and we need to be able to recognize, perfection is never there. But also, continue to give us a way to make -- to get there quickly by adapting and changing and improving continuously.

Everyone has had to be more efficient. We certainly have. I think we certainly value partnerships with our customers. It's easy to say that, and everybody says that, but when I say partnerships, it's in the planning, understanding, communicating. And it's -- there is a vast difference between the customers who recognize that and those who are more adversarial. We don't need -- I think it all can make a big difference in getting to the good day and getting through

that day and living for another day. So, there's a big difference. It makes us all, I think, enjoy this industry a lot more when we can work together that way.

DR. KING:

Okay, thank you Ken. Andy?

MR. RODGERS:

Well, I think we've learned many things over the course of time. We've talked an awful lot about them today. A couple of things, just to highlight or reiterate.

This is a very difficult industry. I came from commercial electronics, and this wrestling with such a long lifecycle and the kinds of regulations that we have and the expectations of the products are very tough. That's going to be something that continues. And I think we need to recognize that as we design our products, as we work together and design our regulations and our, just, processes for the future.

Another issue is, things never really go as planned. On the subject of the contracts and not anticipating the longevity, I think, in large part, people did think ahead as much as they could. But I don't think anyone understood how the demands were going to change and how the -- especially the federal regulatory process was going to be completely changed, and what impacts those would have. So, I think, the bottom line of what we've learned is, we really need to all have the attitude of working well together and with the intent that problems are going to come up, unanticipated things are going to happen, and that we're all in this to make sure

that elections can be run accurately and efficiently and satisfy the needs of the voters.

DR. KING:

Thank you, Andy. I'd like to next go to the State and local election officials. And if I could, I'd like to start with Lowell, and then, we'll just kind of work around the ends of the table. Lowell?

MR. FINLEY:

If I look back at the last decade, I think the most important lesson we've learned about election administration and technology is that our elections needs to be recountable and auditable. And I think that that's something that is demanded by citizens, organizations, and rightly so, by political parties and by candidates. And I think the industry has moved in a responsive way to provide products that are better suited for that.

And I'd just like to mention, as an aside, the non-profit group FairVote just came out with a very comprehensive study of recount elections over the period from 2000 to 2009. And it was reported in the press as, essentially, saying that recounts almost never happen and when they do they almost never change anything. But sort of buried in there is the fact that, in that period of time, there were 18 statewide recounts and three of them changed the outcome. That's one in six. That's more than, you know, 16 percent. I think that's very important, and something we need to remember when we talk about these technologies, because those recounts would not have been possible with DRE systems, certainly with DRE systems that did not have some kind of voter verifiable paper audit trail.

I think I'll echo, you know, a comment that Ken made about trying to roll out systems rapidly. I think we've learned that that doesn't work, and the more changes you make at once, the more troubles you have. And I think that there was, you know, false confidence in some of these new technologies. And, again, I think it's particularly with DREs, that they were just going to come in and solve all the problems and make everything streamlined and easy. And that didn't prove to be the case.

I think we've learned that security is a lot more important in this arena than was recognized before, and the risks are lot higher than were initially recognized. And I think the steps that have been taken to address that have been significant and make it less likely that we suffer what could be a true catastrophe on a political level and a level of voter confidence, if there were a major attack on voting systems. I think it provides us a warning, too, about one of the things under consideration, which is, moving increasingly toward voting over the Internet.

And I guess the last thing I would emphasize is, the importance of usability in voting systems, designing them, not from the point of view of engineers or even people who are familiar with the use of computerized devices and keyboards and input devices and mice and everything else that we all love, but who go out and sort of humbly study the way real people of all different sorts interact with these technologies, both, to make the capture of voter intent more accurate, and also, to serve all voters with various disabilities, with the inevitable changes that come with age, new voters. And I think important lessons have been learned in that

area, as well. And I think some of those lessons were -- the information was available in the last round and was not taken advantage of.

DR. KING:

Okay, thank you Lowell. Linda?

MS. LINDBERG:

I think Lowell's last point is very important; information was available, but not taken advantage of, because I'm going to frame my response based on what I've experienced from my colleagues in Virginia. There were some people who were very prepared to change voting systems when we got the HAVA funds, there were others who were not, because they didn't have the information available to them, they didn't understand why they had to do this. That wasn't communicated to them properly. And then, they resented the fact that this lever system that we've been nursing around -- along for 50 years, we're going to have to replace with these new fangled computer things. And there was an attitude change. Ken mentioned the difference in attitude. And I think the localities, that I'm aware of, who embraced the change and moved forward in a positive way had a much more positive experience. Now, there were missteps along the way, clearly. As Andy mentioned, the process changed. We went into the process with one expectation, with an expectation that we'll be able to move forward, we work with our vendor, we've got feedback from our voters about how we can potentially improve things, and then the bottom fell out, because we bought DREs, and we're no longer able

to use the DREs, they're no longer being developed in the same way that we thought they would be, back in 2003.

But it's very important that the States, I think in this case, to the localities, and to some extent, the Federal Government, the EAC let -- provide the tools that the localities need in order to make a smooth transition if they're changing to a new voting system. And it's very, very important that we have local buy-in, because if we don't have buy-in at the local level from our staffs, from the State, from the vendors, we're not going to be able to project that to our poll workers and to our public. It's very important.

DR. KING:

Thank you, Linda. Tom -- or Chris, I'm sorry.

MR. THOMAS:

I will note Ken's comment about no statewide rollouts. I think that's definitely a learned lesson. So, phased in, is the way to do it.

We've reached the point where we think the best way to go is a single vendor statewide. We have done three vendors right now. They are not all created equally. They cause huge problems, some of them with statewide systems that we're trying to build to support all the counties, like Election Night reporting, even our statewide website. We have one of them that doesn't even have an import capability on their EMS. So, we've looked at it, and as an elections community in Michigan, we're all lot more knowledgeable now. In fact, I'd say we're getting close to be an even playing field with the manufacturers when it comes to contracts. Our contract in 03-04 was the first time we've been in that field. The locals were the ones that signed contracts before, and I'm sure they were all

form contracts. I doubt there was much by way of negotiation that ever went on.

Having said that, we did post everything on our website, so that as each county decided which system they wanted to purchase they could see that once we got past the warranties how much it would cost for both the tabulator and EMS warranty and maintenance. And a number of them did not read that very well, because they were quite shocked later on on some of the numbers. But again, that's kind of, again, raising the votes here. People are far more knowledgeable about the ins and outs of these systems than they ever were. And that's a very important piece.

One of our objectives was to -- we did purchase EMS for everybody, because we wanted counties to take on the role of being the election official and not vending out all of their work. We do have some concerns about all of the tabulation programming being done by vendors, and I'd say we're about halfway there, in terms of number of counties. The rest of them, given the size and what not, probably will continue vending out, even though there's considerable money to be saved.

The relationship with the vendor, we have found that is extremely important to get on a good personal relationship. Once a contract is cut, like I said, we found that the competition, in terms of affecting price, is all up front. Afterwards, when you have three vendors, it's nothing but a pain as you're trying to deal with three different organizations, three different sets of problems, in terms of what systems don't work and cure items to the contract, and then, again, integrating with State systems.

So, we've done a lot at the State level. We programmed all the AutoMarks for the State, by and large, so we know a lot more than certainly we did before. And then, finally, I'd say, and this is without looking at the new systems, because I haven't been in the marketplace, but the existing systems are -- have not really developed an acceptable disability voting system yet.

DR. KING:

Okay, I'd like to follow-up with a question, Chris. You mentioned single vendor preferred. Is that the same thing as a uniform voting system? In other words...

MR. THOMAS:

Yes, it is. Our law require uniform voting system statewide.

DR. KING:

Okay.

MR. THOMAS:

The previous Secretary interpreted that to mean type, and so, optical scan was the type. There's plenty of room in there to interpret that to mean no actual brand name, a particular one. Yeah, I think the uniformity is huge. And as I noted in earlier comments, where I don't think I was answering the right question…

[Laughter]

MR. THOMAS:

…the loyalty to the vendor staff does get in the way sometimes. And, you know, I appreciate that because they've earned that. I mean many of them have earned that through very good service, but it doesn't mean the system itself is good, or the best. I mean, it may be acceptable, but not the best one. And so, with ten, 15

years under our belt, working with three different systems I frankly think our community, and I don't just mean the State, the community, itself, will be in a position really to pick the best system out of what is available.

DR. KING:

Okay, thank you. Jim?

MR. SILRUM:

I think the thing that we've learned is that when the federal law says that voting systems must be replaced by a certain date, that doesn't necessarily hold true for everybody.

[Laughter]

MR. SILRUM:

Just to add a little bit of levity to it. Now, Lowell's point, earlier, was well taken, that perhaps we put the cart before the horse in this regard, that we all had to buy existing voting systems before the Voluntary Voting System Guidelines were truly available. And I believe that's still what's holding us up, today, is that not knowing what is going to be in that next iteration of the VVSG. That's holding us back from making any kind of informed decision about what is our future, regardless of what, you know, whatever was intended, I think that next iteration is holding us all up. And then, what's beyond that is knowing that the vendors have to develop accordingly to those. So, some of us are sitting here, saying, do we purchase a stopgap solution if we need to purchase something between now and when those systems that are responsive to the next iteration are available.

So, I think we have to learn from that. We need to stop making those -- stop making the mistake that we made the first time around.

DR. KING:

Okay, thank you Jim. Wendy?

MS. NOREN:

I don't want to say I told you so, but I do remember Alison McLaughlin, when she was at the National Association of Counties and I went around to the Congressional delegation in 2004 and 2005 begging for them to delay implementation until the VVSG was adopted and all the equipment had gone through there. That didn't happen.

So, I have learned the -- we've mentioned a couple of things. I think the biggest thing that I've learned is the usability of these systems is absolutely critical. The punch cards failed because of their usability. In fact, I used to use punch cards, got rid of them in '93. I still believe a perfectly voted punch card is probably the most accurate way to count a ballot. It's just getting a perfectly voted punch card was the problem, and so I moved away from it.

I have, you know, taking your time. The collection of information is also absolutely critical. When I say "usability," I mean not just to the voter, to the poll workers, the development of their materials, and testing how they respond to those materials, tracking how they respond to those materials, and adjusting it. And I have pushed that in the VVSG, the usability that, you know, those standards have to have a significant amount of usability guidelines and testing. And I know Jim Dixon has been a big supporter of

that, too, on the Board of Advisors. You know, when I watch poll workers and how they respond to things, and I think they -- I want to contrast what we've got on voting equipment. I went through doing electronic poll books, and I made a decision we would write that system in-house. And we started the design phase with poll workers sitting down with them, watching them, can they use a mouse, how do they look at screen, what size screen, all of these kinds of things. And the design -- we designed it around their abilities, rather than trying to train them to some design. And so, I think we really have to look at the workforce we're going to expect, when we get into the next design phase of these things. And I just don't think it's there. The current standards don't have a lot of that in it. The current testing doesn't have as much in it as I would like to see. So, when it gets down to my level, and I'm trying to implement this stuff, we're kind of starting all over and making workarounds for design problems.

So -- and then again, we've mentioned the importance of collecting that information. Every error, every mistake, every little checklist item that goes wrong, collecting that data, looking for patterns, and then, trying to figure out how you're going to adjust to those patterns. So, that's a been a big part of my education in the last ten years, which is about one-third of my career in this business.

DR. KING:

Thank you, Wendy. Kathy?

MS. SCHEELE:

Well, I'm going to use one of my tried and true phrases, since you got to use yours at the beginning, and that's, that most disappointments stems from unrealistic expectations. And I think -- I was fairly new coming into elections in '99, and didn't really have any reason to interact with other States until HAVA passed. And I can remember going to the first training meeting in December of '03 out in San Francisco, and, I mean, my eyes were like saucers. I was like listening to all these vendors and I'm like, "Are they even on the same planet with me? Do they think this would fit in a small, rural State?" And I was like in a state of shock. And I think there was -- I'll be the blunt one as usual -- there was an incredible amount of over promising, not just by the voting system vendors, but by the VR vendors, the EMS vendors. And they told Congress they could do things, that they had not yet figured out how to do. And those of us that kind of said, "Oh my God, I'm going to take a deep breath and ask my clerks if they like what they're using, and we're going to keep using whichever one they think is best," was our initial reaction, because we knew that the market couldn't go the way people were predicting it to go, but we couldn't tell what it was going to do, and so we just held fast.

But I do think the smartest thing we did, and I don't think it would work for California when you have jurisdictions that are, you know, four times bigger than Vermont, in one county, but I do think for the mid-sized and the small States, moving to State contracts and State administration and State maintenance is the way to go, because it lets you set up a mini State clearinghouse, and then, it's easier for us to then coordinate with the EAC.

And the last thing is, and I know I keep beating the band, but no matter what your equipment is, you got to have your people trained. We had an election in which the town clerk became -- had a family emergency and had to leave town. Two election officials took the tabulator, went to the polls, read the book back and forth to each other, ran the election, and at 8:30 they called me to say that they'd done the whole thing by themselves and weren't they proud of themselves and they didn't need to call anybody and they were fine. But that's because the level of detail was there allowed them to do that. I'm not recommending it, but it was very confirming to know that the details were there for them.

Back to Lowell, on your recountables and auditables, Vermont was one of those States where we had a statewide race, flip-flop the winner. It was in 2006. It was a down ballot race, so it was about 260,000 voters. And we were able to do the analysis without any famous data analysis. This was called me, with spreadsheets, but it was a pattern that just jumped out at you. We had 15 hand count towns who made mistakes between 10 and 40 votes. And these were all towns with under 900 voters. The tabulators, on the other hand, never more than plus or minus two, and mostly zero or one. The twos are explainable on Vermont, because we have a voter intense State that says we must count write-ins, even when the oval is not filled in, which is the opposite of what you have in California. And so, you're going to get some change, just because of write-ins.

So, I think it makes a great deal of sense to set realistic expectations, and to look at adaptations to some of the systems

that we have, rather than necessarily racing toward some new model. That's what our voters tell us they want. They -- our voters aren't interested in Internet voting, and some new model that hasn't been invented yet.

DR. KING:

Thank you, Kathy. Neal?

MR. KELLEY:

I've learned a lot of lessons over the last eight years, and I know since elections are like dog years I'm counting I have 56 years of experience so far.

[Laughter]

MR. KELLEY:

So I just want to go through a few of them. Certainly, as the next guidelines are developed, that the assumption needs to be made that there are going to be more elections, not fewer, and that the -- some States have set elections and they don't deviate from that. And then, you have States like Oregon and California, and I'm sure many others where they just grow exponentially. So, the systems I think need to be designed to that standard.

Kind of piggybacking on what Kathy is saying about training, training has evolved substantially. When the systems were first designed and introduced, poll workers were trained one way. Now, eight years later, we train them completely differently, much more hands-on process. And we're finding that the poll workers are learning at a much better pace, and also understand the systems much better than they did when it was strictly that classroom learning. So the hands-on training is very important.

Redundancy is critical. One of the things that I've learned is, obviously, because elections are time sensitive and there's demands on you for that, that you can't have systems go down. And I'm not just talking about Election Day, I'm talking about your vote-by-mail ballots and leading up into Election Day, that if you have a system go down, you have something else that can replace it. And so, that is one philosophy, I live by, is, redundancy in all of our systems. I think that's very important.

Setting expectations, I agree with you 100 percent, that's very important. And just as a quick example, in Orange County, we set up an election academy. It's an eight-week long, very intensive program, and we have run through many influence peddlers, for lack of a better word, through that program, and they get a chance to dive into elections, from the systems, to the ballots, to creating ballots, all the way through, and they come out of that mill a completely different person. And they have an understanding of elections, and suddenly now, they're an advocate for you when you may have issues or things that go wrong or don't go the right way.

Lowell hit it right, on the point on the security side. I think that is critical and very important. I think California -- and there's been a lot of debate, in this regard, in California, but the security of the systems and the requirements that are on us -- and by the way Linda, we have one system, in California, that can be used as DREs, and that's Hart, and so, we deploy DREs every election. There's a very extensive requirement to maintain security seals, to track those seals to -- on every port on all those systems. And I'm an advocate of that. I think that's very important. Some of my

colleagues, not so much. But, I really think that's important to provide that confidence to the electorate, that the systems are secure, and you're following the right procedures.

Finally, less reliance on vendors. And I don't mean that in a bad way. I mean that in a good way, so that we can continue to maintain these systems and make them long-term sustainable, because resources change at the vendors, and things happen, and I think we need to be much more self-sustaining than we are as an industry. And we continue to move down that path. I think Andy probably would agree with this, we're much less reliant on Hart, in fact, very little. We're much more self-sufficient than we were in the past. And those are all important lessons, I think.

DR. KING:

Good, thank you. Let's move on now to the test labs. And the test labs have certainly had a different role, pre-HAVA, than post-HAVA, and pre-2005 VVSG, and post-2005 VVSG. So if I could, I'd like to start with Traci. Give us some reflections on what your organization, or what your industry has learned in the past decade, about voting systems and elections that you'll be using to carry forward.

MS. MAPPS:

You know, if I can touch on first some of the comments over here just real quickly.

VOICE:

A little louder, please.

MS. MAPPS:

Sorry about that. You know, I've worked as a poll worker over the last couple of years in my State, and I've worked as a poll worker in a couple of different counties, and I think that it's good for me to go out and see what kind of issues they're experiencing in the field. And I can't say enough about the training that's provided to the poll workers. You know there's -- I don't know about all counties, but a lot of the counties in Colorado have older people working the polls, and who are maybe not quite a savvy with computer systems or with technology. And I think that all the training that you can provide them is helpful. In one of the last elections that I worked as a poll worker, I was called at the last minute to be the lead poll worker and they had no idea what my expertise was or my experience was with voting systems, and it surprised me that they had called me last minute and asked me to be a lead poll worker, you know, not knowing my expertise. And I don't think that it was something that anyone could have really handled, some of the expectations that they had of a lead person. But I learned at lot, you know, that I could bring back to the lab and see what kind of issues, you know, they were experiencing at the poll stations and, you know, inform my testers, my staff about that. And it was very beneficial.

As far as testing, I haven't had a whole lot of chance to think about it, you know, just being the first person asked, you know, to answer the question.

DR. KING:

Okay.

MS. MAPPS:

But I think that working with the EAC, we've learned a lot more about the testing that we provide, you know. I think that they've brought us some good, I don't know, just some different ways of looking at things. And I think that not having such a closed mind about the VVSG and the requirements has been good to kind of open up a little bit more and think about how those requirements should be tested. I think that's something that we've really looked at in our lab.

And then, also making sure that the testing that we do is repeatable, that it can be done by anyone who comes into the lab, you know, if they were to follow a specific test case.

DR. KING:

Okay, thank you. I'd like to go to Tom, and then to Frank.

MR. CADDY:

Well, I think from the Technical Reviewer perspective of looking at a lot of the results that come out of the test labs, out of the vendors, and so forth, we're continually learning a lot about the systems and the test techniques and the kinds of things that can help improve the program. And I'm definitely seeing a lot of improvement that I think a lot of you reflected in that you're seeing, as well, in the systems. So -- but without any real specifics, we also recognize that there's a lot of additional changes that we want to keep focusing on. And I think there's mention of the new versions of the VVSG, and certainly, those are -- every time we get a chance we're working on how we can improve, even just clarity, so that it's more helpful to both the end users as well as the vendors, as to

understand what's there, why it's there and be able to perform better.

DR. KING:

All right thank you, Tom. Frank?

MR. PADILLA:

Wyle is in a little different situation, being as our primary goal is a major test lab. We've been around for over 50 years doing conformance testing in all different industries. Voting came about in the 1990s when Wyle started working with NASED and everything else to start this. And it's changed drastically. I mean, from what we did when I went back and got there and looked at the records from the '90s to what we're doing today, you're right, it's night and day. There's nothing -- it's evolved. It's gotten better. It's gotten more efficient. The testing has grown, I mean, we -- from what we've done in the past. A lot of it's to the standards. A lot of it's to knowledge and expectations of the public.

Efficiencies, we roll in, how can we get better and how can we learn? How can we train our people? That's the big thing. I mean, how can we evolve a staff? I always tell people when I work on this is, this industry and this group of people sitting here, how long does it take to get somebody trained and knowledgeable on voting systems? I just can't go to a college like we can the other areas of Wyle and say, "I say a mechanical engineer that can come work for me and knows the VVSG and all the tests that are required." That person doesn't exist. If it does, one of you States have him already.

[Laughter]

MR. PADILLA:

Or -- so it's creative thinking of how to get these people, how to train these people, how to evolve that so we can learn. And I think over the years that I've been there I think the EAC has done a good job in that and I commend them in that, in helping us learn working on ways, doing roundtables, things like that to try to get the labs and the community together, so that we can all get on the same page and work together, because we didn't have that before really. I mean, it was a real loose -- when I came -- I was here in the NASED days, and it was looser then, how those things happened. Maybe it's quicker, maybe it wasn't.

[Laughter]

MR. PADILLA:

I'm not sure speed always is the best solution for quality. Voting systems, I agree with what was said, I've seen a major change in them. The manufacturers today, when I first started there was 15 manufacturers, I think, in the United States, doing voting systems. It was right at HAVA. It's been said, there's a lot less than that now. But the quality of the machines is a lot better, I can tell you that flat out. The quality is a thousand times better than what I saw in the 15s and the products and everything, because they're more ready to come to the table with a quality product. So it is a changing thing.

But I commend the -- we need things like this meeting where we all get together and we hear your ideas, as the labs, as the EAC and the EAC gets this together that we can keep making this process better.

DR. KING:

Okay, I'm going to call on Brian in just a moment to give the EAC's perspective, but I'd like to share my perspective as an election administrator on what I've learned since 2002.

And I think the most important takeaway that I've had is that although all elections are local, election issues are national and international. And much like the butterfly effect, when things happen in California to the same system that you're using in Georgia, it impacts Georgia, and vice versa. And so, I think one of the takeaways is that, even though we are unique, we're 55 jurisdictions that operate our elections autonomously, the reality is we're all linked together in a way, and what happens in one jurisdiction affects others.

The second is that failure to anticipate the importance of usability, accessibility and security in the early iterations of the voting systems, I think, not only, in fairness, were they overlooked in the earlier versions of the VSS, the standard that preceded the VVSG, but essentially, they were overlooked by election officials; that we were primarily concerned with the functionality of the system; would it collect votes, would it tabulate votes, would it report votes, and the way in which it did it, and the extent to which it was secure in doing it, were not in the fronts of our minds. And I think that's clearly been changed in the past years.

And then finally, as Chris pointed out, and really, I think Wendy, and Kathy also, that the uniformity of systems carries with it some intangibles that are extremely valuable. And one is, before you can implement meaningful changes in systems, you have to

have metrics. You have to know how your system is performing. And if your jurisdictions, and in Georgia we have 159 jurisdictions, we've got 159 jurisdictions doing things in 159 different ways, quality is not your -- it's not within your grasp, because you can never figure out how are we measuring what we are doing. So, I think the benefits of the uniform system, and it's not just in the economies of scale and in budget consideration, but it's in making those critical incremental improvements in the quality of systems that comes forward. So, those were my three takeaways.

And Brian, I'll now ask you, from the EAC's perspective, what have you all learned in the past, however many years, seven years that the…

MR. HANCOCK:

Something like that, yeah. Thanks, Merle.

I think the biggest thing that we've learned is the value of communication. I think, at the beginning of our program, we didn't do a great job in communicating, both, educating election officials, and others, what our program was about, getting the information out there and communicating with the vendors, the labs and others. And I think we've done a much better job of that and I think a lot of the strides we've made in the program are directly related to the fact that we're communicating better with all of the parties involved in our program. I think there are some areas where we can even do a better job and we'll certainly look forward to doing that. But I think if I had one area to pick on, it would be communication as the key to what we've been doing, as far as improvements are concerned.

There's other things that we've learned that I think we've all learned and we've heard them at the table today. You know to piggyback a little bit on what Kathy brought up, you know, never assume. Never assume anything. Never assume the legislators know what's best for you when they're writing legislation. Never assume that your budget is going to be the same from year to year. And never assume that today's realities are going to be tomorrow's realities. You can't assume anything in this business.

And finally, Neal had a good point in, you know, no matter what you're doing, you always have to have a back-up plan. The Navy SEALs, who we've heard a lot about recently have a saying, and their saying is, "One is none and two is one," right? So, if you only have one plan, you really don't have anything. You need a back-up plan in every situation to be successful. And so, those are the three major takeaways that I have.

DR. KING:

Okay, thank you. I have one more question before we move onto the summary.

And I'll tell you how I would like to do the summary, so it will give you a chance to start. And Jim, we're going to start with you in just a moment, and we're going to work our way around the table, so I want to give you advance warning. And, again, the purpose of the summary statements is for you to reflect back over the day's discussion and make sure that you take the opportunity to communicate those things that you think are really important, the things that you would like your colleagues here at the table to take away as your input and your priorities regarding the topic. And it's

a fairly broad topic that we talked about, which is the sustainability of voting systems.

Some of what we've already done today I think has addressed the issue that is now on the slide, preparing for the 2012 election cycle will be an all-consuming task for thousands of local voting jurisdictions. Redistricting is also an added benefit, as we prepare into this cycle. And, if we were to -- if we are to avoid large or small scale disasters which, of course, is all of our hopes, are there specific things that we should be focused on? And I think commonsense says, we can't make everything a priority, because then, there is no priority. But, if we were to identify the priorities for jurisdictions to look at, what are those things? Chris?

MR. THOMAS:

I don't think there's any voting system issue for 2012. Our systems are new enough. We have experience with them. I don't see that as a problem. The problem for 2012 is a people problem. I am humbled by the repeated comments I am receiving from my local election officials on the size of their staff cuts. And they will be going into an election next year, some of them, with half of their employees gone. And you can't just fill that in with temporary employees. You can plug the hole in the dike a little bit that way, but that is not the answer. So, you may see it manifest, that problem -- that problem manifest itself in voting system problems if the proper testing is not done, because the proper employees are not available to do that. But the systems, themselves, I think are sound, and have been used over the last several elections, but the

people problem and the budget issues, to me, are the profound problems facing us in 2012.

DR. KING:

Excellent point. Jim?

MR. SILRUM:

I would echo what you're saying there Chris, and also, in recognizing that in the last year we have had more local election officials decide it's time to hang it up, and more are coming. And so, going to Kathy's point that's been made so well today, whether we want it or not, training is a big issue for going forward. We need to make sure -- we cannot assume that those new people know how to pick up those machines and make sure that voting goes off without a hitch next year. We know, right now, that that is going to be a vast portion of our time over the next year, in preparing for 2012.

DR. KING:

Wendy?

MS. NOREN:

I think staffing is a huge issue, being from local government, having had to do actual layoffs. I've been one of the fortunate ones. I come from a very wealthy county. But, as the State cuts more of my county's budget and as the -- we lose access to other funding, it's going to make it more difficult for us to maintain the same level of staffing. And so, you know, I've tried to adjust it in other areas on that.

Not only do we have turnover in staff, in people giving up, but the turnover in the number of poll workers since we

implemented this voting equipment is amazing. They may work two elections, three elections and they're worn out. It's too stressful. It's too much, you know. And so, we pretty much -- so it has been a constant recruiting, retraining of all of these workers, you know. You know, in my first 20 years I had the same pool of people. I mean they died, but that's the only way you could get them out of being a poll worker.

[Laughter]

MS. NOREN:

That's not the case anymore. And so, it's -- that's a very difficult area. I'm fortunate. I have a lot of students. I hope I get as many of them as I did in 2008. But, I'm a little bit like Chris. Barring the loss of, you know, access to batteries that we need, or parts, you know, a sudden loss of those, you know, I think most of us can get through that. There are a lot of jurisdictions out there, I know, that are not doing the maintenance. And I think maybe we should recommend to States they find out, and assist them in getting through the next year with some kind of preventive maintenance. I know our State has done that. I'm pleased they've done it.

The belief that it is going to be a major problem in equipment, I don't think it will. I think most of us have the redundancies. We may have to fall back on some of those redundancies, but that is there. I wish we didn't -- you know, when we fall back on the redundancies, people make it look like a disaster. I think we're -- I'm kind of winding back around to the very start of this. The fact that we have redundancies built into the system, and we can move to plan "B" immediately, and transition,

when we do, that's an area where the public doesn't understand. We plan for these kinds of problems to come up and can adjust for it. So, you know, there will be a lot of movement to plan "B" here and there, I think, as we try and adjust to lower budgets, fewer poll workers, not as much experience anywhere up and down the pipeline.

DR. KING:

Okay, thank you. Linda?

MS. LINDBERG:

I think what we saw in 2008, and I believe a lot of my colleagues did around other parts of the country, is that the crunch was not on Election Day. The crunch was the people who voted, voters who voted prior to Election Day, be it by mail. And now, a lot more States, California and Oregon and Washington, have vote-by-mail, other States are moving in that direction, and early voting.

And as a result, I have to agree with my colleagues, it's not going to be an equipment issue in 2012. It's more going to be a voter confusion issue, because, we mentioned redistricting. Voters are now in new districts, new Congressional districts. Many localities have or will be changing polling places as a result of redistricting, because district lines changes, it may be easier to shift some voters to one polling place than the other, you may be reducing polling places. I know of one locality in Virginia that is planning to reduce the number of polling places, because they just don't have the money. They can't afford to buy additional equipment. So, I think those are the kinds of issues; the confusion on the part of the voter of not knowing where they need to go to

vote. "I've always voted at this school, but now you're telling me I have to move over here. Well, why is that? This one is closer to my home." Confusion about who's going to be on their ballot. And that's something that we as election officials need to -- we, as local election officials, need to mitigate and work with our media and work with the social media and other forms of communications locally, so our voters are as informed as they can possibly be. Of course, you can only feed them so much with that spoon. But we need to try to get that word out, so that the voters are as informed as they can possibly be on Election Day.

DR. KING:

Okay, well thank you. I think we're now within 30 minutes of the conclusion, and that's about how long it will take us to give folks an opportunity to summarize their thoughts. And I'd like to start with Jim, and then, we'll work our way down the table. If you would, give us your closing thoughts Jim, on today's roundtable.

MR. SILRUM:

Well, since we're talking about sustainability, I'll go back to saying what I said before. We have to make sure that the preventive maintenance is a top priority. And, we have to do that even in the midst of those, even sometimes from Congress, who are saying, "But that's not very innovative work. That's not very sexy kind of work, improvements to voting." Well, I think making sure that the system that you have in place works well is about is about as good as it gets. If you know that you can rely on that and your voters can rely on that, that's what we should be giving to them at the same time, as we're looking for, what are the new orders of the day.

DR. KING:

All right, thank you, Jim. Wendy?

MS. NOREN:

Well, first of all, I think we owe a debt of gratitude to Neal, who I think did the original resolution on the Board of Advisors to form a committee to look into this. And I think this grew out of discussions a lot of us had.

Looking at how long it takes to develop a plan to replace all of this that we've bought. You know, when Chris says, we don't know how long this stuff is going to last, I think most of us believe the plan to fund and design and implement the replacement for all of this is going to come sooner than this equipment can hold out, I think, based on the fact, in a midst of a crisis it took five, six years to get the money out the door and the equipment purchased. And that was without standards, testing, all of those kinds of things. So, if we start today pushing this effort, it's going to take a lot longer than five years to get good systems designed, tested, out there and implemented. And so, we're probably looking at seven to ten years.

So that means, you know, hopefully, I won't go through a fifth equipment implementation in my lifetime. But, I look towards the people in the future. I seen what we've been through. I know the money is not going to be any more there seven, ten years from now for local governments. We may have a little bit better budgets. Very few of the governments -- local governments in Missouri are going to have the kind of money, even in the best of economic times, to replace the equipment that was purchased with HAVA

funds in 2006. And so, I will keep harping on this, that at some point we need to start building this partnership and develop some kind of funding formula between States, the Federal Government, local governments, whether it's the county that's running the elections, or schools that utilize it for their elections, all of these things. We've got to come up with some kind of guidelines to build that pool of money, so we aren't sitting in a crisis eight, ten years from now.

DR. KING:

Okay, thank you Wendy. Kathy?

MS. SCHEELE:

Well, I guess, to summarize, I'd like to communicate a message to the vendors that I really feel strongly that doing a post-purchase support through a regional rep is very helpful to both the local users and the States. And I think you're going to see more States moving in that direction. And I think we all want to partner with you, because the move that we've been fortunate enough to have in New England has really worked since 1986. And that's a longer record than a lot of the vendors have.

The second thing, I guess, Brian, today has made me realize that I am going to have to break down and look at the VVSG.

[Laughter]

MS. SCHEELE:

I've been really trying not to do that, but it's becoming clear to me by watching the marketplace that even in six or eight years there may not be a product out there that I want if I don't start helping the vendors to develop it. And so, I need to know from the EAC,

should I get started on the 2005? Do I wait for the next iteration? You know, when can I start working with people? Because I'm convinced that most of the New England States are going to stay with op scan for, at least, the next 20 years. I made that prediction in 2002 and nobody believed me, but I really do believe that's what's going to happen. And I think if you do it with a regional model, you can get your company to be the right size to be able to relate with that. I mean, it's not going to help any of us if vendors go out of business. But on the other hand, I think if vendors keep trying to do stuff on a national support level that there's going to continue -- I'm going to continue to hear unhappy thoughts from some of my colleagues about their vendors. So, that's all.

DR. KING:

Okay, thank you Kathy. Neal?

MR. KELLEY:

Thank you. I want to take the opportunity to thank Commissioners Davidson and Bresso, and Director Wilkey for allowing this roundtable to take place. And I also want to thank both Brian and Matt from the EAC, for your work and your focus and efforts on this issue, because I know you have a lot of other things on your plate, but you're also looking at this as something that needs attention. So, I appreciate that.

MR. HANCOCK:

Absolutely.

MR. KELLEY:

I'm also thinking, Wendy, of your comment. Our Chairman is here in the room of the Board of Advisors, Mr. Dixon, and he and I were

just talking about this earlier, about this being on our agenda for the Board of Advisors in a few weeks, which, I think is also very good.

Chris, I do agree with you that 2012 will not be an issue. I think 2016 might, and perhaps, maybe not Election Day, but it's all of the things that will lead up to that to make sure that we have equipment that is functioning and that we can sustain that all the way through 2016. And this is easy to say, I know that, but I don't think funding should be an impediment to this process in what we're doing. Now, my electeds in Orange County would probably clobber me for saying that, but we have got to figure this out. And it's probably fair to say that there is no more money coming from Congress in the foreseeable future, right? And so, somehow we've got to figure how this is going to work and how we're going to keep these systems going and alive and funded.

I do want to end on -- go back to the airline analogy and the FAA. And I don't want to keep beating this drum, but I think there needs to be some anonymous form of reporting of system issues, because if you look at the FAA model, that pilots feel much more comfortable in reporting issues into that anonymous system, and that improves safety, that improves the system. And I think we need to see the same thing in elections to make sure that we can keep improving it.

And thanks again.

DR. KING:

Okay, thank you Neal. Ken?

MR. CARBUILLIDO:

I too would like to thank the Commissioners, Director Wilkey, Brian, all the EAC staff for putting this on. I've been to several of these and this has been very -- this has been actually very enjoyable. Merle, thank you for a great facilitation today. Your soft-spoken way has been very professional, we appreciate it, as always.

My only thought, then again, is, just that I hope this discussion does lead to some good things. And I did enjoy all of the perspectives and maybe made a few friends today.

[Laughter]

MR. CARBUILLIDO:

So glad to be here, thanks for letting me participate.

DR. KING:

Thank you, Ken. Frank?

MR. PADILLA:

I want to echo those comments. Thank you for the Commissioners, as we see it's important to them, too. They've all been sitting through these meetings like the rest of us, in the back. And Director Wilkey, Brian, Merle, awesome job as always.

The things I want to say as a lab is in working with the EAC through this is, you know, the goal of streamlining testing has always been our mission, in this working with them, is how we can make this process better. One of my bosses told me not long ago, "Price isn't everything, but price is everything." Our goal isn't as a lab the more testing we do, the more money we make, but the more testing we do the more people we'll put out of business because there's only so much money in this pot. I think that's -- we heard the analogy of the elephant of the room. Well, one of the analogies

I like to use in voting, there's 50 States, there's a limited -- that's the big business difference I see -- there's a limited customer base. There's no new customers out there. There's no difference.

[Laughter]

MR. PADILLA:

I mean, it's not like buying a new bicycle, there's another kid being born. I don't think we're getting any new States in the near time that I know or a volcano is happening that a lot of land mass is going to pop up…

[Laughter]

MR. PADILLA:

…that will be a State. So, it's a very limited marketplace and we have to be -- one of Wyle's commitments and we've been working with the EAC and the vendors is to turn systems around in testing in six to nine months. That's our goal. We don't think a system certification from the start of testing to the test report being completed should take more than six to nine months, and that is our final goal. It should help the States out and help you in your planning.

It's the same with the ECO process. We're really trying to work with the EAC and everybody else to turn those around to less than a week, a week or two. I mean, this shouldn't be a long, painful evolution. This should be really quick working education with the manufacturers, how to make this process even more streamlined that this a thing that once we get it we get it to the EAC and we get it to the States, everybody has got their data they need. And we're almost there. We've made extreme progress and people

can look at the stuff that's been posted on the EAC website education-wise and everything else, and the test reports that have come out recently, the timelines are shrinking greatly. But we need that feedback from the States. And I thank you all for giving us that feedback, but I highly encourage you and everybody else join the clearinghouse. I'm all for that idea. Maybe that's a great idea is let's do a, you know, a call-in number that people can call because the more info -- the hard part is clearing it, but Tom Caddy can do that, you know. He doesn't have enough to do.

[Laughter]

MR. PADILLA:

But you know -- and the other thing I look at and I heard today, and I agree with, as a lab, we need to get the next generation standard finalized. I'm all for that. We need a target for the manufacturers, for the States, for the labs to know, is it 2015, is it 2020, because that way you will know what it is. We can start planning, you can start planning, the technology can start planning. We don't know. So, I wouldn't know how to answer your question if you asked me, as a lab, to give you advice. I can't advise my Secretary in my State to that. Flip a coin, my guess not in the next couple years.

But once again, thank you. It was great.

DR. KING:

All right, thank you Frank. I'm going to skip Brian for now, come back, give him the last word, but Tom?

MR. CADDY:

Okay, thanks to everyone, all the panel members, it's been great. I've learned a lot. I really appreciate it.

In listening to it and reflecting on it, I think one of the things that I wanted to say that I've kind of learned in this process today is there was the reference to expectations. And I think that with my background in security, one of the paradigms was, if things got too complex, you could never determine if it was secure or not. Well, that goes across the board with a lot of things, including usability, training, maintainability. The more complex it gets, the more difficult it gets. And so, these expectations of having one system that does everything for everybody in the world just creates a very complex system that's hard to set up. It's easy to have user errors which, as was mentioned earlier, when these anomalies get chased down many times, they're not a system issue, they're a user issue somewhere along the line. And making things usable for the election officials, the voters, everybody, is a key part, I think, of being able to have the sustainability and be able to use them for a long time.

So, that's my thought.

DR. KING:

Thank you, Tom. Traci?

MS. MAPPS:

Today's been great learning from you, too. It's been great hearing everyone's perspective. You know, I'd like to comment on Frank's comment about costs of tests, you know, in trying to keep things – you know limit the costs of tests that's out there today. You know six to nine months I think that's a great goal and that's something that we'd like to strive for ourselves. But I have to say, you know, we need help from the vendors to do that. You know, if we've got a

system that comes in with a lot of issues, it's going to take us that much more time, you know.

I think the VVSG is an open book, it's available for everyone to take a look at, understand the requirements, test to those requirements before it even comes to a voting system test lab. And so, I'd like to encourage, you know, the vendors keep that in mind. The more testing you do upfront, by the time it gets to us, the less time we're going to spend on it, you know, and the more cost effective it is to everyone.

You know, I think that bettering the communications, hearing more about the issues that are found in the field is always beneficial to us and beneficial to you guys in the end. And so, you know, I like your idea, Neal, of having, you know, a tool that you guys can report anonymously, because the more we hear, the more we can implement and test and look for those, too.

You know, I think that we're just always looking for ways to improve our efficiencies. It's that ongoing process and it's something that we continue to do. And we're welcome -- you know, I'm open to hearing any ideas that anyone has there. So…

DR. KING:

Okay, thank you Traci. Andy?

MR. RODGERS:

I think my main takeaway, today, is a growing sense of personal optimism about the environment being prepared for more cooperation and a better future than we've seen in the past five years. Many of the issues that we've talked about today, in particular, communications, just having sessions like this we

discover little improvements that can make a big difference. I think the thing that I came here focused on is the need for us to have an environment to make small changes. And that's what supports sustainability, and we have started that in several ways. And I think that's bound to continue, because it has shown to be beneficial.

So, thank you very much.

DR. KING:

Okay, thank you Andy. Lowell?

MR. FINLEY:

Well, I'd like to echo others in thanking Commissioners Davidson and Bresso, and Director Wilkey, and all the -- Brian Hancock and all the other EAC staff people who put this together, but also, do a lot of hard and important work year round. And to thank you Mr. King for your excellent services in MCing this event. I've seen you do it a couple times now, and I'm just amazed at your skill.

The most practical idea that I heard today and maybe I suggested it…

[Laughter]

MR. FINLEY:

…was -- well, at least, Mr. Carbuillido echoed that it's actually happening out there, is, in terms of getting us through a couple of years is some kind of brokering system for sellers who don't have a need for some equipment that still works and buyers who do need it of some of these systems that are currently in the field. That's a lot easier than getting somebody to manufacture, you know, ten more pieces of some little diode that goes in the thing. So hopefully, that's just a small step that will help with this short-term problem.

The next thing that -- I share Andy Rodgers' optimism. I think we now have learned a lot. There's a lot more communication between all of the interested parties in this whole area. And I think we're at the threshold of an opportunity to really advance things in what I think of as a next round of in the voting systems arena. And I'm hoping that there's some way, some -- we should talk to a PR firm, but try to come up with the name of a federal Act that a couple of -- one Republican and one Democrat would want to put their names on, you know, like "Sarbanes-Oxley except for voting systems." And my first shot at it is "Voting System Innovation and Interim Maintenance Act of 2013."

[Laughter]

MR. FINLEY:

So, something where we sort of say, let's do something that's long planned -- long-term planning, so that we do it right, and in the meantime, let's fund adequately getting us through to that point.

Karl Marx once said that, "History repeats itself, first as tragedy, and later as farce." And I hope he is wrong about that. He turned out to be wrong about some other things, in terms of his predictions, so maybe this something where we can learn from that and avoid that outcome.

And finally, just on a lighter note, the point was brought up earlier about the comparison between a true voter intense State, and a State like California that used to be a true voter intense State, until our legislature saw fit to pass this one little carve out that says, if the little bubble or the little line, if the little arrow is not completed in the space next to the space where a voter has written

in the name of a qualified write-in candidate, then that vote shall not be counted. Anyone wants to look it up, doesn't believe it, it's California Elections Code Section 15342. And I would like to nominate that as the poster child for the American non-usability council…

[Laughter]

MR. FINLEY:

…because, you know, basically it's saying, if the voters don't understand it, then it's not user friendly, it's not intuitive, then tough luck, it's inconvenient for us, so we're not going to count it. And I think that's an example of the worst possible way to approach these things. And I hope we've learned from that.

DR. KING:

Thank you, Lowell. Linda?

MS. LINDBERG:

I, too, would like to thank the EAC Commissioners and the EAC staff and everybody responsible for putting on this event today and for having me participate in this event.

I think for a local election official the most important thing that we need is certainty in knowing -- or some degree of certainty, you're never going to have certainty -- but some measure of where we're going to be at different steps down the line. And I echo what some of the others have said in regards to speeding up the process improvements, letting us know that by "X" date we'll be developing and introducing systems to the 2005 standards, or the latest iteration standards. I know, in my locality, my IT people are forward thinking and, as most IT people are, they're looking to replace a

system as soon as you implement a system, whether it be a PC or an enterprise system or something like that. So, they come to me with voting equipment and I just have to throw up my hands and say, “I have no idea when we’re going to be able to replace the system.” So, it’s very frustrating for us because there are -- because we just don’t know where we’re going.

Secondly, and I want to echo Wendy’s comments on this, is, there needs to be a financial process whether it be at the State level or the local level, we need to be planning for replacement financially, so that there will be funds available at some point down the line when we are able to replace our systems. And that’s not always easy, particularly in this budget crisis era, because it’s these rainy day funds that are being borrowed from for operational funds at both the State and local level. But that’s something that we need to have because it’s not going to come without a cost.

I also want to echo Kathy’s comment that the vendors need to understand that there are people with different needs when it comes to voting systems. There are small localities, there are large localities, there are mid-sized localities. I go to some of our State vendor -- to some of our State meetings and see the vendors and they’re all rolling out their latest and greatest high-speed scanners. Well, that’s well and good except that, you know, I might use it maybe once every four years. Well, why should I pay $54,000 for a system that I’m going to use maybe once every four years? I’d love to have it, but. And that’s -- the market is relatively small. At least in my state it’s relatively small for that sort of technology. You need to look more at the people that are the medium sized and the

smaller sized localities when you're talking to localities. States is a different matter. If you're talking to a State, it may be a different approach. But that's something that I've noticed with vendors is there seems to be a focus towards the high volume, the latest and greatest. Well, we just want something that will count a couple hundred votes, in some cases.

Finally, I think the most important thing to note is that from a local perspective elections administration has changed dramatically in the past ten to 12 years. We find ourselves doing things that we didn't do back then. With the lever machines, you didn't have to worry about the controlled environment storage and security with cameras and logs, et cetera, the way we have to today. And that can't be overlooked. I think, to some extent, with the rush and pushing out the systems after HAVA, some of that was overlooked, particularly with some of the smaller localities. The EAC needs to be aware of that and States need to be aware of that, too, to work with the localities within the States to make sure that they have the tools that they need to be able to properly do their jobs.

Thank you.

DR. KING:

Thank you, Linda. Chris?

MR. THOMAS:

Okay, I too would like to thank the Commissioners and Brother Wilkey. This is a great example of what the EAC can do. Merle, thank you, excellent job. Brian, thank you very much. I do thank you Neal for putting this together, in terms of starting the ball

running back at the Board of Advisors. And Jim, thanks for your leadership there.

I think this is a great example of raising of all the boats that has resulted in an expertise nationally that is much higher than it was pre Florida, let me just put it that way, pre 2000. And there are those in Washington who haven't quite figured out the fact that the EAC has played a role in that. And I think that they should take a second look at that and not put this function into a highly divisive, partisan agency which the Federal Election Commission has become. Election administration doesn't belong in that environment. It belongs in the environment it's in right now, where we sit around the table really having no understanding of what one another's partisan affiliations are or are not. And I think that's critical that we continue there.

The Ford-Carter Commission or Carter-Ford Commission, depending on how you want to look at that, they really called upon a revolving fund to be set up in each of the States that would continue to collect interest and be used for innovations and maintaining the election system. And I think HAVA went part way towards that end, but not the full route. So you've got Congress now, "Well, why didn't you spend all of that money?" I happen to have money only because I had a statewide voter registration system built before HAVA. That's the only reason that I've got extra money. But I do collect interest on it and I am now able to assist local units with their maintenance.

What I come out of this with is really about five new projects, so I can hear my staff clicking their computers off now, that I plan

on taking back that will help work with vendors, keep track of voting systems, in terms of their maintenance and any anomalies.

We are all connected. As Jim said, you know, we sure don't want to be forced into a new system before we're ready to go there. And we can get forced, not just from our own problems and our own States, but as was indicated by somebody else, I'm forgetting right now, it can happen in some other jurisdiction, some other State, that would affect our particular system and push us more rapidly towards the need to upgrade.

So, I think this has been a grand example of really some expertise. So, my big challenge is to go back and attempt to really push this out to local election officials to let them know of really the good work that's going on here. Thank you.

DR. KING:

Thank you, Chris. Brian?

MR. HANCOCK:

Thanks Merle. I want to thank you all, the panelists. You're the ones that make these meetings successful. And we appreciate you taking the time out of your busy schedules to come here and share your expertise with us. So, thank you all very much. I'd certainly like to thank the Certification Division staff that helped set this up. Matt, James, Josh, Jessica, and Robyn, thank you. Thank Emily Jones, our meeting coordinator, and Communications Division for their work in this, as well. And last, but not least, Merle, again, a job well done, so, thank you so much.

You know, I think the importance of this is, you know, we've highlighted and we've brought forth some problems for

policymakers to think about. And whether money is forthcoming or not, you know, we're doing what we need to do to highlight the problem, so they can at least begin thinking about it, right? Effective elections is not -- is a bipartisan issue, right, and certainly election disasters are the most egalitarian of all, you know. They're not going to play sides. They're not going to play favorites. You know, so hopefully, we have some folks out there that are watching and will at least begin thinking about the importance of some continued funding to take these issues into the next generation without any disasters.

So, that's my take on it.

DR. KING:

Okay, well, thank you. And thank you all. And to those who joined us via the webcast, thank you for setting time aside to view this very important roundtable discussion on the sustainability of voting systems.

I think my takeaway, today, is two things. One, self-awareness is the beginning of change. And, as I heard people talk about -- and honestly talk about issues, lessons learned, we're in such a better position now than we were 12 years ago, in terms of understanding our craft, understanding the needs of our constituents, and understanding the constraints of the technology that we use.

And finally, as my president at my university used to say, "We are, all together, in this." And I think that's clearly a message that came out of this roundtable today.

So again, I thank you. I thank the EAC for hosting. And this roundtable is adjourned.

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[The EAC Voting System Lifecycle/Sustainability Roundtable adjourned at 5:00 p.m. E.D.T.]

bw/add