SECURE, ACCESSIBLE \& FAIR ELECTIONS COMMISSION STATE OF GEORGIA

The above-entitled SAFE Commission meeting was held before Mary K. McMahan, Certified Court Reporter, in and for the state of Georgia, commencing at 9:11 a.m. on August 30, 2018, in the Columbia County Exhibition Center, 212 Partnership Drive, Grovetown, Georgia 30813 .

Transcript Legend
(sic) - Exactly as said.
(phonetic) - Exact spelling unknown.
-- Break in speech continuity.
Indicates halting speech, unfinished sentence or omission of word(s) when reading.

Quoted material is typed as spoken.


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SECRETARY KEMP: We've about got everybody settled here. Let me just welcome you this morning to our second meeting of the SAFE Commission. I'll just note for the record that it's August 30, 2018 and $I$ want to certainly thank you all for being here this morning. It's great to see such good turnout and involvement in this as we work on this meeting for the Secure Accessible Fair Elections Commission here at the Columbia County Exhibition Center in Grovetown.

And just before we do the pledge and the invocation, I want to -- Co-chair Fleming is going to speak a little bit more in detail to this, but $I$ just want to thank all of those in the facility -- Ms. Wells and others -- for helping coordinate this. Certainly Representative Fleming, I know Chairman Cross is here this morning, several members of the commission, a lot of public safety folks who are making sure that we have a good, safe meeting today.

So thank you all for your hard work. Mr. Chairman, we appreciate that.

If you would all rise, we're going to do the
pledge to start us off this morning.
(Pledge of allegiance)
SECRETARY KEMP: And if you'll pause with me just a minute, I'll say the invocation.
(Invocation)
SECRETARY KEMP: All right, again thank you all. You can be seated. I certainly want to thank the commission members for their commitment to serving on this panel as we move forward.

Again thanks to all that helped us have the ability to be here in this great facility this morning. And I'm looking forward to another great meeting today as our work continues to progress. I also want to thank all of those local elected officials that are here. I know we have many members of the legislature. If you guys would please stand.

Just thank you guys for being here and for your involvement. We have local elected officials. Would you please stand.

Doug, you guys stand up against. Local elected officials.

And then how about our local election superintendents, registrars, board members, and other people that are involved at the local
election level. Any of you guys here if you'll please stand. Thank you so much for what you do every day and for all the others that are representing different constituencies and groups from around the state.

I think if you took anything away from our last meeting, we had a very inclusive group. We want to hear from everyone as we move through the process. I know that we have people here from the Georgia Municipal Association.

Larry, thank you for being here.
I'm fairly certain we have folks from the Association of County Commissioners of Georgia that are here. There's Todd in the back.

So thank you guys for being here and we will continue to move forward.

This session that we're going to have this morning will be composed of four panels on voting rights, election security, voting accessibility, and intergovernmental coordination to discuss the vital considerations in play as we move forward on the replacement of our voting system.

My co-chair Representative Fleming, we thank you again, Representative, for your dedication to co-chairing this and for all your work. He will
be moderating the voting rights panel.
Dr. Wenke Lee, the co-executive director of the Georgia Tech Institute for Information Security and Privacy will moderate our security -- election security panel.

Amy Howell, the assistant commissioner and general counsel for the Department of Behavioral Health and Developmental Disabilities will moderate the voting accessibility panel.

And then Nancy Boren who's the Muscogee County Director of Elections and Voter Registration will moderate the intergovernmental coordination panel.

You will see that we have a great lineup, truly impressive folks talking about important subject matters. And we appreciate all of you that have joined us for this today.

Now, our afternoon session has been well-noted. We're going to hear from the following vendors which is Clear Ballot, Unisyn Voting Solutions, Smartmatic, Election Systems \& Software, Hart InterCivic, and Dominion Voting. We certainly look forward to their presentations and appreciate you all making your way to the meeting this morning.

And now I'm going to turn it over to Representative Fleming and he will offer some guidelines and logistics on the rest of the meeting today. And thank you all again for being here.

REPRESENTATIVE FLEMING: Good morning. AUDIENCE: Good morning.

REPRESENTATIVE FLEMING: Thank you,
Mr. Secretary.
As Secretary Kemp mentioned, this beautiful facility was made available to us free of charge by my county commission.

And he also mentioned my chairman Brian Cross is here with a couple of his fellow commissioners: Trey Allen and our incoming chairman in January Doug Duncan. We certainly do appreciate all of the work that they did in helping us set this up today. It's invaluable to us.

My sheriff also, Clay Whittle, he has been invaluable in helping to set up all of the details for today's event. I want to publicly thank him as well.

Just some housekeeping measures. Commission members, thank y'all all for coming over. This
is our second meeting, as the secretary said. We've got a full lineup today. I'm going to ask you that when you speak today -- and there will be, of course, many opportunities for that -that the microphones that are on the table. When you see that green light on, that's a hot mic. So if you don't want it to be green, then you press it and it'll turn off and you won't see any light. So remember that, but if you bring it to you, make sure it's green so that we can hear you.

We will have four panels this morning. There will be portions of that where you as commission members will be allowed to ask questions, and we encourage you to do that, as well as vendors this afternoon. They're going to show us their wares.

I will mention also that at the conclusion of our meeting today, there will be a portion for public comment. We will be circulating during the day sign-up sheets. I see one moving around right over here so please feel free to sign up as we will take public comment, two minutes each person, towards the end of our session today. Of course, before we launch into each panel

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session today, we will provide a brief
introduction of those participants that are in
the panel process. Because there is a public
comment portion to our meeting today, I would
certainly welcome our public that is here, but I
would ask you if you would hold your comments
until that point. I think we have a good, civil
crowd here today, so that's not going to be a
problem.
    Just some other little housekeeping
measures, some of you may have noticed this when
you came in, but there are restroom facilities
right outside these two double doors. There is
another hall on the other side behind you there
with more restroom facilities in case these are
full.
So with that in mind, thank you for being here today. We're going to get right to it. I'm going to ask the first members of our panel if they would come forward in these chairs right in front of me. I will introduce you and we'll switch to that mic over there and then we can start.
I also think I failed to mention, but \(I\) want to make sure that \(I\) do, we have a court reporter
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here with us this morning who is taking down all of these proceedings. As you know, when two people talk at once, it's hard for you to understand. Can you imagine the court reporter trying to take down everything that's said? I've told y'all before that my dear wife is a court reporter and $I$ have been trained not to talk over somebody else -- at least $I$ think I've been trained -- when the court reporter is taking down what we've said. So if during the day, I mention that to you or remind you, I know that not everybody is not as used to being in a legal proceeding where everything is being taken down, but I'll certainly try and keep it straight so we have a good public record of all of the things that are said here today.

At this point, it is my pleasure to
introduce our panelists for our first group to speak this morning, and as mentioned to our members of the commission, as we work through this, if you have a burning question just raise your hand up there, and I'll try to recognize you. And of course, as we moved through toward the end, we'll also try to make sure there's time for any questions for you.

The purpose of this panel is to provide information to the commission from a diverse group of experts in the field of voting rights as to what we should be considering regarding voting rights' perspective as we formulate a recommendation for our next voting system here in Georgia. This will also allow our commission members to be formulating questions they want to ask the vendors this afternoon when we have our demonstrations.

The panel today, this morning, is not meant to be a survey of the entire landscape of voting right issues. That's a big area. However, it is meant to be focused on the issues that are relevant to the work of this commission, which are really the ones that take place from the time the voter shows up to vote to the time he or she casts their ballot. And we have a distinguished group of panelists to take us through some of those issues this morning.

I'll introduce each of you, allow you to say a few introductory remarks, and I will ask some follow-up questions with the idea of getting our panelists to engage one another, and then we'll allow the commission members also to ask
questions.
First, to my far left, your far right, Sean Young with the ACLU. Sean is the legal director of the ACLU in Georgia. He's been actively involved in litigating cases around the country, challenging voter discrimination, identification requirements, cutbacks to early voting and same-day registration, and other attempts to make it harder to vote.

Prior to joining the ACLU, he was a judicial law clerk in the US Court of Appeals for the Seventh Circuit, and the US District Court for the Southern District of New York. He also served as associate to Skadden, Arps, Slate, Meagher \& Flom LLP where he litigated a variety of pro-bono matters involving civil rights, fair housing, and racial justice issues.

He has published articles in the Yale Journal of Health Policy, Law and Ethics and the Florida Coastal Law Review. Sean is a graduate of Yale Law School and Duke University.

Sean, welcome, and tell us a little bit about what's on your mind.

MR. YOUNG: Sure.
Members of the state commission, thank you
so much for giving the ACLU of Georgia an opportunity to speak about the impact of voting systems on voting rights this morning. We're especially dedicated to ensuring that voters from vulnerable populations and historically disenfranchised communities, like communities of color, are able to participate in our democracy. The manner of voting, of course, can have a direct impact on that participation.

So for that reason the ACLU of Georgia would
love to make three concrete recommendations concerning any anticipated move to a paper ballot system.

The first is catching errors. Transitioning to a paper ballet system increases the rate of voter error. I would venture to say that's pretty understated. So there must be a system of automatically catching those errors before the ballot is cast. The most common error, as most of you've heard about in the last session, is overvoting, when a voter votes for more than one candidate in an office that can only have one candidate. The commission is well aware that this problem was rampant through the 2000 elections. One example of a system that can
catch such errors is one that requires voters to run their paper ballots through a scanner that will spit it back out if there are errors, which will then allow you to cast a fresh ballot. I was a poll worker in New York in a past life and that's the system they had. And it's unfortunate to say, but there were a number of folks that came back to me needing to cast such ballots. Partly that was because the New York ballot design was a nightmare, and $I$ hope Georgia doesn't repeat that. But we did see a fair number of errors. It's really important to have that safeguard.

The second recommendation is that transparency and open-source software. Now, I imagine this recommendation is not going to be very popular with our vendors, but election systems should not be a black box. That means that whatever system is adopted by the commission, any source code that's involved and any electronic counting procedure should be open-source and not proprietary. It shouldn't be a trade secret which means that the public should have the ability to inspect it.

Any kind of voting system, whether
electronic or paper-based, must be transparent in order to determine whether a procedure that seems to be facially neutral on its face may actually violate the Voting Rights Act or other laws by having a disserted act of vulnerable computer needs. And I don't think anyone in this room wants to wait until litigation in order for that black box to have to be opened. If it's opened up-front, that would resolve a lot of issues.

The last recommendation is increased access. To switch to a paper ballot system, we think you have to increase the number of check-in stations, of voting stations, and perhaps even polling places because there will be guaranteed longer lines at the polls when voters need to recast erroneous ballots and especially in the short term as coworkers and voters adjust to the new system. Longer lines almost invariably disproportionately impact lower-income communities because many do not have the flexible working schedules or childcare arrangements necessary to wait any longer than 30 minutes to cast a ballot.

And to that end, we strongly urge the state commission to also recommend increase -- or the


#### Abstract

existence of and increase state-level funding for the increased number of check-in stations and polling places that are necessary to accommodate this transition. This assures that voter access isn't left to the whims of a hundred and fifty-nine different counties, which would be terribly unfair to rural communities in particular who may be budget-strapped. And so in sum, the ACLU Georgia recommends that any transition to a paper balloting system, including a system for catching voter errors, increase number of voting stations or polling places and transparent and open-source software. Implementing these measures will help ensure that the most vulnerable and historically disenfranchised among us can fully participate in our democracy.


REPRESENTATIVE FLEMING: Thank you, Sean. Next on our panel, I have the pleasure of introducing Elizabeth McNamara of the League of Women Voters. Elizabeth is the immediate past president of the League of Women Voters. She joined the League of Women Voters in 1983 and has served in some leadership roles at the local, state, and national levels including president of
the League of Women Voters of DeKalb County, president of the League of Women Voters of Georgia, and from 2010 to 2016 was president of the national league. During her tenure as national president of the League of Women Voters, engaged in national campaigns to protect and empower the vote of every American eligible to vote.

Professionally, Elizabeth is an attorney in the state of Georgia. She received her bachelor's and juris doctorate degree from Emory University in Atlanta. She serves as a fellow -she served as a fellow prosecutor in DeKalb County, Georgia from 1986 to 2010.

Since 2004, Elizabeth has volunteered with the Georgia High School Mock Trial Program as an attorney coach at her local public high school.

Elizabeth, great to have you this morning. We appreciate you being here. We'd love to hear from you.

MS. MCNAMARA: Thank you. Well, thank you for including the League of Women Voters on this particular voting rights panel. For any of you who are not familiar with the league, the League of Women Voters was founded nearly 100 years ago
by the women who fought so hard for voting rights for women.

Since 1920, we've been defending our democracy by empowering voters so that everyone has the right, the desire, the knowledge, the confidence to participate. And of course the most important way, there is no more important way for Georgia citizens to participate than by voting.

The League of Women Voters has been actively engaged with elected officials and with election officials at every level of government to ensure that our election systems are free, fair, and accessible to every eligible voter. And we've done that throughout the country and throughout our history.

The league helped draft the Help America Vote Act in 2002. The League, I want to mention also, was actively involved in the passage of the National Voter Registration Act in the early 1990's and of course it supported the Voting Rights Act as well, particularly recently with all of the changes the courts have made to that particular piece of legislation. In 2002, we worked closely with civil rights coalitions in

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developing amendments and lobbying for key
positions.
    We continue to support the Election
Assistance Commission. We appreciate their
standard best practices and the fact that they're
sharing election administrators around the
country, which we think is extremely important.
    The League of Women Voters of Georgia was
actively involved when the current voting system
was designed and created. Our members work
closely with election officials in every election
and many of our members serve as poll workers.
So we are intimately familiar with the current
system in Georgia, how it works, and we have
supported that system since it was implemented
16 years ago.
    The league supports an election system that
is secure, accurate, recountable, accessible, and
transparent. For that reason, we support a
system that doesn't include voters verifying
paper ballots.
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    We support risk-limiting audits using
    statistical principles to certify election
results. We support a system that treats all
voters equally, providing for voters with
disabilities, and ensuring language accessibility and while ensuring the privacy of each voter's ballot. Protecting voting rights at the polls means protecting voter access and ensuring that every vote counts.

A voting system is about more than simply the device upon which we cast our ballots, and ensuring equal access and accurate results is about more than what voters experience at the polling location. The league is focused on the entire system and so it's not prepared to be too prescriptive as to what technology is employed in the new system so long as it is secure, accurate, recountable, accessible, and transparent.

Creating a system that significantly limits our options moving forward simply for the sake of creating a voter-verified paper ballot strikes us as dangerous and the Georgia league does not support such a move.

The league also supports a voting system that is uniform throughout the state and funded by the state. We see this as a matter of protecting voting rights by protecting voter access and ensuring accuracy. Uniform procedures, protocols, and trainings are critical
to protecting the vote.
So I want to thank you for this opportunity and look forward to the discussion this morning.

REPRESENTATIVE FLEMING: Thank you, Elizabeth. We appreciate that.

Our next panel member that I have the pleasure of introducing is Anne Lewis with the law firm of Strickland, Brockington, and Lewis. Anne is a partner of the Atlanta law firm I just mentioned. Her practice involves election-related litigation including redistricting, Voting Rights Act cases, election contests, and candidate qualifying challenges. She has served as counsel in elections to the Georgia general assembly and as a special attorney general for the state of Georgia in election litigation. She is the general counsel to the Georgia Republican Party, President of the Atlanta Lawyers Chapter of the Federalist Society, a member of the State Bar of Georgia's Indigent Defense Committee and Post-conviction Relief Committee.

She received her undergraduate degree from the University of Georgia -- go Dawgs -- and her law degree from Georgia State University where

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she was the managing editor of the Georgia State
Law Review.
    I always wish that I was smart enough to be
a lawyer, Anne, so it's good to sit next to you
up here anyway. But we appreciate you being with
us today and we'd love to hear from you.
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    MS. LEWIS: From here?
    REPRESENTATIVE FLEMING: Well, will that one
    stretch?
MS. LEWIS: Yes.
REPRESENTATIVE FLEMING: When you get
elected to office, they teach you to hog the mic
if possible and $I$ want to make sure $I$ can do
that. There we go. Thank you.

MS. LEWIS: Well, thank you for having me today. I want to say -- just a point of personal privilege at the beginning, $I$ want to thank my sister Mary who, for a variety of circumstances, had to serve as my chauffeur today. So thank you to Mary for being here and she's here to learn a lot about the voting system too.

As I look around at the commission, it's certainly a great group of people with a lot of knowledge. I'm looking at Lynn Bailey who for many years has been my go-to person about my very
weird questions about: Okay, what do you do about this? I think something came up about this about 20 years ago. And Lynn always says: Oh, yeah, yeah, you know what that was. That was a particular precinct.

So I appreciate all of the help I've gotten from you over the years. If you look at our backgrounds, you might think that we have a lot of differences, and maybe we do philosophically, but $I$ think with respect to lawyers who practice in a voting arena, we all are dedicated to one purpose which is that every eligible voter gets to vote and it's not hard to vote, it's not hard to get on the list to vote, and if you have a problem, it's not hard to figure out how to resolve the problem.

When we started talking about this panel, we were originally talking about voting rights and so all of you are familiar with the capital VR, Voting Rights Act which generally speaking involves Section 2, minority vote dilution, and for a long time involved Section 5, the preclearance provision. We're not really talking so much about that today.

I think with respect to the voting machines,
the instances of minority vote dilution, which is really the focus of the Voting Rights Act now does not come up as much as an issue related to districting, maybe particular voting laws, but I want to talk a little bit more about the small V and small R, Voting Rights.

Like I said, I think that any voting system that you consider has to consider from the beginning to the middle to the end. And what the overarching purpose is is to make sure that people get to vote and that their vote is cast correctly, and frankly that they are confident that that happens.

You may be surprised to hear a lawyer say: But the object here is collaboration. It's not litigation because litigation evolves from issues like: Did we think about this before we installed this voting machine or did we think about this before we changed this voting law? I mean, everybody's paying for it. You're paying on both sides of the ledger. Somebody has to pay the state and probably outside lawyers to defend the law. If the plaintiffs win, then plaintiffs get their attorneys' fees, and as the secretary of state is well aware, he's the lucky winner
being named as the defendant in every case and having to come up with the money to resolve litigation.

And so I think that what we want to see is a system that (a) is going to be a system that contemplates what is the registration mechanism. We have a great voter registration system in Georgia. We're not looking to change the voter registration system but you have to have the electronic polls books, which is garbage in, garbage out, right? We have to make sure that what goes in is actually who's supposed to be voting. And then when people come in, they need to show up on the list. If they don't show up on the list, they need to know what to do about that so that whether you pick to vote absentee, early, or at the polls, when you get there, it's not a problem for you to vote so long as you're eligible to vote.

I think that any voting system has to consider how do we troubleshoot on the spot. I know when we first installed the voting machines back in 2002 -- and some of you may remember this -- the biggest complaint on that election day was: I voted for Sonny Perdue and the
machine said I voted for Roy Barnes. Or I voted for Roy Barnes and the machine said I voted for Sonny Perdue. Well, there's no way to sort of go back and figure out what happened there. So a lot of it is training for voters to not leave the machine. Until there is a resolution, I think any system is going to have to contemplate what is it that we do with problems.

And then finally, at the end of the process, if there is a problem -- so a big problem is a recount on contests. A smaller problem is something that doesn't rise to that level but is going to have to be followed up on. What system is going to allow us to go back and find out -and along the lines of what Sean was talking about, what is it, how do we -- do we understand how the system works so that when you have to go back and find the evidence, do we know how to get that and are we confident that we're getting everything that we need?

I wanted to address real quick something that Sean said. I think that, yes, you do want to make sure that any system adequately "staffs," for a lack of a better word, the precinct. Well, we also have to live within our means. I mean,
we have to have a system that works, but it may not be the most expensive system that has the most bells and whistles. And I'm not trying to, you know, disparage anybody's system out there that might have every bell and whistle, but $I$ do think that that has to be a consideration when the state is thinking of spending so much money on something new. And I agree -- I think everybody agrees it's time for something new.

REPRESENTATIVE FLEMING: Thank you, Anne.
And I want to go ahead and mention -- or start us off by talking about -- I think Sean mentioned this and so did Anne. When we think about voting machines, our mind immediately goes to particular laypersons that don't deal with elections every day: How do $I$ touch that thing and how does it record my vote?

But there's something very important that happens before that. The voter shows up at the polls and they have to be allowed the privilege of going into it and touching that machine because that's where they're registered. And in my polling precinct, the ladies that sit there tell me whether or not I'm registered and in the right place.

So this -- you called it a poll --
MS. LEWIS: Poll book.
REPRESENTATIVE FLEMING: Poll book. Talk about that for a second and we'll pass the mic around, the part of the machinery, the system we're buying -- because you have to make sure when people arrive there, it's been set up well so that we can tell them that they're in the right place. Anne?

MS. LEWIS: So for those of you who have been, you know, working in or being voters for a long time, like me -- I mean, originally the books were kind of giant things that were delivered to the precincts probably the night before the election had happened, everyone that was eligible to vote -- or whoever was listed as a registered voter in that precinct and if there were any problems that were noted in some sort of room.

And now we have the -- as you will recognize, when you go in and vote, your driver's license is scanned in. And so the book is now electronic. But we were talking when we were talking about this panel about how do we -because $I$ think for so long we sort of thought
about, okay, well, that's one part of the system, then the voting machine's another part of the system, and the counting is another part of the system, and it really has to all work together.

So as Barry said, when you go in, you're eligible to vote there, your name does appear on the list -- and if it doesn't appear on the list, then how are we going to fix that quickly so that (a) your time doesn't run out before the day is over or (b) you just don't get so frustrated that you just leave.

REPRESENTATIVE FLEMING: Any other comments or any of the others want to respond to that issue? The poll book that would make sure that when they walk in to vote in the system, it says: We know you're in the right place.

MS. MCNAMARA: Yeah, absolutely. And, you know, I realize that the -- I think we all realize that the voter registration system is not necessarily within the commission's purview, but nevertheless it has to work with whatever system gets designed. And I think perhaps the focus that we keep talking about is the design of the voting machines.
Really I think everybody on the commission
understands that we're talking about redesigning a voting system and that that system has to include considerations on the voter registration system.

The league supports an online voter registration system. In this day and age, we're talking about eliminating human error. The best way to do that is to have the voter enter in their own data and eliminate transcription errors. We'd also have the ability to communicate with the secretary of state's office because when we were resolving problems out of those big books and we had to get on the phone and the frustrations with having to get through voters waiting absolutely has to be avoided.

So how you, you know -- securing that voter registration system which needs to remain online, it needs to be -- it needs to communicate with all polling systems, it has got to be part of the design of the system and understanding how that's going to work at polling locations.

REPRESENTATIVE FLEMING: Sean, if we get to the point -- and you commented on that and I want you to touch on this also. If one walks into the polling site and, for whatever reason, you're not
in the poll book and they can't tell you where else to go, we have something in Georgia we call a provisional ballot. And that means that you get to vote and then you can come back later and straighten it out for three days. Touch on that as well --

MR. YOUNG: Yeah.
REPRESENTATIVE FLEMING: -- and what the new
system might entail or keep the same about the provisional ballot.

MR. YOUNG: That's exactly where I was headed. Provisional ballots -- and they have some version of this in every state, the principal reason for the use is if your name doesn't appear in the poll book when you show up to vote.

As you think about what system you're going to design, I wanted you to have the provisional-ballot fear linger over your heads because no one likes them. They're confusing. They reduce voter confidence. Poll workers don't like dealing with them, election officials don't like dealing with them. They're confusing. They -- there's very little confidence that your vote is going to be counted because how the
registrar is to determine on the back end whether you're really a registered voter is, frankly, from experience, a kind of ad-hoc process. I may be wrong and $I$ don't mean to -- I haven't surveyed all hundred and fifty-nine counties and I'm not saying there's a better way because it is kind of an ad-hoc issue.

And so really making sure that people who register to vote actually show up on the polling book, accounting for potential discrepancies in, you know, someone putting drive instead of avenue or accounting for that small margin of error is so critically important because otherwise you result in provisional ballots, and $I$ know that Georgia has one of the fewest rates of provisional balloting in the country and it would be great to keep it that way.

REPRESENTATIVE FLEMING: So, Sean, this
whole idea of provisional ballots is kind of like a floatation device on the airplane seat that you hope you never have to use --

MR. YOUNG: Yeah.
REPRESENTATIVE FLEMING: -- but it's there for emergencies and if you ever have to use it, people have a hard time with it sometimes, but we
have to figure out how to work through that, right?

MR. YOUNG: Absolutely.
REPRESENTATIVE FLEMING: Let's talk about something that needs more time for people to work out a problem and it's becoming more popular in the state when you look at the numbers and that's early voting.

So right now -- and then, Anne, talk about this for a second -- when $I$ walk into the voting booth, I vote on a touchscreen. When $I$ walk in to early vote, $I$ think $I$ can do the same thing unless $I$ ask for an absentee ballot. Our new system is going to have to take into account both of those things: absentee ballots and early votes. What are your thoughts about that?

MS. LEWIS: Well -- and real quick before I answer that, $I$ want to say that $I$ am a proponent of provisional ballots because $I$ do think that you shouldn't -- the answer should not be that you don't get to vote. There should be some way -- and in Georgia, it is very transparent. You can see what was voted as a provisional ballot and what was counted.

Now, can you sit there with the election

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officials as they determine that? I guess you
could if you wanted to, but there are specific
instances we know why they will or will not
count. So I would not be for having fewer
provisional -- I agree with Sean. We don't have
a lot of provisional ballots, but I think that
safety measure is always needed.
    So back to your question about early voting
versus absentee voting. So, you know, when we
first started early voting, we had a constrained
period and we opened it up more. Then we found
out, hey, look, people are not coming. We are
having these for six weeks and they're not
showing up. And we haven't found that the
overall voter turnout has increased because of
the early voting. I think people who are going
to vote, they either decide they're going to go
to the polling place on election day or they're
going to early vote, but I don't think people
say: Oh, now I can early vote, I guess I'll vote
when I used to not vote.
    So in terms of deciding, which way do you
want to do it? So do you want to -- you decide:
I want to vote at home, I want to be able to look
on the computer and spend 25 hours researching
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all the candidates before I cast my ballot. Well then you want to mail in an absentee ballot, saying you can do that. You want to just make sure you vote and don't miss election day because work or something requires you to be out of town on that Tuesday, then you're going to go and -and I always get this wrong. I think the period, the one week before is called advance voting and maybe the two weeks before are called early voting, but in any event, you can vote on the machine for three weeks before the election. So that's just like being in the polling place or you can go to the polling place. I think a lot of people have found that: Oh, I'll just go to the polling place because there's nobody there.

REPRESENTATIVE FLEMING: And whatever kind of system we adopt, we would have to account for those two things. Well, really three things: The provisional vote, then we have now the early voting, and the absentee voting.

Sean, you may have touched on this earlier -- and I don't know, maybe it was Elizabeth -- you talked about Georgia has very low residual votes. And we're about to wrap this
up. I'm getting close to the end of our discussion, but you said, and I think that was very good, in residual votes. Explain that in a little more detail and tell us why the current system we have has been good at keeping that low.

MR. YOUNG: Residual votes, at least the way I understand them, are votes that don't end up being counted because there's an error. Usually, again, overvoting, someone voting for more than one candidate or just otherwise marking the ballot in a way that can't be logically correct. Georgia has had a low rate because of its electronic voting system, because the machine automatically will not let -- it just will not let you cast a ballot that is logically inconsistent.

REPRESENTATIVE FLEMING: In other words, if you try to vote for two people for the same office --

MR. YOUNG: Right.
REPRESENTATIVE FLEMING: -- it will revert
that to you and make you correct it before you finish.

MR. YOUNG: Exactly. And it's so important to keep it that way, and that was our first
recommendation, which if is there is a way, if you're moving to paper, to still do it by running it through some kind of scanning machine that can automatically catch that there's inconsistencies and then they can spoil the ballot and get a new one and do it again.

REPRESENTATIVE FLEMING: When you contrast that to some of the other systems, when you paper-ballot vote, you can actually mark two people for the same thing and spoil your vote, or if you have a punch system, you can punch two people for the same ballot. With our current system, you don't have that, correct?

MR. YOUNG: That's correct.
REPRESENTATIVE FLEMING: Elizabeth?
MS. MCNAMARA: Yeah. Georgia's rate of overvoting and undervoting is something to be very, very proud of. The machines have certainly made it a lot easier for us to accomplish that.

I do want to, however, point out that, you know, when we're talking about pen and paper, human-marked paper ballots, no matter how you set those machines, you know, you catch an error there at the polling location, nevertheless that
voter is now going to have to go through the process again and that, you know -- so convenience to the voter, there are obviously new -- technology has now caught up with the need to have a voter-verified paper ballot that doesn't necessarily require another human being to have to mark that. And human error has of course been one of the largest issues in any election system all the way along.

And so -- from the least point of view, just remember and, you know, just bear in mind that making it as -- you know, in making sure that the vote counts and that we do have as few provisional ballots as possible is the technology is there and it would be dangerous, $I$ think, in our opinion, to ignore that technology simply for the sake of making people feel better at the polls because they can touch that ballot and mark it themselves.

REPRESENTATIVE FLEMING: As we get ready to wrap this up, Anne, I'm going to go ahead and I'll let you comment on that. But I'm going to give each of you about a minute after Anne speaks. And we'll start with Sean to give us a closing while we get ready to move the next panel
in.
MS. LEWIS: I just wanted to make one comment about overvotes and undervotes. I think the biggest risk of an overvote is a paper ballot because the machine is not going to let you vote for two people for the same office. And while, yes, you could have a system where a voter scans in his or her paper ballot and it spits it back out and then you have to vote again, I would say I think people would lose patience with that.

But the overvote issue really is only an issue on the paper ballots. The undervote issue I would suggest is not an issue. You have the right to vote for governor but decide you don't want to vote for county commissioner -- no offense to any county commissioners, but you have just the right to do that.

An undervote doesn't really tell you anything. It tell you that there were more votes cast in this election than there were in the same election but for a different position. So I don't really think that undervote has anything to do with that particular issue.

REPRESENTATIVE FLEMING: We have one question.

Jimmy? I'll repeat it. Go ahead and say it because $I$ have a mic.

MR. MCDONALD: No, just when they're done, just to go over some things, I do have a question before we let them go and it might not be --

REPRESENTATIVE FLEMING: Well, ask it now.
MR. MCDONALD: Well, since we have the three here, it's not exactly in the scope of what we've been discussing, which has been very informative, but $I$ was wondering if you could speak a little bit to -- is there a legal standard regarding the language in which ballots are made available and is that something that is maybe not currently right, but can anticipate being right, and, if so, is that something that should be considered when we're looking at machines regarding the flexibility of the machine or anything happens with respect to being able to have access to a ballot that might be in a different language or something?

REPRESENTATIVE FLEMING: Here's how we're going to handle that question. Sean, I want the mic to go down to you and I'm going to let you answer that and also give us your closing comments as we move on to the next panel. Go
ahead.
Good question, Jimmy.
MR. YOUNG: It's a great question. Just briefly, there's a formula that the census is in charge of applying. If a county has -- and I'm shortening this. If a county has 5 percent of its population that's primarily non-English speaking and it's literacy rate is under a certain threshold, they are put in the category of counties that must provide ballots in that language.

Right now Gwinnett County is the only county in the state that has been certified as being required to provide Spanish-language ballots and all voting materials. We would also certainly contend actually that $U S$ citizens from Puerto Rico are also entitled to a Spanish-language ballot under a much lesser know provision of the Voting Rights Act, and so that's the brief answer to your question.

But $I$ know that counties that are anticipating reaching that threshold soon are already making preparations. Hall County has done a great job. They hired an elections director that has done Spanish-language ballots
before in anticipation of their county meeting the threshold.

So great question, great thing to keep in mind.

Just briefly, for my closing remarks I just want to say it's true that the -- Anne's right that the Voting Rights Act cases specifically involve voting dilution which is not an issue in this case. But there have been Voting Rights Act challenges to voting machines, $I$ think, in Ohio in particular when you have systems that have disparate impacts on lower income or communities of color, and then there's a link somehow to socioeconomic discrimination. That is a violation of the Voting Rights Act.

Georgia now -- the good thing about Georgia is that it has a uniform system throughout all counties which not all states do. And that's wonderful. I think everyone in this room, I would just guess, agrees that that's a great system. That already eliminates a lot of problems of disparate counting and whatnot. But that still is something to keep in mind as you pick a machine and pick some kind of system that you want to make sure it doesn't have a
discriminatory impact.
REPRESENTATIVE FLEMING: Thank you, Sean.

## Elizabeth?

MS. MCNAMARA: Well, again, thank you for having us. And thank you for considering the rights of voters. Obviously voting is about voters. From the beginning, the middle, and the end, it's about our ability to cast ballots. We do a good job here in Georgia under the current system. We need to replace that system and in doing that we take what is good about our system, it's uniformity, the resources. Of course all election systems use more resources.

If there was ever a silver bullet out there for creating a better election system, it's making sure it's properly resourced, but it also preserves early voting which may not increase overall voter turnout, but it's very popular with voters and does provide a huge convenience. That's going to be a consideration with all of those ballots as well, taking into account the folks that have disabilities where a pen-and-paper ballot would be problem, it could actually impair their secret vote. And the language accessibility issues that are coming up,


#### Abstract

all of which the technology is available as I understand it, to make that happen and preserve what's good about Georgia's system and move us forward in the ways that we need to move forward. Keeping the voter in mind is always the most important aspect of this.


REPRESENTATIVE FLEMING: Thank you.
Now, Anne?
MS. LEWIS: Well, thank you very much for having us. And I'm just going to go back through what $I$ talked about in the beginning. I think that any new voting system has to contemplate, I think, three parts of the system: Who's on the list, how does this person vote when he or she shows up at the polls, and what do we have to inform us if something goes wrong and there is a recount or a contest? What information do we have to inform us about what happened and what the results should be?

I think a lot of times people are surprised that in an election contest the result if you win is not that you win the election, you just get a new election. And so we don't want to have a system that gives us a new election because we still want to know what the problem is.

I think that it is correct that we have not had a capital VR voting-rights issue with our machines, and $I$ agree with sean that a lot of it is due to the fact that we have a systemwide "system," for lack of a better word, and I think it is --

REPRESENTATIVE FLEMING: Continuity.
MS. LEWIS: Continuity in the system, that's right. And so I'm not expecting there to be capital voting-rights issues related to the new machines. I mean, I think that, again, what we're looking for -- not for the legal business but good for the voting business, it's collaboration and not litigation because ultimately what we want is for people to have faith in the system.

Unfortunately, I get up on my soapbox a lot about the fact that we say: Oh, we had great turnout. We had 15 percent of the voters turn out. That's a terrible turnout. It may be great compared to last year when it was 12 percent, but it's not great. And so we want people to know: When I show up, I want to be welcomed, they're going to find my name on the list, I'm going to be able to vote, and I'm not going to hear two
days later that everybody in this particular precinct's vote didn't count.

And last but not least, $I$ just have to say, repeat, that we want the best system we can have, but we can't necessarily always afford everything that we want. So we have to decide what we have to have to avoid problems in litigation and what we can afford.

REPRESENTATIVE FLEMING: I want to thank our three panelists today for the fine job.

As we get ready for our next panel, I want to mention one housekeeping measure. I think all of you kind of know who you are, but I'm not sure everybody else does. Would you flip your name tag around so that everybody sitting up here can see who you are and they want to call on you and everything. If you forget your name, you can turn it back around and look at it for a second.

The closing thought that $I$ would have for you as we move to the next panel is what we call the poll book. You know, there's a lot to be said about the right to vote but one thing about the right to vote is that when I go vote, somebody else doesn't get to not count my vote or steal my vote or somebody who is not eligible to
vote, comes in and votes a different way from somebody that votes twice. So this idea that when we protect people's voting rights, we're also supposed to remember that means getting it right and not allowing votes not eligible to vote to come in there because it cancels out somebody's else vote who did the proper thing and registered and was the right place and didn't vote but once.

So that will conclude.
Amy, I think you're the moderator of the next panel; is that correct? No? Oh. I believe -- you are? Okay. I didn't mean to scare you there.

Will the next panel come on up.
And I just want to make sure you're on your toes, Amy. See, I knew all along you weren't and I just wanted to make sure you knew that.

And we'll move to our next panel.
SECRETARY KEMP: Mr. Chairman?
REPRESENTATIVE FLEMING: Yes, sir?
SECRETARY KEMP: I just wanted to say we'd like to thank our panelists for being here this morning.
(Applause)

DR. LEE: Good morning. Welcome to security voting panel. So my name is Wenke Lee. So let me briefly tell you how we're going to structure this panel. So we'll first go around with a very brief introduction and then we're going to go through the questions.

So the questions will be mostly in three parts. The first part is about what we think are the most important vulnerabilities to our voting and election system. And the second part is what can we do about it, in particular what are the roles of the private sectors, including companies and academia and systems groups. And the third part will be what do we think that the federal government can help us.

And I hope that we're going to have some time at the end for questions from the commission and the audience.

So let me start with myself. My name is Wenke Lee. I'm a professor of computer science at Georgia Tech. I'm also one of the two co-executive directors for our institute for Information Security and Privacy. I've been now at Georgia Tech since 2001. I teach information security annually to about 2,500 students. We do
have large online student body. And I've been doing cyber-security research for 25 years. I specialize in system software security. That means, you know, I go to malware and see the kind of intrusions and network. I look at activities on machines to see what damage has the malware done to your system and $I$ also have started a company with that malware, focusing on botnet detection and attribution, and the company was acquired by Core Security here in Georgia.

And it is obviously my pleasure and honor to be here. But the work here is in my own opinion only and $I$ rely on my training in the principle of cyber security for this work. I also (indiscernible) from my professional colleagues who work on voting system security.

So let's move on to the panelists. First up, Mike.

DR. GARCIA: Good morning. Thank you for having me. My name is Mike Garcia. I am here representing the Center for Internet Security, a nonprofit based in Albany, New York.

A little bit on my background. I'm a PhD economist by training but I've been working in cyber security for about a decade. I've served
in a number of positions, including senior cyber security strategist at the Department of Homeland Security. I led a trusted identities group through the National Institute of Standards and Technology as part of the Department of Commerce. So I've had a wide variety of cyber security initiatives that I've worked on over time and been mostly focused on election security over the course of the last year.

So the Center for Internet Security is home to both Multistate Information Sharing Analysis Center and the Elections Infrastructure Sharing -- Information Sharing Analysis Center. These entities focus like all CIS -- excuse me, on developing consensus-based best practices in cyber security and empowering organizations to implement those best practices.

Over the last year and a half, CIS has put additional emphasis on elections, including creating the EIISAC, the Elections Infrastructure Information Sharing Analysis Center, which for obvious reasons and time limitations $I$ will be acronyming, and now has more than 1,000 members. Those members entirely consist of state elections directors and localities elections directors.

I know you have a substantial number of them. The count was zero on March 6th and it is now well over 1,000. I'd also like to say Georgia, as a state, and several of its counties are members of that organization. I strongly encourage and recommend that all counties become members of the EIISAC.

At worst, you'll receive timely information on threats and mitigations. At best, we operate a $24 / 7$ security operation center. So should there ever be an incident, they have true cyber security experts at the ready at all times for it.

We are funded, in part, by the US Department of Homeland Security. Our sole mission in EIISAC is to support the elections community on cyber security and best practices and risk mediation. There is no cost for governments to receive these services and so there's very little to lose by signing up. It's a two-minute registration process.

I'll also highlight that the state of Georgia operates what we call an Albert sensor. It is similar to the Einstein sensors that are used in the federal government for cyber security
intrusion, detection, and prevention. It is an intrusion detection system that looks for known vulnerabilities and threat information, conducts an analysis of what we call "netflow data" which is basically anything crossing through a network. And we appreciate that partnership with Georgia. We're proud of it and we look forward to a continuing partnership on the cyber security conference.

In February of this year, the Center for Internet Security published a handbook called the Handbook for Elections Infrastructure Security. We worked very closely with many state and local elections directors and officials on this project as well as some national associations and the Department of Homeland Security and other federal agencies.

This handbook highlights 88 best practices that election officials should take to secure their networks from cyber security attack. This sounds like a lot of best practices, but let me tell you that cyber security is very detailed work and when you miss the detail, only one needs to be exploited for an adversary to take advantage of it. So it's indeed important that

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as much as we look at policy recommendations that
are offered in all a small number, five to six
policy recommendations that are critical and
should be followed, it is really important from a
cyber-security perspective to do the very
detailed work that comes along a broader set of
best practices.
    I strongly encourage you to use this
handbook in your deliberations. It's available
for download from our website. I am more than
happy to provide hard copies for free to
absolutely anyone in the elections infrastructure
in Georgia who would like to have it,
commissioners of course included.
    The best practices in this handbook are
prioritized. They include additional data points
such as estimated up-front costs of
implementation, ongoing maintenance costs which
could be very useful in making decisions in a
constrained resource environment. It can be
downloaded from our website, as I mentioned, and
we believe that it's a critical aspect of
security systems across the country and security
in democracy.
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    And I'll make the point we have now
    distributed over 5,000 of these across the country, solely to election officials. So it has some attraction. It is in some ways becoming the standard benchmark for election security from a cyber-security perspective.

We believe that there is no right way to execute on elections. There are many factors involved. Even from a cyber-security perspective, there is no single way, but there are many wrong ways and avoiding those wrong ways is important. The key is to assess the risks, to prioritize those risks, and to mediate those risks. You can do things right by taking a number of different approaches. It is important that you do that work in assessing risk regularly and mitigating those risks completely.

And even when you eliminate them after you prioritize the risk, you cannot eliminate all risks. That's simply not the business that we're in. It just doesn't work like that. That said, we can be smart about it. And if we're smart about it, we can do a pretty darn good job then. And so that really needs to be the focus: Identifying what are the priority risks that need to be mediated and putting those resources
towards mediating those risks.
Let me say unequivocably that the threats against our elections and democracy as a whole are absolutely, positively real. And in this business, exposure of weaknesses tends to only bring along additional attackers.

The first question we have to ask ourselves is about the motivation of potential attackers. Perhaps it's a chain focus. Perhaps it is simply to undermine democracy more broadly. In some cases, it's solely for self-branding and the matter of proving that it can be done. From this perspective -- and we have to consider all of these potential motivations -- confidence and security is as important as the security itself. This underscores the importance of transparency and communication of your approach as well as developing and exercising incident response plans.

I strongly encourage you to consider the fact that elections are not static, and so they're not solely about choosing a correct approach to executing on elections but considering the operational aspects of those efforts and ongoing work. This includes a role
for exercising response plans, for expecting that something will go wrong, and for expecting the need that the threat will evolve as it always does and always has.

In general, we find that aspects of elections' infrastructure that have a network connection are the riskiest from a cyber-security perspective. This especially includes voter registration and election-night reporting but can include things like the poll books, election management systems, in some cases tabulation as well, and in some cases, depending on the configuration of them, voting machines.

It should come as no surprise, but please do not underestimate the importance of this point. Focusing solely on one aspect of elections is a trap. I can assure you that our adversaries are not doing so. They seek weaknesses wherever easiest and cheapest to exploit. When we analyze our security risks, we must do so focused on the whole of the ecosystem from the first steps of voter registration and the filing through the last certification results.

I encourage the commission to consider the broad range of systems that are involved in
elections and to strengthen security within each of those components. It most certainly is easier to think conceptually at the system level, replacing poll books, replacing voting machines, et cetera, but this is not how those who wish to undermine democracy think about it, so it is incumbent upon us to not think about it in that manner, all right?

Thank you.
DR. LEE: Okay, thank you. So I just remind the panelists that we're going to do at first very brief introductions. Then we'll go to the questions and have plenty of time for the questions, okay?

So next we have Mark Lindeman from Verified.
MR. LINDEMAN: Good morning. My name is Mark Lindeman, and I'm a senior science and technology policy officer at Verified Voting. We're a national organization, not a chapter organization by the way. We're nonprofit, nonpartisan, founded by computer scientists and razor-focused on the challenge of securing American democracy in the digital age.

A little bit about me. I have a PhD in political science. My fields of expertise are

American politics, public policy, quantitative analysis, political behavior, and I happen to be an expert on design of risk-limiting audits. It was nice to hear the League of Women Voters give a shout-out, but I'm not going to talk about those here. It's just too much. It'll be important. That will be an ongoing discussion $I$ certainly hope for Georgia.

As Mike just said, elections have many parts and perhaps the greatest threat would be to suppose that we could find a silver-bullet solution that would solve the problem of election security once and for all.

Election security is like national defense. I suppose it's a form of national defense. It requires ongoing attention, collaboration, and investment on many different fronts.

So I'm very honored to be part of this ongoing discussion. It's a terrific testimony to the work that Georgia is doing.

Now, verified voters, I think these particular comments, $I$ will indeed focus on voting systems very briefly. I'll be as short as I possibly can. Verified Voting does not recommend particular vendors or systems, but we
do have some central criteria, and this comes back to two related core principles: verification and resilience. So last week, Homeland Security Secretary Kirstjen Nielsen stated this nicely. She called on election officials to make certain that by the 2020 presidential election, every American votes a verifiable and auditable ballot. She said our systems must be resilient. We must be able to demonstrate that the votes count and that they are counted correctly. And that's what we've been saying since we were founded.

So it's a very exciting and also in some ways a terrifying time for verified voting as it is for many throughout the country. But in order to verify that votes have been counted correctly, in our analysis, our voting systems must use paper ballots that all voters have had the opportunity to verify. And we must routinely check the marks on some of those ballots.

So that routine check is what's called post-selection tabulation audit. And I want you to know, don't be terrified of the votes, they can be done very efficiently and in a variety of ways that are adaptable to the voting systems we use.

However, that said, it's important the audit officials must examine voter marks on the actual ballots, not just barcodes or digital images that voters didn't have the chance to verify. Because what we're trying to do, again, is demonstrate the votes are counted correctly. Auditors have to be looking at what voters could look at or otherwise verify through other means.

So ideally and usually, the audit confirms that the original count was highly accurate. That's how most audits turn out. There's at least one counter example that comes to mind where a routine audit actually led to a recount that changed the results in several local elections. So that's something that happens. Paper ballots, where maybe it will happen more, maybe it will happen less, but either way, paper ballots provide resilience. If there are any lingering questions about the accuracy of the count of paper ballots, remove the doubt because they're available for recounts. I also wanted to point to another way that paper ballots provide resilience. Under consideration for the state of Georgia is to have all in-person voters use ballot-marking devices.

Either it could apply just to election-day voters or could apply to both election day and early voters. So verified voting has real concerns about this approach and $I$ wanted to explain why. In a system that relies on ballot-marking devices, the number of voters who can mark their ballots depends on the number of machines that are available. So when machines fail or even get turnout that's higher than expected, chaos can ensue.

And you've probably heard the stories from around the country before. In fact, in Johnson County, Kansas, which deployed a system that relied entirely on ballot-marking devices, they just had the primary and they experienced long lines for reasons they still don't entirely understand, they're not sure about, but it had to do with a flaw in the underlying software they were using. So it's inherently fragile, and indeed that fragility provides an attractive target for determined adversaries.

So the advantage of a system in which most voters are able to use hand-marked paper ballots is that the number of voters who can mark their ballot at once is limited only by the number of
available tables and privacy booths and those rarely ever fail. So in some sense
ballot-marking devices are still a crucial part of the system because they provide accessibility which is a core principle of the commission and should be a core principle of everyone.

But the worst that there -- they're a less appealing target because if the ballot-marking device fails and if it's scanner fails, most voters still are able to mark their ballots by hand and deposit them in the secure ballot boxes underneath the standers. So we see that as a very valuable property that we should probably not abandon.

I heard concern in the first panel about overvotes and also some discussion of undervotes. I want you to note that, okay, it's true that ballot-marking devices can make overvotes impossible, and I agree that that's an advantage. Experience has shown that ballot design, the way that a paper ballot is laid out and instructions that are given, can have a very large effect on the amount of overvotes that are cast in the first place. So we can really help voters to avoid mismarking their ballots and then it is
important, just as I said before, to have a standard to reject those ballots so that the voter has a chance to correct them. But that ends up being a very, very small fraction of all ballots.

Something you do have to worry about is inadvertent undervotes. It's absolutely true that some people choose not to vote in a contest, perhaps many contests, because they just didn't want to. That's not a problem. We wouldn't want to automatically reject such ballots.

However, there have been elections in which voters on particular systems in particular counties somewhat mysteriously undervoted at double-digit rates that were not true of voters on other systems or in other counties. No one is quite sure why this is. We believe it probably has something to do with the way that the digital ballot was displayed on the screen.

Paper ballots can also be designed so that -- can either be designed well or poorly so that people do or do not see contests. One of the scary things about ballot-marking devices potentially is in the presence of cyber attack we may not be able to determine after the fact
whether the contest was even displayed, whether it was even presented or not. The ability to check the selections on the ballot that's produced may address that problem, but that's how well voters are able to use that. It's using an untested hypothesis whereas over half of the registered votes are using a system in which --in-person voters, $I$ should specify, are using a system in which most people are voting successfully on hand-marked paper ballots. So don't overlook those advantages. Thank you.

DR. LEE: Okay. So in the interest of time, I'm just going to move on. So as I ask the panelists remaining to introduce themselves, I'm also going to ask a question that $I$ think it will be best for you to answer.

So sitting next to me is Klint Walker. He's from the Department of Homeland Security. So I want him to introduce himself. I'll also ask him a question about what is in the role of federal agencies to help the states secure the election and working systems.

MR. WALKER: Thank you. My name is Klint Walker and I'm the cyber security advisor for Region 4 for the Department of Homeland Security.

That means that $I$ cover North Carolina, South Carolina, Florida, Georgia, Mississippi, Alabama, Kentucky, and Tennessee. Just a small area.

So I'm -- I always like to use the term that I'm from the federal government and I'm here to help, so ... it's a good icebreaker. Because elections security is a national security issue, our role, as we see it, is to add support. You know, just like FEMA does in the event of an emergency, you know, the Department of Homeland Security is not going to take over. We are not here, you know, to do things without permission. We're here to support. And we are here to support with information sharing, we're here to support with technical assistance and maturing partnerships, getting the right people in touch with the right services that they need. That is our role and that is what we're here to perform.

DR. LEE: Great. Thank you.
And we have Senator Bruce Thompson. And then the question $I$ want to ask you is that what do you think about the roles of private sectors in helping in the interest of security. That would include a private security company's
consultants.
SENATOR THOMPSON: Thank you. What an honor it is to be able to be here and be a part of this, so thank you, secretary of state.

My name is Bruce Thompson. I serve in the senate and I'm the chair of science and technology. I have a background in PII and software as well. Anyone that's been around knows my passion for cyber security and quasi-elections over the last three years.

Your question as well, that's what it says, what do you think with the private sector involvement. I think we have to engage the private sector. As a private sector businessperson, that's where a lot of this expertise comes from.

You can't just rely on the government. The government's not here. Although they may be here to help, they're not going to solve the problem that's brought in. The private sector is full of experts and professionals that are the front lines day in and day out.

The challenge $I$ think we have is being allowed -- safe and sound is when we have corporations that can collaborate the innovation
and experience they have without creating vulnerability to their stockholders or those that have equity within those institutions. And I think that's the challenge we have set before us. How do you provide that mechanism in place where the MBA and so on would be able to not effectively harm their corporations but collaborate together for the best election process and/or security for the people of the state of Georgia.

DR. LEE: Great. Thank you. And last but not least Representative Ed Setzler, and the question $I$ want to ask you is related to the previous question that I asked Senator Thompson which is a lot of operations now, they use plan to encourage -- including why hackers (indiscernible) many of the systems, and on the other hand you also have the desire to -- from a citizen's group that, you know, they demand to know about the abilities of our working systems. On the flip side of that is, you know, that may develop -- let's say overconfidence. Also there's concerns about all the vendors and government agencies to keep certain operations and the details out of the purview of the public.

So how do you reconcile those conflicts?
REPRESENTATIVE SETZLER: Thank you for the question.

I want to say once again thank you for the invitation to be here to the secretary and the co-chairman.

And I think to frame this question, I'd like to start by saying that the key for us is to fund the right technology for the right task. When we talk about technology, everyone, I think, today is biased with what is emerging leading-edge technology used to solve our problems.

If $I$ can remind us, if you think back to the first century A.D., there was a cutting-edge technology that was developed -- developed in China. Didn't make its way to the western world until about the 12 th or 13 th century, and it's called pulp paper. And paper is something that we've been able to use for about 800 years. It's something that's very good for recording a vote and recounting it. You know, the idea that if it's not leading-edge technology, it's not really technology, but all of the things we use, that we're talking about in voting context is technology.

The question is what is the right interplay between an array of technologies to solve the various problems and challenges we have in a fair, open, and secure election system. And as we do that, $I$ just want to remind us, you know, the gist is that this paper technology is recountable. There's also vectors of threat with which it can be fraudulently used. And then we hear the stories of the 1948 election for the United States Senate where Ballot Box 13 was -came in with 201 votes for one candidate and 3 votes for the other candidate in a race statewide in Texas that was decided by a total statewide differential 87 votes, and the rest is history as it were.

So whereas the technology is tremendously useful in a recounting setting, it by itself, when left into itself, has its own vulnerabilities.

Likewise, if you look at more modern technology, an electronic voting system is very easy to use. They're really -- they're a breakthrough for us in terms of ADA and handicap accessibility. They allow us to rapidly tabulate. They also allows us to rapidly recount
votes. And it takes quite a high level of sophistication to defraud and fraudulently inject votes into -- for elections, but we also know that no machine is unbeatable and is accurate.

So how do we -- I think as we face this challenge, we have to ask ourselves what is the proper complementary use of the various technologies we have, from paper to electronic technologies to taking care of ADA accessibilities, taking care of ease of voting, rapid recounting, but also the verifiability of a recounting component that we think paper provides for us. How do we fold those together in a complementary system that is really best in class, that we know we've got a recountable voting system?

I think this discussion sort of leads us to see that we have the best-in-class technology if we not just put our election system on the Internet because it invites hacking. And we have a process again that's a complementary process that insures we're doing our best to secure the vote.

I think those are the challenges we face in technology. Let's not be stuck in 2018 thinking
if it wasn't invented in the last ten years, it's
not really technology and it's not relevant to
this discussion.

Thank you very much. Yes.
To the professor's question, I want to make sure I'm drawing the fine point to your question. What component of that would you like me to speak to directly? I'm not sure I really understood your question --

DR. LEE: So I think one question you can answer is the tension between citizens' right to know. So basically $I$ think one security principle is that you should not secure your system through obscurity. You know, you should let, you know, people look at system and there's advocacy for open design, open source so people can actually look at the (indiscernible) because (indiscernible). So by many people looking at the system, giving the system a chance, that we can help everybody.

But on the flip side, you know, vendors, including some of the secret government agency operations, they want maybe, you know, to keep it away from enemy hands. So there's always this tension, so $I$ just wanted to see what's your
opinion on this.
REPRESENTATIVE SETZLER: I would tell you it's to face the tension between the open source and closed source system. You know, if we're in a circumstance where votes were all publicly cast and publicly known and the content of it was known, it would be easy to move to decide if complete open source, complete transparency to all parts of it as it were.

I think part of what we face in this is this mandate to maintain confidentiality of the ballot, that Senator Bruce Thompson when he goes down to his polling place in Bartow County, that vote, although your vote is considered public, your vote as a private citizen at the ballot box is private.

So the idea that everything can be made open, and -- of course, that'll never be part of our system. The idea to preserve the confidentiality of the individual's ballot presents some challenges to being completely open source. So that's all parts of the approach.

So we've got the tension between open source and sort of proprietary with respect to open source. Obviously, it allows for people to look
in and confirm. It also opens the door for a broad array of people coming in and figuring out how to hack the system. So you have that tension.

I think the potential we have, I think, to focus on -- you know, I think that a more difficult and complex way is the idea of confidentiality of the individual ballot versus everything being known about it. And I think that is a component -- when you study the system, that is a component of -- and when you know we've got, you know, 2,314 ballots in this precinct and we want to make sure that those are matching the people that voted, there's no way to tell -- we can't allow Mrs. Jones' vote for Hillary Clinton or Mr. Smith's vote for Donald J. Trump to be known relative to each other. So that provides inherent limitations to, I think, a complete open-source system.

So I think the -- I would tell you that if we're in a place where vetted, confirmed, white hat, or confirmed, vetted entities can have visibility in the system, but not everybody, that's probably the best place you can be. I think it would be an agreeable (indiscernible).

DR. LEE: Great. Thank you. So I think at this point, $I$ think we should open to the commission members and audience to ask questions. So I think it's my -- this panel is only open to the questions from the commission members, so I apologize.

MS. BAILEY: Good morning. Lynn Bailey, local election official from Richmond County.

I have had concerns all along about the implementation of risk-limiting audit in an environment such as Georgia's where we are precinct counting ballots. Now granted, I'm sure that I don't have a complete understanding of how those audits work, but $I$ do know that in the state of Colorado, as an example, it took them probably nine years or so to perfect a system, if it is in fact perfected at this point, of risk-limiting audits, conducting those audits.

They are an all mail jurisdiction and are mostly central count which I think differs greatly from Georgia's set up. So I -- we ask that, you know, we proceed cautiously with that and make sure we have some type of post-auditing effort in place, no doubt, but that we're careful that we don't bite off more than we can chew with
our current environment. Thank you.
DR. LINDEMAN: May I speak briefly to that? So just to be clear, it's not that Colorado worked for nine years on implementing risk-limiting audits. For most of that time, Colorado was working on deploying the entire new voting system. It's absolutely true that if Georgia tried to emulate Colorado in 2020, I can't imagine that working. They are too many differences.

So what I want you to know is that there are many ways of implementing tabulation audits that are risk limiting. There are many ways of implementing tabulation audits that may not be risk limiting but nonetheless are valuable and provide justifiable confidence in results. And I can tell you that Verified Voting and I personally am very passionately committed to working with Georgia to find solutions that actually work. Because an audit that election officials cannot do is not a successful audit. So we're completely on board with that.

SENATOR THOMPSON: I think it's real important, first of all, to understand what the initiative is before us, and that is to make sure
we have a bipartisan approach in what we're trying to do. And ultimately the ingredients we're looking for is exactly what $I$ think we have in the state of Georgia in our government. That is transparency and accountability.

Keeping that in mind, the one thing the chairman sitting to my left here and I worked on this last year, in hearing after hearing after hearing we kept saying let's not let perfection be the enemy of greatness. We keep thinking that it has to be perfect from day one, so therefore, for some reason, do not go forward. And ultimately when you do that in business, you find yourself a failure. And at that point, we have a huge problem. We know it's before us. What I would encourage our state is, again, come together, let's not let the perfection, what we're shooting for out there, be the enemy of greatness.

REPRESENTATIVE SETZLER: Taking off from what Senator Thompson said, the director -examiner's question, that was the concern about risk-limiting audits in the debate this last legislative session, was $I$ think there's a recognition across the board. I'm admitting that

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risk-limiting audits are an important part of
that complementary regime that I was referring to
earlier in my remarks.
    I would ask local election officials to not
take a stance against risk-limiting audits
because of what it could do if they're
implemented in 2018 and 2020. I think we're
where we need to be as we need to move towards
phasing in a new system. We need to phase in a
more rigorous risk-limiting audit regime as we
can do it with confidence.
    What we were very careful to not do this
past year, legislatively, was not to mandate some
statute that created a statutory set of handcuffs
for us that cascaded unlimited consequences that
would throw an entire election into chaos. I
think the -- so with that, we step back
legislatively from a -- the most rigorous
risk-limiting audit regime we could mandate, but
at the same time, I think we can validate the
value of risk-limiting audits as an important
part moving forward with any program.
    The question is do we mandate a statute, a
full state-wide thing year one, or do we put
something in place, as Senator Thompson said, a
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great system that we can continue to refine over years, and as we have confidence in our system and as we're able to move forward, step-by-step implement over the course of maybe a decade a system that's going to -- we're going to be able to achieve the political moves that we're looking for and not just throw us into chaos by a "Hail Mary pass" from day one, something again, that's -- as Verified Voting said: A radically different system. We just felt like -- so I would challenge political election officials to not be in the anti-risk-limiting audit camp. It's a very important part of what we do moving forward. But your legislature and others would say: Let's not go all in in year one. Let's step into that and let's take steady, short steps as we go.

DR. LEE: Great. Thank you.
I think in the interest of time, we should move to -- oh, sorry.

SECRETARY KEMP: Thank you, Dr. Lee. I just
want to ask -- this may be a good way to wrap this segment up, but Mr. Walker and Mr. Garcia are both fighting this battle every day, literally nationwide. And what are you guys
seeing out there that's working? Anything we should be concerned about? Any advice?

I think it's been a great panel.
MR. WALKER: So we've been pretty much boots on the ground, you know, for the last year for the election systems in the Department of Homeland Security performing assessments across counties' and states' election systems.

And one of the things $I$ think comes out in every system is, you know, people. It's eventually that everything always comes back to your layers, how you value risk, how you accept risk, how you mitigate risk, and then how that trickles down to the people, having the right people in the right place.

You know, I always like to use this analogy.
You know, that imagine you had a football team and you have a head coach and he never shows up until the first day, you know, the first game, throws the players the playbook and says: Head out on the field, win the game for me. They've never practiced, they've never been trained, they don't know what they're doing, but they're supposed to go out and win the game.

And how a lot of organizations treat cyber
security is we have a program in place, but nobody ever practices it, nobody ever, you know, trains for it. They're always sitting. But cyber security is everyone's responsibility down to the last person, and that's what the -- you know, the threat actor is targeting.

So whatever system then you're looking to putting into place, make sure that you have the policies and the processes and the training to support that system. I think that the key to the big things here is that that's what the thracker's going after, from phishing campaigns, you know, to social engineering watering holes, whatever it going to be. They're going after the people. And if your people aren't on board with you, if it's not a top-down approach to training and to holding people accountable for cyber security for the system, then it might all be in vain no matter what other controls you have in place.

DR. GARCIA: So I'd agree wholeheartedly with that and I would also agree with what Senator Thompson is saying. So there are times to take a moon shot or throw a Hail Mary. I was going to use a football analogy but $I$ won't
double-up any.
So, you know, there are times to throw that Hail Mary, but you always continue making incremental improvements. So if something is not viable to implement now, it does not mean you don't continue mitigating risk and make improvements. Find ways to do that and when you design something where you are trying to make a large overhaul of a system, be sure that it is built for evolution as well because these threats will continue to evolve.

And that's really -- you know, if there is a takeaway about what the threat environment looks like, it's different today than yesterday. How dramatically? Well, that depends on the day. But these things continue to change and that's okay. Our responses continue to change. We continue to get smarter and more capable and more capable, but we have to be thinking about risk in that perspective, that, yes, you mitigate something, you move on to the thing, you have to come back and assess that. You have to continually assess where you are and what you're doing. You have to understand your approaches, how effective they were yesterday is nice, but
how effective they'll be tomorrow is far more important.

MR. WALKER: Let me add on to that as well. As you've probably heard the term several times, you'll probably hear it a lot more: resiliency. Resiliency is the key. I mean, it's no longer a matter of, you know, if you're going to get an attack, it's when. And having resiliency built into your system -- and a lot of people think that resiliency is something that you can buy.

And we like to use this analogy as well, it's that you can't go out and buy health. I mean, we all want to be healthy, right? But health isn't something you go out and buy. You can't go to the store and say I'd like one box of health and you go home and you get healthy. Health is a way that you are, it's practice. It's putting into practice the things that you need to be healthy: Eating right, exercise. Cyber resiliency is not different than that. It's building a program that looks at the different risks and it says what do we need to do, everything from configuration control, owner building, management training, situational awareness, asset management. It's putting all of
those layers together and saying where are our threats and where are we going to actually put our resources and our time and attention to. So making sure that you're looking at resiliency as was said, you know, looking for tomorrow's threats and saying is our system going to be agile in development and resilient during the time of crisis and need. That's key.

SENATOR THOMPSON: Real quick because I know we're trying to wrap up. One of the things we're talking about is systems to be put in place, but in business, especially on a software business, it's important that not only we put something in place, but we as a state are committed to that because if we aren't committed to this, we can't go ahead and spend whatever the amount of resources are to be able to put an election system and so on in place, but we're going to need the resources to be able to be committed and be able to support that. Because as the people on my right have just said and to my left, this is an ongoing challenge. It changes on a daily basis. It's going to take financial capital, it's going to take emotional intellect and it's going to take physical capital.

In the software business, you do pin tests on a regular basis to see where the vulnerabilities are. Unfortunately, we deal with elections as if it's -- when it goes live, that's when we find out if we have a vulnerability, so we're going to have to handle this animal a little bit differently, but the main thing we've got to do is we've got to be committed to this, all in from the top down to the bottom or the bottom or the top, wherever that is, that weakest link, that's where we're going to find our vulnerability. Unfortunately that vulnerability then mitigates any risk that we put in place.

DR. LEE: Any last word? Okay.
So I would like to thank all the panelists.
I mean, $I$ think that's very informative, helpful. So let's wrap up and move on to the next panel on voting accessibility.
(Applause)
MS. HOWELL: Good morning. My name is Amy Howell, and I'm thankful for the opportunity to moderate this panel around access for individuals with disabilities in the voting process.

Before I introduce our panelists, I wanted to just give a little bit of the legal context
parameters that guide the state in relationship to our obligations around access. There are a number of federal laws, and the one primarily is the Americans with Disabilities and Rehabilitation Act, federal law, that provides protections for people with disabilities to ensure their equal access to activities that are operated by public entities and ensuring that equal access and prohibiting any exclusion from. It imposes requirements to the state and local governments to ensure that individuals have that equal opportunity.

There are a number of -- as has been mentioned by a number of our panelists before, federal laws also govern the voting process that also contain provisions explicitly making reference to equal access for individuals with disabilities, including the Voting Rights Act. HAVA was mentioned earlier and also the Voting Accessibility for the Elderly and Handicapped Act.

So I won't go into the specifics of those provisions, $I$ know our panelists will mention them, but $I$ wanted to just offer that framework to indicate how the state has worked to be in
compliance with those federal laws and how they guide the work ahead.

So now I'm going to introduce our panelists, and I'll ask as we engage in this discussion or if there are any questions from commission members to make sure that you pull the microphone close so everyone who's here can hear you really well.

So, first, let me introduce to my right, Lou Ann Blake. She is the deputy director of the National Federation of the Blind and Jernigan Institute where she's worked since 2005. For eight years Ms. Blake has served as the manager of the National Federation of the Blind or NFB's HAVA training and Technical Assistance Grant for the United States Department of Health and Human Services and has been responsible for working with election technology, developers, voting rights advocates, elections officials to ensure that the voting process is accessible to blind voters.

She's also published a number of scholarly articles and works with institutions of higher education to help them make their digital campuses accessible.

Prior to joining NFB, Ms. Blake worked as an environmental engineer for a number of consulting firms in the Baltimore and Washington area. She holds a $B S$ in environmental engineering and a JD.

To my right -- excuse me, to my left, my other right, is Anne Kuhns. She is a staff attorney with the Georgia Advocacy Office which is a non-profit, federally-mandated entity that advocate on behalf of individuals with disabilities.

She graduated from Georgia State College of Law and after several years of practice in a big law firm, she left the corporate litigation team to join GAO. She advocates on behalf of individuals with all types of disabilities, living with physical, mental, and developmental disabilities.

And then we also have Ms. Elizabeth Jones. She is the director and COO -- executive director, excuse me, and COO of Shiloh Community Center, an agency that provides health and wellness services to senior citizens and persons with disabilities and other community-based services.

Ms. Jones is a certified Tai Chi instructor
and a licensed -- deri-fit (pronouncing)?
MS. JONES: Geri-Fit.
MS. HOWELL: -- Geri-Fit instructor. She has a master's degree in psychosocial rehabilitation, and she's also a former director of mental health and developmental disabilities in a fourteen-county area.

I want to thank our panelists for joining us. And I have a few questions for them to help sort of engage our conversation.

So if you could, tell us what are the key areas of interest for people with disabilities in relationship to their access to voting.

Elizabeth, do you want to start us off?
MS. JONES: Yes. One of the major problems when talking with seniors in the fourteen-county area is a lack of access to polling sites. When we look at Richmond and Columbia counties, there are more polling sites. There is more access to transportation to get to those polling sites, whereas when you go out to the rural counties, there are not as many polling sites and there are -- there's a lack of transportation.

And a lack of transportation in the rural counties has been an ongoing problem for many,
many years. And the polling sites, some of them they lack the type of accessibility to enter and exit for people with disabilities, older adults, and so there is a problem.

And I know that a lot of the places where those sites are being located, they sort of volunteered their sites for that, but we do need to look at whether that site really is accessible for a person with disabilities or an older adult. Standing in lines, long lines, whether or not that person is actually capable of waiting in a line for their time to come in, and the -- and bathrooms.

Some people might think that's not a big issue for an older adult, but being able to -- if you're going to be at a site for a very long period of time, then they need access to bathrooms.

And so when we look at and we talk about accessibility, we need to remember that we have a lot of people with disabilities who might feel like they lost their citizenship because they are not able to vote. Older, frail adults who feel the very same way. It bothers me when I talk to a senior citizen and they say: You know, I
didn't get to vote in the last election because I didn't have a way to get to the poll. Or: I got to the poll and I didn't -- started not feeling well and $I$ just said $I ' m$ just going to leave.

MS. HOWELL: Lou Ann?
MS. BLAKE: Sure. So I am going to speak primarily about blind, vision, and other print disabilities. So for a blind voter, access to the ballot, being able to mark your ballot privately and independently, and then having a secret ballot once you mark that ballot are the real key issues. And this has been particularly true with the movement from DREs to paper ballots.

Many states, for the lack of federal funding to purchase new machines, are having the majority of their voters handwrite their ballots and they're only purchasing enough accessible ballot-marking devices to serve as the, quote, ADA machine. But many of these second-generation machines create or generator ballots and it's different in size and content from a hand-marked ballot. So even though those ballots may be tabulated, so they're using the same tabulator and of the same ballot box as hand-marked
ballots, when there's a recount and those ballots are taken out of that ballot box, it's very obvious which ballots were marked by the ballot-marking device. And if those machines are only being used by voters with disabilities, then you know that that ballot was cast by a voter with a disability.

So it's very important that the processes be in place to ensure that other voters, voters without disabilities, are using those machines as well. So that's sort of the poll-based issue that's really faced by voters with disabilities or print disabilities.

Another issue that we're facing is
absentee-ballot voting. Typically, an absentee ballot is a paper ballot which is not accessible to a blind or a disabled voter. So we're not able to mark that ballot privately and independently. So there are systems such as electric ballot delivery that will enable us to mark that ballot. So those are the real key issues that were facing right now.

MS. HOWELL: Ms. Blake surfaced two important principles around privacy and independence. So, Anne, as you talk about access
to voting, will you also sort of give us some information around the importance around independence?

MS. KUHNS: So, yeah. So the thing about voters with disabilities is they span across all race, gender, economic, party lines. So it's not a partisan issue. I mean, everybody wants the same thing. They want to go to the polls, they want to have their vote count, they want it to be private and accurate.

And so the law requires that people with disabilities have the same opportunity to access and participation, but obviously throughout history people with disabilities have been historically marginalized and continue to be so. At this time through systems or failure -failure of people at the polling station to understand the systems, failure of training to make sure that people understand the systems, and to make sure beforehand that the systems in place actually work.

MS. HOWELL: You raised a good point about new systems, Anne, and that's a lot of what we're going to talk about.

Anne, are there some features that could be
found in a new system that would enhance accessibility for people with disabilities. I know you talked about some of the challenges, but what might be some of the features that would be an enhancement and it would help?

MS. KUHNS: Well, all of the accessible ballot-marking devices have an audio-ballot component, so that's clearly critical for a blind voter or a low-vision voter.

Now, unfortunately there is no current poll basis on those accessible to a deaf-blind voter. You know, someone who's profoundly deaf, you know, cannot hear the audio ballot, and he's blind so they can't, you know, read the touchscreen.

You know, refreshable braille slates, you know, would solve the problem, however, for a number of technical or security reasons that doesn't exist. So, you know, of course, you know, having the large print, touchscreen for low vision is also really, really critical. And then, you know, for other disabilities, you know, the switch pack -- the tone switches and things like that, of that nature are also very important to the public.

MS. HOWELL: I think that $I$ read that for a number of people who may be visually impaired and especially low ability to see and especially on an aging population that braille may not be their -- may not be -- they may not be familiar with braille, so are there other options that you mentioned that would be important?

MS. BLAKE: Yeah. So, you know, the user interface or control panel that a blind voter would use to get through the ballot to select their choices of candidates, you know, those -you know, typically you'll have different buttons and shapes on the panel or on the control panel, like an "X" or an up arrow or a down arrow, right arrow, left arrow. So those are the ways that a blind voter can use those systems. Typically they are labeled in braille. The NFB encourages braille, the use of braille, so that is a key factor that needs to be included.

So the different shapes, they typically are color-coded as well for voters who can see color. So that typically is how those controls are made or are designed.

MS. HOWELL: Ms. Kuhns, for individuals who have physical or mental disabilities, what would

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be some features of a new technology that would
enhance accessibility.
MS. KUHNS: Well, of course you're allowed to have a person of your choosing besides your union leader or employer come help you at the polls. And one big problem is, at the polls, people don't under -- the poll workers don't understand, one, that you're allowed to have somebody help you, or, two, that you're allowed to vote at all.
So having somebody there to assist you is definitely the biggest issue, and \(I\) think the stigma attached to mental health issues and developmental disabilities is what holds that back more than the ability of people to vote because you may not agree with why somebody is voting for who they are voting for but -- I don't agree with the reasons why people vote for somebody, so just, again, as a policy, the procedures are in place, the people at the poll know that you can have somebody assist you as long as you have been not legally adjudicated incapable to do so.
MS. HOWELL: Ms. Jones, are there other features that would help with the aging
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population?
MS. JONES: I'm not going to speak to the actual system as to the wording on some of the ballots. If there is an amendment or you're voting for some type -- say 1 percent sales tax or something like that -- I have a lot of younger friends on social media. And in one election, previous election, they made a big joke out of it, and it just went around and around: What did I just vote for? Because they really didn't understand the language of the ballot so some of them said they voted yes, some voted no, but they really didn't know what they had voted for.

So if we've got 20-somethings and 30-somethings not sure of how and what they should've voted for, can you imagine an 80-year-old person going in and reading an amendment that's a half page long and not understanding what they should vote for.

So it's a part of the process of how -- of what we're looking at. I would encourage the people here who have some control over our voting system to -- regardless of what type of system you go to, that it remain simple and accessible for people with disabilities and older adults.

MS. KUHNS: So another accessibility issue is you wouldn't actually think that people with hearing impairments might have a problem at the poll, but what a lot of people don't know is our American Sign Language is not the same as English. You can't just write somebody a note that speaks ASL. It's not the same, doesn't translate the same.

So there needs to be a contingency in place for somebody who shows up who needs an ASL interpreter. And you can do that through telecommunications relay service which is relatively affordable. But a person who ASL is their primary language is not going to be able to understand what is in that ballot.

MS. JONES: And language barrier, well, we've talked about, you know, the Hispanic community having ballots that are, you know, Spanish for Spanish-speaking populations, but I do encourage you also to not forget that we have a lot of citizens who are not -- were not born and raised in an English-speaking nation. And so having some type of support in place for people whose English might a barrier.

I just talked about that long amendment.

Now, if you weren't born and raised as an English-speaking person, you will get something like that, or you have a process that you're not familiar with, you're not going to vote the way you probably would like to vote. So not just looking at Spanish-speaking populations, but let's look at our entire population and say is this a system or a process that someone who was not born and raised in an English-speaking nation, can they navigate the system also.

MS. HOWELL: So I know I started by providing a little overview of the law that -well, $I$ mean, tell us a little bit about what the law requires of voting rights or otherwise around equal access. So in relationship to the issues raised around being able to understand anyone, and then when we talk about equal access, what does that really translate into in the voting process for people disabilities?

MS. BLAKE: Yeah. So Title II of the -well, first we'll talk about HAVA. HAVA, you know, passed -- was passed after the 2000 election, and HAVA requires that there be at least one accessible voting machine in every polling place for all federal elections.

And then the Americans with Disabilities Act, Title II requires that a voter with a disability could be provided the same opportunity to vote privately and independently as is provided to voters without disabilities.

So what that means is that when I show up at the polling place, there needs to be a way or there needs to be a system in place that enables me to mark my ballot privately and independently and verify that $I$ marked that ballot the way I wanted to mark it, privately and independently, as is, you know, available to voters without disabilities.

So with that, that is what Title II means in terms of voting, so that $I$ have the same opportunity as everybody else, or any other voter with a disability has the same opportunity.

MS. HOWELL: And so in relationship to the issues raised about whether an individual understands the provisions of the ballot, that it might not cover that in any particularity, it's more around making sure that there is access to the process of the ballot, correct?

MS. BLAKE: Yeah. That you have an opportunity to the same benefit or service that's
provided by a government entity, yeah.
MS. HOWELL: I know that we've talked a little bit about the features of the system, and Georgia's comprised of a hundred and fifty-nine counties and we have officials from many of them, and then we've talked about that we have one system, that when we talk about replacing it for a new system will we look at other states. Are there challenges for a new system that might be unique to Georgia in terms of our disabled population?

MS. KUHNS: Well, you know, we talked about this earlier, and $I$ just think it's -- I don't know that it's -- it's not particular to Georgia. We have centralized populations, and people with disabilities -- and $I$ know this is in any state, but in rural areas, people with disabilities can't get transportation to get to doctor's appointments. They can't get transportation to get their groceries.

So getting transportation to get to the voting station so far as $I$ can tell is not covered in any government benefit. So some system that actually finds transportation to the poll -- I don't have the framework for that, but
there should be a system that gets people to the polls, or -- or $I$ believe the future of voting is going to be web-based. You know, when we start -- the system that we have now, 16 years ago was before the iPad and there was a pilot program in West Virginia that they started in two counties for military families to vote via -- it was Android or Apple phone. And I don't know if the answers are out about how successful that was, but apparently they're going to run the pilot into 50 counties $I$ believe. It'll be general election this year, so that would improve accessibility for a lot of people. And I don't know -- I know there's security concerns, but it seems an absentee ballot has much more security concerns than watching technology which $I$ can about, but ...

MS. HOWELL: I can too, but I'll let our security experts speak to that.

Ms. Jones, are there unique needs for our aging population in Georgia?

MS. JONES: I keep hearing that we're going to web-based voting, and the only concerns that $I$ have with that is in rural counties, whether we like to admit it or not, we have a large group of

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people who do not have the same educational
background as people who come from larger
communities who traditionally have had more
access to education and technology. So if we're
speaking about going to a totally electronic
web-based type of voting, I think we need to make
sure that the people in the rural counties
actually know how to use those systems because if
not, what you do is you disenfranchise a large
population of people because they will not go to
the polls if they feel that they don't know how
to use the systems.
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MS. KUHNS: So it is not my indication that mobile voting should ever be a surrogate for going to the polling place. Americans love to go to the polling place. We're entitled to go to a polling place. Don't think we need to eliminate it, but $I$ think that it could help with a lot of accommodation issues to have that as an opportunity.

MS. HOWELL: Ms. Blake, did you want to add something?

MS. BLAKE: Yeah, I was going to say -- so regardless of what system you end up selecting, whenever you change voting systems, it's always a
 the change.

MS. HOWELL: Ms. Blake, you pilot a -- what sounds like a best practice around the state to
help improve familiarity with the voting systems. You've worked with other states, have you seen other best practices in other states that have more promising practices, that enhance accessibility for individuals with disabilities?

MS. BLAKE: Yeah. Poll worker training is really key. You know, I think that's probably the biggest complaint that $I$ get from our members when they show up at the polls. Poll workers haven't set up the machine because they don't know how to set up the machine.

So training poll workers is really key and, you know, again, engage, you know, the local community, the local disability community in that training. Be sure that the training takes place on an actual machine. It's not just a PowerPoint that they're watching. Reach out to the disability community just to serve as poll workers. You know, what better person to have monitoring that machine and setting up that machine and making sure that it works than the person with disabilities, someone who has a vested interest in that machine actually working. So those are some of the best practices that I would suggest and encourage.

MS. HOWELL: Ms. Kuhns, I know you highlighted some of the challenges. Are there also best practices that you think that a person should be aware of or you would like to recommend?

MS. KUHNS: Well, a couple things that I read about is that -- so being able to register as permanently disabled for the purposes of voting, Missouri did that, and so not having every year to fill out an application, have it come to you. We don't if you're -- you might not vote in every election because, again, transportation's hard and you have a disability, you might be in the hospital. And you have to vote every three years in order to stay on the rolls. Make it as easy as possible to vote for people who experience difficulty getting to the polls. So just have a permanent registration if I have to vote from afar.

Also, there was another statement. I'm not sure which one it was because, again, people with physical disabilities a lot of times have trouble using the machines, and you can have somebody help you do it, but you're -- once they allow where you can use -- you can have a stamp, you
can sign your name with a stamp because some people just physically cannot sign their name, but they can vote. They have a right to vote. They have opinions about who they want elected and the policies they want them making. So those are just a couple of things.

MS. HOWELL: MS. Jones, are the things that you've heard from your group, the aging population that they say have -- are policies and practices that have helped them have access?

MS. JONES: I think that most of the older adults that are very active in the electoral process appreciate that the print, you know, is large, and so that helps. The lighting has improved at a lot of polling sites, so that has been very helpful to a lot of older adults voting. I think that if you're looking at changing the technology that we use to vote to remember to use the larger print, of course, and also the type of print, you know, the font, you know, making sure that it's, you know, user-friendly for anyone to be able to read and also the background of the screen being -- having a lot of contrast to the print because if you're using a dark screen and you've got, you know, a
light-colored font or a print, and it's very difficult to be able to see it to read it, and the more your vision is compromised, the more difficult it is for you to read.

So looking at all of those things, whether you're looking at shaping a system, making sure that people who have very low vision are able to read and access the voting ballot.

MS. HOWELL: For any of our panelists, are there any of the current features in our current system or in our current practices that we need to make sure that we retain, that really are helping Georgians access voting?

MS. BLAKE: Well, you know, I mean, I think what you have now is a universal system which is -- which is the ideal. I mean, the ideal is a system -- everybody uses the same system. So, you know, if it's possible to maintain that, I would strongly encourage you to do that. I know the financial realities being what they are these days that is not the case. I come from a state where we used to use the same machines we use now. Everybody used the same machine. You know, it just make things so much easier in so many ways, you know, from the administration of the
elections, to poll worker training, to, you know, just so many things. You know, everybody's ballot, you know, is the same. You know, and if it's possible, you know, to maintain that here, I would really strongly encourage you to do that, you know, so, you know -- and, you know, looking at the -- after looking at by mail that's another option, rather than the traditional poll-based. That is another option. Of course then you have to have an accessible way for a disabled voter to access that, access that ballot privately and independently, marking that ballot privately and independently.

And, again, electronic ballot delivery is an option there, so universal voting systems are so -- yeah, yeah.

MS. HOWELL: I'm mindful of our time so if there is for our panelists -- I know certainly Ms. Kuhns, if there is one thing you want to make sure that the commission takes away from our discussion today, what would that be?

MS. KUHNS: So even if you have all of the perfect systems in place, the best technology for the most impaired for the most accessible, there is no accessibility without availability, so if


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the policies aren't in place that poll workers know what the technology is, what the rights of people that there are, and that it's checked the day of, that these systems are in place, that people know how to use them, and that there are contingencies because every person with a disability is not the same, every person with the same disability experiences things differently. So even if you have all of the right things in place, you've got to have contingencies and there should be a place where we can report this, where it's publicly -- it's publicly available, not to the individual but the problem encountered at the polling place, and also a record of how that individual problem was solved.


MS . HOWELL: Ms. Jones?
MS. JONES: The take away, to keep the system as simple as you possibly can so that it remains accessible to all voters, and that's all I have to say.

MS. HOWELL: Lou Ann? Ms. Blake?
MS. BLAKE: Well, I think -- I think it's important for commissioners to keep in mind that the right to vote for a voter with a disability is no different than the right of a voter without
a disability.
And then our right to be able to mark our ballot privately and independently, to be able to cast a ballot that's going to be a secret ballot is the same as that for everybody else. And I think that's really the bottom line. And whatever system will guarantee that, I think that would be the one that would be -- meet your needs the best, meet the needs of all of the voters.

MS. HOWELL: I just wonder if there are any commission members that have questions. Yes?

JUDGE MCCOY: I just have a couple of comments. I'm Darin McCoy, probate court judge and election superintendent from Evans County, Claxton, Georgia.

So just to make sure everybody understands, first of all, about the referendums and the amendments. They definitely can be confusing. There is a summary that is provided by the state of those amendments in very plain lay terms. It is available in each county election office prior to the general election, and $I$ believe that is also available online from the secretary of state's office, and that is a very helpful tool that $I$ promote in my county for people to prepare
prior to their voting to understand what those amendments mean. And also, I know you are aware, but I want to make sure everybody is aware that there is a provision currently in Georgia law for the disabled voters who were not able to have transportation or for whatever reason to get to the polls and they are provided a ballot for every election in the election year by making just one application and indicating that they're either disabled or elderly. And that is the big advantage that we need to promote to the disabled.

MS. HOWELL: Thank you.
JUDGE MCCOY: Thank you.
MS. HOWELL: Yes?
MS. BOREN: Yes. I'm Nancy Boren. I'm from Muscogee County, Georgia, and I have a question for Ms. Blake.

When you discussed the electronic ballot delivery for blind voters, once you receive that e-mail, how will you handle that electronic ballot delivery? Because as we currently do it for our military, they receive an e-mail, but then they have to put it onto a piece of paper and then mail it to us. How would you suggest
handling that EBD, which is what election officials call it?

MS. BLAKE: Yeah. So I have used the Maryland electronic ballot voting system, what they call an online marking tool since it's been available. And so what happens with that system is $I$ get an e-mail, it has a link to a website where you log in and you access the ballot on that website and mark the ballot, the ballot is very accessible.

Now, to be accessible the systems have to use websites or an HTML ballot, has to be compliant with the web content accessibility guidelines, $2.1(0)(a)$, and that covers all disabilities, so, you know, it's not just -- it doesn't make it accessibility to somebody who uses a screen reader or screen application. It covers, you know, other disabilities as well.

So I, you know -- and you see my own access technology, my screen reader, my screen magnification software. I'm able to mark that ballot privately and independently and I'm just using my keyboard. So once I finish -- once I mark the ballot, $I$ then print it out and mail it just like anybody else.

And, you know, there's a number of systems that are available that are similar to the Maryland system. A number of different -- you know, Dominion, Five Cedars, Prime Three. There's a number of them out there.

MS. HOWELL: Yes?
MR. MCDONALD: I wanted to piggyback on Mr. McCoy to make one clarification. The language on those referendums and those amendments, those are determined by the legislative process at the capitol. So when they're drafting it or writing it out, a bunch of lawyers like me -- I once told a civics teacher that came to the capitol it was my job to write things as complicated and ununderstandable as possible to make sure lawyers had jobs.

So we don't write these things so -- it's out of the hands of the process once it gets out of there, and I think that really needs to be clarified because I think the election officials do the best job they can in order to make that communicated, but the way it's written is part of the process.

MS. KUHNS: And I think it's confusing for all of us.

MR. MCDONALD: Yeah. It was my job to write those.

REPRESENTATIVE FLEMING: Amy, just one comment if I could about that. It's humorous to say that it's written as complicated as possible, but the courts will actually overturn the election results if they determined that the question legally was not written properly to ask the right question.

So that is a constant balancing act when the legislature is trying to ask the public through a voter referendum a question or a change to our constitution. Are we going to set aside what the courts are going to demand because it legally did ask the right question versus putting it in plain enough language?

So it's a constant battle that we have to try to get to a happy medium between those two and actually give the voters something, number one, they can understand, but, number two, giving what the full election contemplates because it was properly written.

MR. MCDONALD: One thing that you said in passing $I$ found interesting was, you know, a big point of verifying who someone is is a signature

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or some type of verification. You said that
could be a challenge for someone. I think you
said something about a stamp or some type of
easily functional (indiscernible). Is that
something that's mandated by federal law or is it
codified anywhere? Or is that -- is that
something that would be helpful if it's codified
saying that this must be accepted?
MS. KUHNS: It would be helpful if it was codified because the process of -- literally, if I don't have any hands, how do \(I\) sign my -- and there are processes by which you can learn to make your mark, but something that's consistent so that it can be verified at other places. Because if somebody's stuck with a provisional ballot, and I guess I said somebody needs to -- I don't know if \(I\) said that but if somebody has to do a provisional ballot, somebody better follow up on that in the next three days or else somebody with a disability is disenfranchised. But if it's thrown out because a signature doesn't match or something, then again, disenfranchised.
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MS. HOWELL: Thank you all for your questions and contributions, and thank you to our
panelists for your participation today.
(Applause)
REPRESENTATIVE FLEMING: Next we have our panel that Nancy Boren, Muscogee County elections and registration director, is going to moderate for us dealing with intergovernmental coordination. I think we're going to get into a little bit about the state and the locals and the board of elections all work together and how this new system may go forward.

MS. BOREN: All right, good morning. I think we've heard what everyone wants to see in the new voting system, and now I think this group is going to tell you how to get -- we're going to kind of talk about the nuts and bolts of the funding, whether it's state funding, whether it's county funding, city funding, how we're actually going to accomplish getting a new system in the state of Georgia.

As you know, the burden of the expense is probably going to fall on the state as well as many of the counties and some of the cities. So we're going to talk about that. I've written down some of the quotes as I listened to the other panels and it's been a great opportunity.

Let's not let perfection be an enemy of greatness. I love that. Senator Thompson said that for us. And we heard from the three panels all the things that they would like to see.

And so I think this group talks about from the state perspective, the city perspective, and then the county perspective how we attain the funding and the ability to get what the state of Georgia and the people in the state of Georgia want.

So as we listen to Ms. Young -- or Mr. Young and Ms. Lewis, they said the object is collaboration because everyone is paying for it. And that's true for everyone in the room. Representative Setzler said: We must fund the right technology for the right purpose.

And so I think this group can provide some information as far as funding. I'll introduce myself and then I'll ask each person on the committee to introduce themselves and give a little bit of information.

My name is Nancy Boren. I'm the director of elections and voter registration in Muscogee County, Georgia. I have held that position for 23 years and I have been in city government for

32 years. My position immediately before elections was the affirmative action officer for our county.

But, again, I've been in elections for 23 years and I've had the privilege of implementing optical scan in Muscogee County in 1996 so I'm very familiar with the aspects of optical scan voting.

Of course, technology has changed quite a bit since 1996, but $I$ do understand the unique challenges that are posed through optical scan voting. We now have, of course, the touchscreen voting, and I'm interested in moving forward to see what the state of Georgia will have.

To my right I have Chris Wells with the Governors Office of Planning and Budgeting. If you would like to take a moment and introduce yourself.

MR. WELLS: Good morning. My name is Chris Wells. I've been with the governor's office now for the last five years and I've had the opportunity to work as an analyst coordinator and currently as a division director. We noticed back in our division that after public safety, after health care, as well as health-care
education, our division kind of has a little bit of discretionary agency, so we have to fight and claw a little bit to make sure our agencies receive all the help they need. But part of my job in the everyday work is to provide independent analysis associated with any recommendations that our agencies may provide.

I previously worked with the Georgia
Department of Labor as a statistical analyst and previously worked with the executive budget office in South Carolina.

MS. BOREN: Thank you.
To my right, I have Pam Helton. She represents the Georgia Municipal Association, and that's kind of the city perspective. Counties and cities often are different, so she will give you maybe a city perspective of funding and the approach that cities may take.

MS. HELTON: Thank you.
I am Pam Helton with the Georgia Municipal Association, but I've been in city government for 26 years before $I$ started with GMA. So I did serve as an election superintendent before I left. I think we were the only city in Georgia that had a tie on a liquor referendum, so ...

As you may know, in Georgia there are 538 cities, so we have a lot of needs. The branches of our municipals range from anywhere from Atlanta from almost 500,000 to the city of Edge Hill which has a 24 population. So you can see we're very unique. In that population, 70 percent of those are under 5,000 population, so -- and even 44 percent of those are less than a thousand population.

So you can see that we have to look out for our smallest to our largest cities. So there will be some concerns with the funding, what we're going to be required to do, how is it going to affect them, is there going to be some kind of legislative requirements asked of them and also is there going to be the availability of education and training that will be needed? So I think there's a lot of questions that some of our cities have as you go through this process to try to address.

MS. BOREN: And next if we could hear from Todd Edwards. Todd represents the county perspective. He is with the Association of County Commissioners of Georgia.

MR. EDWARDS: Thank you very much.

And I'm Todd Edwards. I'm the deputy legislative director with the Association of County Commissioners. We represent all hundred and fifty-nine counties. Elections are a big part of what we do. I won't go into all of it, but we certainly -- Pam from the Municipal Association, cost is a primary factor to Georgia governments, to county taxpayers not only up-front but the purchase of the machines, for the subsequent training, the replacement of those machines, et cetera. That certainly weighs in in any factor.

What I do with ACCG, I've been speaking on intergovernmental coordinator. I'm a lobbyist on the advocacy side. So $I$ work with the general assembly on the front end when they're considering legislation such as over, I think, five or six bills last session dealing with the replacement voting machines. We work closely with the secretary of state's office, and I know the office works closely with our local election superintendents.

And right up front, $I$ just wanted to speak on that same note about intergovernmental coordination. With all those bills last year,
until the end, the big concern was over cost of replacement. I think the last versions of the bill had it. I was hopeful that that did not pass but $I$ will commend this commission for getting together. It's a perfect example of working with your local governments. I know there's at least four local election folks on the commission. Getting their input, it's very important. They are our experts. I rely on them as well. But this is a key example of coordinating among our government in Georgia to try to get this right.

Thank you.
MS. BOREN: Last but certainly not least is my co-election official Nancy Gay from Columbia County who is hosting this wonderful meeting today.

MS. GAY: Thank you. Thank you for everyone joining us in Columbia County. I am Nancy Gay, the executive director. I'm kind of a newbie here. I've been the director for five years so I'm still kind of learning the way. I've been with the county for 18 years. Served the first 13 as the registrar for the county. So I do have a little bit of experience. I went through the


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transition from the paper ballots back in 2000, 2002 and the DREs, so ... it was fun. It was entertaining and the public really -- I thought they received it well. So going in to this new transition should be exciting. We do have two cities in Columbia County that are kind of different in size. Harlem is maybe 2,000 registered voters and Burke County is right at a thousand. So it should be interesting to move forward with this.


MS. BOREN: Mr. Wells, if you could provide for us, coming from the governor's office, the process of obtaining funding for a statewide issue like this.

MR. WELLS: So this is actually a perfect time. Usually September 1, by law, agencies have to submit their agency recommendations as well as their budget. This year because we have the holiday it will be September 4th, but during that time, agencies will be able to submit their requests.

The office of the secretary of state is actually within our division and so we've been working with them throughout the summer to establish some guidelines and some goals related
to how to submit a request of this nature in the system. Currently, just based on the rules and regulations, we have a certain amount of capital bonds that agencies are allowed to request. And so we're -- we disseminate that particular amount across most of our agencies.

In this particular year, we provided the office of the secretary of state about 25-million in a bond planning amount. And so by that process, we're able to evaluate for the next six months of what is the total cost, look at this panel, look at what the recommendations are, work with the general assembly when the governor submits his recommendation in January, make a determination of what will that ultimate number be.

So right now we're under the process of just evaluating; knowing that the current administration as well as the next administration and general assembly would have a say in terms of what that ultimate number will be. And so because we're working closely with our agencies and their counterparts, we'll know in January what that initial number will be. We'll know throughout the legislative process what the
counterparts in the House and Senate may recommend. And usually around May, the governor has an opportunity to sign the budget, and from that point, whatever number is settled on between the general assembly and the governor's office, it may be a bond. And if it's a bond, we usually sell bonds in July of each year. And so we would probably see a lot of movement, again, in May when the governor signs the budget, in July when those bonds come up for sale, and potentially provide the office of the secretary of state the opportunity to enter into any type of RFI to be to secure whatever recommendations that come with this panel, the general assembly, and the next governor.

MS. BOREN: So kind of May is the deadline or the focus point for budgetary items?

MR. WELLS: Ultimately, an opportunity to see what the appropriations process and what the general assembly may request also during that time. So usually around January, I'm assuming that this will probably be one of the topics that will be of discussion and so as you see the appropriations bill pass through the House and the Senate, through conference you'll probably
start seeing a lot of the recommendations related to funding that come about, and so that is usually where we see a little bit of movement, and again in May, you'll be able to see what the governor may sign and prepare. The decisions will be made in terms of bond allocation, what's being sold, based on those particular recommendations.

MS. BOREN: And I do believe I'm correct, with the implementation system that we have now, the state expended $\$ 54$ million if that is correct, I believe, in 2001, to implement the system that we have now. That does not include funding that each of the counties and cities chose on their own to purchase additional equipment.

So from the city perspective, cities have the option currently, under current law, to use the touchscreen voting that we have or they can use other technology. If you could speak to that just a little bit.

MS. HELTON: Actually cities like being able to have that choice, to be able to use a paper ballot or the old sheet machine or optical scan or even to contract with the counties to hold


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their elections for them. So they like having that option to go do that, and I think that's important.


MS. BOREN: Okay, and you can tell us about county input that you get as far as: We don't have enough money or, you know, our county needs to buy a fire truck and we don't have enough money for extra voting equipment.

MR. EDWARDS: Well, because I usually tell most folks about what $I$ do for living or how to explain everything most people deal with, it's going to be about money one way or another. I did call several of our members, including our elections folks, prior to coming down here.

Our overall thoughts, if we do agree that it's time to replace Georgia's voting equipment, I think that's pretty clear obviously security is an issue: tampering, hacking, all of that. We do also believe uniform systems across the state will work.

We appreciate the state putting up the funding in advance last time, the state and federal government. We hope to work together with them this year again in that regard. I think some of the concerns with the old equipment

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is when you -- well, even though the state
initially paid for it, replacing it over the
years is not always easy. You have to buy some
used. A lot of times it comes with technical
difficulties, so I think there's a wide
acceptance of replacing it, and then when they do
get them, they're not in good shape.
    So we're on board. We look forward to
working with you, but I think it's -- again, as I
stated earlier, this is the time and we hope to
get it right.
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MS. BOREN: And, Nancy, I -- Nancy and
Nancy. I do believe that in the county -obviously, I don't know what priority elections are as far as your county expenditures, but often we see that it's fire trucks and public safety and salary adjustments. How would you say that your county would be receptive to expending lots of money to change your voting system?

MS. GAY: They wouldn't. Sorry. I mean, fortunately for Columbia County, the -- I might be going out on a limb here, where we might be better off financially -- not to say we're loaded or anything, but the cost is a factor and nobody wants to come out and come out of pocket for it.

So if the state can mirror what they did back in 2002, I think that would be beneficial to all of the counties and the municipalities in the state. I know for our two cities, they would have a hard time funding anything, and so they depend on us to conduct the elections. And we do have a contract so $I$ try to keep their expenses as low as possible. But for the county as a whole, I'm going to go to my county commission and ask them for additional money to buy additional equipment because I like to be overly prepared.

MS. BOREN: Mr. Edwards, do you see different concerns from counties that are more rural? Say economic issues? Do they have greater concerns?

MR. EDWARDS: Certainly, and that's usually the case in most issues that we deal with across the state. A panelist mentioned earlier the difference between the size of the cities in the state. The counties are the same, we have several right around or below the 2,000 population, and, obviously, four or five in the metro area that are right around or above 1 million. Any decision like this will definitely impact the smaller, rural, less
affluent counties more than it will the larger. I mean, obviously, it's going to be a larger expense with all of the additional equipment for the larger counties, and you're going to find that they may be able to have a little bit more leeway. And I can't speak for all of them, certainly, in this disregard, but it's going to have a disproportionate impact on Georgia's rural and smaller counties right at a time when they can least afford it.

MS. HELTON: May I?
MS. BOREN: Sure. Please.
MS. HELTON: We've probably got about half of our cities that still do their own elections, that do not contract with the counties to hold their elections. So we really have to think about those cities too as we move forward with this process.

REPRESENTATIVE FLEMING: Nancy, I have a question if $I$ may --

MS . BOREN: Yes.

REPRESENTATIVE FLEMING: -- that $I$ think
blends well with this portion of the program. We're here to discuss getting a new voting system for the whole state of Georgia. Some people are
throwing around the figure $\$ 100$ million, plus or minus depending on what kind of system we get. Many of us remember back in 2002 how big a change that was for some people to learn how to touch these fancy computer things and have their vote recorded. And we tend to forget the trepidations that some people had for a system. It worked out pretty well and served us well.

So I got a question the other day from one of my constituents that said: Hey, why do you want to change? What's wrong? I have learned how to do this thing now. Why do we want to get new machines?

And, Nancy, I asked that question maybe to you or anybody else. I remember when you came to the capitol and testified before the committee that $I$ was chairing about this issue. You talked about the fact that when we first started in 2002, Columbia County had less maybe than a hundred thousand people. Now, it has close to maybe a hundred and sixty thousand. You've had to go out and get new machines because, number one -- and you commented on this -- you didn't have enough, and, number two, some of the ones you had had -- like any other piece of equipment
had had a problem and you had to replace them. So talk about the status of our current machines and why we're here talking about spending all this money on new equipment.

MS. GAY: Well, $I$ can only speak for Columbia County, and currently we do have 94,000 active registered voters. If you combine the inactive, that's a hundred and thirty thousand.

In our inventory we have just over 500 total voting units. Some of them, the bulk of it, I think 360 of them, are the original 2002 R6 models. Out of those 40 , maybe 50 , of them no longer work. We do -- we have been very creative in making them last this long. Some of them might have some duct tape on them, but, you know, they still work.

The actual voting unit itself is great. The life of it has done very well. In 2016, I think it was, I purchased -- or it might've been last year, I purchased a hundred and twenty newer machines from California because they don't make these units any more, so, you know, as a growing county, $I$ am -- I'm really stuck.

So $I$ hope we don't grow too much more right now because I'm at my limit. I don't have any
more units to put out. So if they break, then that means longer voting time for the voters.

MR. EDWARDS: May I please add to that? She brings up a good point. And, you know, it is a partnership. Obviously we're asking that the state advocate for initial costs up-front, but that doesn't mean that the counties are necessarily getting a free ride. There are all sorts of other costs involved that particularly -- we mentioned before the training for the replacement. That might be difficult.

But that was a big -- you know, one of the biggest questions we get is, you know, how -there are concerns are over replacement issues, being able to find them and the condition of them.

And so it's not -- it is a partnership with both paying (speaking out of microphone range). Sorry.

SENATOR STRICKLAND: Nancy, I have a question as well on making change. There's currently a federal lawsuit pending that's asking -- the group's asking the state for the paper ballots for this fall's election, which I believe early voting is a month and a half away
from starting or less now.
Todd, do you have any perspective on behalf of the counties as to how that could work?

MR. EDWARDS: Well, obviously we're aware Of --

Do you want it?
MS. GAY: No.
MR. EDWARDS: Okay. We're aware of the concerns with the current machines with the issues. They're being looked at. But also are greatly concerned with the impact this would have on such a quick turnaround prior to the November election.

I don't think there's one magic bullet that's going to solve all of this, but $I$-you've got to balance with what are the potential risks, what sort of complications would switching in a short time frame be. You're going to have to require -- you know, require the light inventory.

I talked to some of our folks. Train local officials and folks on how to vote on whatever ballot you put out there. I think there is going to be confusion. I think one thing we heard earlier, at -- I believe it was the last meeting

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of this commission about Virginia doing it in
such a short time frame.
    When Virginia did it, it already had
legislation passed the previous year that set out
a two- or three-year time frame to replace all of
them. They were in the middle of the process and
when they got the -- I guess it was a
recertification of the DRE systems, at that
time -- and I wrote down some numbers -- there
were only 13 localities in the state that had to
make that change. Or I think there were about 20
total. Seven of those are already in the
process. We're dealing with only a couple
thousand -- let's see, about a hundred and ninety
thousand voters out of 5 million. That pales in
comparison to the task we would have in front of
us today here in Georgia.
    We do have concerns. Again, you're going to
have to weigh the benefits of us sticking with
the current machinery and paper ballots, but I
believe it would be quite challenging for
counties and voters in the state to pull it off.
    MS. GAY: (speaking out of the range of the
microphone) I'm sorry. For me, from my
standpoint, this is going to sound crazy, I'm not
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worried about the staffing or the poll worker. I would be more concerned with the confusion for the voter if you try and make that kind of change in such a short time frame because it's just unfair to them, having to try learn something on short notice. And the confusion of it, they don't need that, but that's not what this is about, so ...

MR. EDWARDS: If $I$-- and real quick, one of the questions -- I did follow the Virginia Association of Counties. One of the big issues they had was making sure if they're going to do something like that, the rule was in place of what is a vote, what counts as a vote. We talked about overvoting and mismarking a ballot. You're going to have to have those rules in place to make sure that the voters and the poll workers understand them beforehand and I'm not sure we do.

MS. BOREN: And just a little perspective from me. Again, $I$ implemented the optical scan voting in Muscogee County in 1996, and at that time, we did not have a vote review panel to determine voter intent. And so many of the ballots that were voted --

I went back and looked at the 2000 presidential election. As we were converting to the DRE voting, many of the choices were clear, who the voter wanted to vote for but because of current legislation, we could not reject that ballot. It was rejected as an overvote even though they had voted for a candidate and then had marked or bubbled-in the write-in line and written the same candidate's name in. Voter intent was extremely clear, but it was an overvote because the law wouldn't provide us to send it back or to give it to that voter for them to fix.

So there are a lot of issues that you have to think about in paper balloting.

Ms. Bailey, I believe you had a question.
MS. BAILEY: Yes, I do. This is Lynn Bailey from -- local election official from Richmond County. It's a question going to -- going back to cost. I know when we made the transition in 2002, the counties were able to write it on the contract to purchase additional equipment.

And $I$ don't know if you've heard from any of your constituents, Mr. Edwards, from a county's perspective if that's desirable, but I would
imagine it would be, and I would hope that we could consider putting that into the contract moving forward.

MR. EDWARDS: I think our voters would be most pleased with that, ma'am.

DR. LEE: Thank you. So this may be a crazy question, and if so, forgive my ignorance. So it seems if we spend all of the money up-front, we kind of tend to stick with it for a long time. So from a cyber security point of view, we may establish too short (indiscernible), right, to meet with the degrees of threats.

So why can't we lease the systems? Suppose we keep the templates the same so we don't have to cause voter confusions. So can we do anything like that?

MS. BOREN: So the possibility of leasing new equipment to use it through an intergovernmental lease through a company, is that your question? That's definitely a legal question, and I'm sure that somehow we would be able to do that.

SECRETARY KEMP: Well, I would say I think that's a very good question. I think that is something that certainly this commission can talk
about. It's certainly an option. I mean, we've had that option with other systems that we have. I think that also is up to the vendor community and what they're willing to do and then also what the legislature would be comfortable with. You go through the appropriations process to decide what's the most cost-effective way to do that. So I think that's certainly something that will remain on the table in my opinion.

REPRESENTATIVE FLEMING: I agree.
MS. BOREN: And my one fear with that would be, again, voter confusion. You have one set up voting for a couple of years and then you change it again. And there's that upward education, that you have to educate voters. We have 6 million voters in Georgia. That would be a difficult process to change paperwork and procedures over a short span or period just because you think you have a better technology. I think we want to move slowly on that leasing of equipment to use for a short period of time. Again, that's my opinion, and I don't know how you want to respond to that.

MR. WELLS: Again, from a technical side, like $I$ said, funding, sometimes once you to fund
certain things which -- for example, in using bond funds, there are certain requirements, like the state has the only asset and certain things of that nature. So $I$ think the secretary made a perfect point in terms of it'll be a collaboration effort from the governor's office with the general assembly to determine what's the best approach.

And I think that once the approach is agreed upon, I think, the governor's office and the office of planning and budget would definitely work very hard to make sure that the money is available and that it's -- basically, it can execute being able to get the money to our partners at the local level.

MR. MCDONALD: Follow up?
MS. BOREN: Yes.
MR. MCDONALD: This might be a question for him (indicating) from a technology standpoint, but when we talk about the technology, we have machines that actually process the process. But the cyber security, is there any way of segregating those two things in the sense that we have the same process for the voter utilizing pushing the buttons, but as technology evolves,

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the cyber security in there is something that
might be being leased and actually evolving with
the same system so that what we're not doing is
changing whole system every time we have a
cyber-security issue. Rather the system is the
same but we're treating the security for that
system different. I just don't know if that's
even technically possible or is it a one -- is it
a package deal?
    DR. LEE: It's possible.
    REPRESENTATIVE FLEMING: This is just along
those lines if I may, Nancy.
    The secretary and I were just mentioning
that when we began with the current system, the
machines we had in 2002, the back-room process or
the behind-the-scenes of how all that is counted
and tabulated has changed with different software
and different changes, although the voter
interaction has changed very little. All the
upgrades behind the scenes have occurred and with
significant expenditures sometimes to keep the
system rolling, so ...
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MS. WELCH: Cynthia Welch with Rockdale County, election supervisor. I think it needs to be clear that any system that we consider for the
state of Georgia, that we continue as we have the system today. Our election system has no Internet accessibility. So when we talk about cyber security, it's more or less for our voter-registration side, our poll-book side when you talk about hacking. But when you talk about actually counting ballots, votes being cast on voting machines, there are no Internet connectivity whatsoever.

So we need to be clear about that when we talk about cyber security, that we're not talking about the vote that has been cast by the voter, again, the vote that are being counted, because that is not at risk because, again, there is no connectivity there.

REPRESENTATIVE FLEMING: Nancy, if I may once again, Cynthia is exactly right. I've made this point when $I$ have received questions about what this panel is trying to do in the current system.

When you touch the screen to vote, that machine is not connected to the Internet. When those machines are gathered together by Nancy and Nancy to tabulate them, the computer that tabulates them is not connected to the Internet.

It produces a disk which is picked up by, ultimately, the secretary of state's office and state patrol office -- or where they pick it up. Transmitting the official results to Atlanta is not by Internet. When it gets to Atlanta to the secretary of state's office, the system there that combines all of that data from 159 counties is not connected to the Internet.

And so that point is well-taken that our current -- you can't hack it through getting in through the Internet. You would have to physically be there just like you would with any other system if you tried something mischievous.

And may I add that there are paper-copy backups of our tabulations that are in three places: secretary of state's office, in the election superintendent's office, and we're required to file that third copy with the superior court clerk of that county. So there is a paper backup of the tabulation that matches that that goes to Atlanta.

MS. BOREN: All right. I think that ends our few moments on the panel unless anyone else has any questions.

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    Yes, secretary.
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SECRETARY KEMP: If y'all don't mind, I just want to make a quick announcement before we go to break. First of all -- well, let me just say that we're -- for the commission itself, we have lunch next door. This is a commission member-only lunch where going to have kind of a lunch-and-learn luncheon with the commission. We'll try to be back -- if everyone in the audience would be back at 12:55, we'll try to get started right at 1:00 with the demonstrations. And please help me thank our last panel of the morning. Thank you very much.
(Break for lunch)
REPRESENTATIVE FLEMING: We are going to
begin the portion of our meeting with vendor demonstrations. We have set aside approximately 30 minutes for each one of our vendors and maybe about 25 minutes for the demonstration and about five minutes for questions. Of course, I understand we're starting to a tad late. We're not going to penalize anybody for that. I'm keeping time.

We will begin the demonstration portion with Clear Ballot.

And you've got a mic there so I'm going to
allow you to introduce yourself and I'll allow you to take off.

MR. MURPHY: Thank you very much, Mr. Chairman.

REPRESENTATIVE FLEMING: Yes.
MR. MURPHY: First of all, I want to thank the SAFE Commission and the secretary of state's office for the opportunity to come in here and introduce us.

My name is Bill Murphy. I'm the director of sales for Clear Ballot. I would also like to thank American Audio Visual Services for helping me navigate at another conference $A / V$ setup. It's always fun and exciting.

My goal today is to introduce you to Clear Ballot. We are the newest voting system to be certified through the TAC and I think that our system aligns very much to a lot of the things that you guys have been discussing today.

And it's my goal today to show you, through a few videos and a demonstration of our product and any questions that you guys might have, what Clear Ballot is all about and how we can potentially help the state of Georgia to accomplish the objectives that you guys have got
set out in front of you, so ...
Clear Ballot was founded in 2009, and we were founded as an audit system. Our core technology is principally an audit system. So transparency, auditability, and resilience is built into our DNA. And those are the things that I have heard over and over today as being critical to what you guys are looking for in moving forward.

We are currently certified in seven states from around the country operating as a voting system and audit system. We like to call ourselves a smart digital scan system as opposed to an optical scan system. And for some of the reasons that I'm going to talk about, hopefully that becomes clear.

But the whole objective of our company and the founding principles of our organization are to put as much control back into the hands of the jurisdictions to make smart decisions both from a financial perspective, have confidence in the results, and be able to prove that every vote was counted as cast.

And I'm going to show a quick video now from a few of the members of our team and a few of our
current customers talking about the system and what it's brought to their organization.
(Recording played)
MR. MURPHY: The architecture of our system is very simple. We designed it that way. It starts with our ballot design tool. A lot of the questions that people had mentioned or a lot of the comments that people mentioned about accessibility, large-print ballots, UOCAVA ballots, in our system, none of those ballots would need to be proofed in a secondary way or remade manually which is one of the limitations of a lot of the things that are out there now. They have to remake the ballots in order to tabulate.

Our system allows you to maintain the actual voter record as it was cast by the voter without any interpretation by an election official or by the technology in the middle of that process.

So design caption creates those ballots. It creates the media that's populated to both our accessible touchscreen voting system and our Clearcast tabulator.

And then the results from the Clearcast tabulator are then aggregated through our central
tabulation system, ClearCount, which is what you saw a little bit of a preview there just now, and then I've got the actual system pulled up. So I'm going to jump into that after I get done with this quick presentation.

ClearDesign, one of the nice things about our system is that everything is built on a browser interface. The core system is offline. It's a closed system, but we're leveraging a browser interface with navigation and it allows us to do a lot of things with the usability of the product that -- it's harder in a hard-coded gooey interface. That's a little geeky. You know, the end result is it's easier to use and it's faster to do the things that people do on a regular basis.

Our largest client is Voting Systems King down in Washington which is Seattle, which has about 17,000 ballot styles. And in King County, through the -- when we first started talking to them, through the procurement process, I believe they said it took them over a week to generate their ballots. And with us, they were able to cut that down to just a couple of days, so a lot of exponential time savings and the cost savings
involved.
This is a quick video with regard to our precinct tabulator which is an optical scan ballot reader. And hopefully this will give you some idea how the voters in the precincts would cast their ballots.
(Recording played)
MR. MURPHY: Now, one of the things that's paramount of the ClearVote system is an identical paper ballot for every voter. The accessibility voting panel that was up here -- and one of the folks mentioned that, you know, having a ballot that distinguishes somebody that voted on a separate system because it looks different, you know -- is an issue with voter anonymity, and I think that it stands in the way of disabled voters voting independently, and we believe that the identical paper ballot is key to auditability and key to making the system accessible for all without any reinterpretations.

Every ballot that is produced through our accessible voting system would be submitted through our tabulator here. So there would be a paper ballot for every voter that could be audited, and I am of the opinion that, you know,
when you talk about security, having an identical paper ballot for every voter that came into the polls is the best form of security that you can have because you've always had physical record of the election that you can go back to to check the results if there is any question.

We also have a version of this machine.
Same machine, but in this picture here, you're seeing the larger ballot box which is also a secure part of the system; and for the larger jurisdictions, a better fit, so ...

Everything with the exception of the ClearCast tabulator that $I$ just showed you is a commercial off-the-shelf piece of hardware. So I think we -- again, going back to the idea that we want to allow you guys to make, you know, smart decisions to maintain current hardware, if new hardware comes out, we believe that that's the best way.

So from a central tabulation perspective, we use commercial off-the-shelf scanners from the accessible ballot-marking device. We use commercial laptops, commercial printers which allow you guys to keep the costs down and also allows for a longer usable life and an easy
transition should new hardware become available that offer significant value, so ...

We also leverage the anywhere ballot which is a EAC-funded voting wizard. There was some discussion about, you know, down the road, you know, if different voting channels open up for ballot-delivery-only voting, we don't do that now, but the Anywhere Ballot was designed to allow for voting on any platform.

So, you know, our whole system is built to allow you guys to stay ahead of curves so you don't have to rethink your entire voting system should things change. And if anybody thinks that, you know, elections is going to not change from this point into the next ten years, I think you probably would find a lot of people with a different opinion, so ...

And then really the engine and the -- what I feel is the most important part of our system is our tabulation-and-results presentation. And what we do is we take a high-quality image of that ballot and then we take every voting mark on that image and we organize it. So our system is in place to capture the ballot image, organize that data, and then present it to you guys as
election officials to show you how we interpreted those marks and present them to you so you can essentially validate what we have counted in a tabulation.

And that's going to lead me to -- the question that $I$ think -- and this is a, you know, rhetorical question, you know. If transparency and auditability is important, I think that you should look at ClearBallot and consider us because I feel like we're giving you a picture and a window into the election that no one else can provide.

And I'm going to jump in -- I'm going to put down my microphone for a second and switch laptops.

What I'm showing you right now is the actual system that your election officials would be using on election night. After the polls have closed and results have come in, people are bringing back their thumb drives just like you guys do today. We aggregate them through the system.

And I'm going to show you a few examples of things that have been pointed out today. And how will we show you those examples and how we allow

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you to manage them and really provide you with a
set of data that you've never had before. And I
think that's going to be really important when
you're looking at the next voting system that you
guys are going to invest in. The data that
you're about to see is going to allow you to do
so many things, from poll-worker training to, you
know, identifying trends in polling places to
identifying equipment that needs maintenance, and
that's really where I think we shine.
    So what I've just done is I've clicked on
our statement of votes cast and it shows me every
contest and because we're running a browser,
every one of these blue buttons is a live link
that I can go into. So if I wanted to look at
the votes cast for George Smith, I can click on
that and it's now going to pull up every vote
that was cast for this candidate in this contest.
And it's going to organize them by our system's
contents.
                                    So this is 86 votes, this is our demo
database. But if I scroll over any one of these
particular marks, it's going to pull up the
entire contents area. So I can look and see if
there's anything in there that needs attention or
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anything in there that's worth note. And then if I click on it, I can pull up the entire ballot, and it shows me in 200 dpi, you know, how each one of the votes was cast. It's got a little legend here. Green means that there was a vote counted. And we actually have an annotated version of this, that if you click on this, it'll show you almost a real-life audit of that ballot. So you can see the green is where we counted the vote for that particular candidate.

So you can visually audit any ballot on the spot. But these are ballots that we counted as votes and we're not asking you guys to relitigate that, we're just presenting them to you so you can see them.

But one of the things where it really does come into play is in the case of overvotes, okay. Coming up as an audit system and working a lot of vote-by-mail states, we see a lot of things that most precinct tabulators would catch and filter out, but you can quickly go over these overvotes and see pretty clearly that these are all overvotes. But in a case like this, that might be something that in a close contest or depending on how you guys handle overvotes in a regular

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situation, you might want to look at that. And
here, you know, you might want to present that to
your commissioners and say is that something
where voter intent may be clear and is that
something that we should change. And if you
wanted to change this, our system gives the
ability to modify our adjudication without ever
having to alter the physical ballot as cast by
the voter which is important because --
    I had a conversation about this with an
election Official in New Orleans at Election
Center this week. And they said: Well, if you
don't change it, how are they going to know what
the voter's intent was. And I said: Pull that
ballot up. Is there going to be any question
about why you changed that vote? And we log in
to -- if I go to this ballot, you'll see how this
works. I can just deselect Martin. It's going
to ask me if that's what I want to do and I can
save. And that's now going to change to a vote
for George Green, but it is logged that I am the
user that has made that change and it will log
the time that I've done it. And then, if I go
back to the statement of votes cast and refresh
this, you'll see now that the total for George
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Smith increased from 83 to 84.
Now, I'll show you one more example and then we can take some questions. There was -- there was a -- somebody had pointed out that undervotes, you know, are something that happen and sometimes they are important, sometimes they're not, but this is an example that $I$ wanted to show you where an undervote may go -- an undervote may not be cast in the way the voter intended.

So with the ballot then what we do is we pull up any events in the candidate area that might be important for you guys to look at. In this case they circled the candidate, which happens sometimes, but if click on that ballot, you can see that there are a few votes here where it actually went through the candidate area. So this might -- it might've been caught as an undervote on one contest where the votes in contests where it passed through the oval. In this case it didn't look like any of those registered, but if it did, that ballot would pass through the precinct scanner and it would -- it wouldn't raise any red flags, it wouldn't be caught as a -- $I$ think it is flagged for an
unmarked ballot.
But with this, because those votes were -there was a vote on the ballot, it's going to stand. It's going to count the other ones as undervotes, and voter intent would be missed. So we give you the visibility to ensure that voter intent is captured as cast and we show you the math behind every one of the numbers on our system, the tabulation that we've presented as the accurate tabulation of the election. And we organize it in a way that allows you guys to make decisions and proof that you guys have done everything the right way.

So that's what I think ClearBallot brings to the table that makes us unique. And this was kind of quick. I'll take any questions that you guys have and I look forward to continuing the conversation with you guys and continue this journey.

REPRESENTATIVE FLEMING: Bill, we appreciate your presentation. It's Bill, right?

MR. MURPHY: Yes, sir.
REPRESENTATIVE FLEMING: Bill Murphy?
MR. MURPHY: Yes, sir.
REPRESENTATIVE FLEMING: Okay. One question

I might start off and you may not have the answer to this, but any idea how much it would cost Georgia to purchase your system for all hundred and fifty-nine counties we've got?

MR. MURPHY: I was told there would be no math.

REPRESENTATIVE FLEMING: I know it's a big question at this stage of the game so I understand if you wouldn't have those figures.

MR. MURPHY: I think that the figures that you guys have been throwing out are probably in the right ballpark. I think it's going to come down to when you guys put your RFP out, you know, what are the types of services that you want, you know, from the vendor to support you or what kind of ancillary systems will be integrated in with the system.

I can tell you as an optical scanning system or a digital scanning system, our footprint in the precinct is probably as small as you can get. We advocate, you know, a one-to-one set-up for our precincts to have the ability to have an accessible machine in precincts under 2,500 registered voters and then, you know, for every registered voter over that many we would add
another precinct tabulator to make sure that the lines are moving basically.

REPRESENTATIVE FLEMING: Bill, how long has your system been around? How long has someone been using this system?

MR. MURPHY: We were founded in 2009 and we've been working as a voting system since 2015 .

REPRESENTATIVE FLEMING: And I think you said King County, Washington was your largest user at this point?

MR. MURPHY: They're our largest voting-system client and they purchased at the beginning of last year. We also work with Broward County, Florida, which is pending an audit, and the way that they use our system as an audit system is they do a secondary tabulation of every ballot.

So they want this -- it's almost like a ballot census. So they're using our system after the ballots go into their warehouse, then archive these digitally, then they put the paper away so they have to -- to do that.

REPRESENTATIVE FLEMING: I'll look around the table and I'll start taking questions from the panel, and I'll start over here with Jimmy.

Go ahead.
MR. MCDONALD: I want to make sure I understand this right.

REPRESENTATIVE FLEMING: Jimmy, talk into your mic there real good.

MR. MCDONALD: Let me make sure I'm understanding this right. So you have machines that would be part of the processing system that scan and -- so does that mean that the jurisdictions would also have to maintain a paper system as well? Because it seemed like if there was a paper ballot that was being filled out and having to be scanned into the machine and the tabulation and the maintenance paper ballot system would be part of a -- so are there two separate costs here as far as administrating the election, as far as maintaining the machines and the purchase of the machines, still having to maintain paper ballots?

MR. MURPHY: Let me make sure I understand the question correctly. So the answer to your question is yes there's a paper ballot for every voter. And you guys would either print those paper ballots out in the precinct on demand so as the voter comes up you can print the ballot on

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demand for them or you would preprint those ballots.
MR. MCDONALD: There's a paper component to this.
MR. MURPHY: This is 100 percent paper. There is an identical paper ballot for every voter that comes through the polling place, yes.
REPRESENTATIVE FLEMING: And sometimes is it necessary for a voter to use multiple pages of paper, I would assume?
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MR. MURPHY: It depends on your election.
REPRESENTATIVE FLEMING: Right.
MR. MURPHY: We have worked with up to four-page -- four-card ballots.

REPRESENTATIVE FLEMING: Okay.
As I come around the room, questions? Looking around the room.

Amy, do you have one? Go ahead.
MS. HOWELL: So clarify for me as to the paper process when it comes to access for individuals with disabilities. It's computer-based or ...

MR. MURPHY: Yes. We have a cost-based touchscreen voting system which is based off the Anywhere Ballot, which is a VAC-funded voting
wizard. It produces an identical paper ballot so in the system you cannot distinguish the ballots that were printed off by the accessible system from the preprinted ballots.

And when they're in the system, they're identical. I think that's -- make sure I've -did that answer your question?

MS. HOWELL: You did. Thank you.
MR. MURPHY: Oh, the other thing I wanted to say too, there's no tabulation done on that accessible voting system. It is just a ballot-marking device.

REPRESENTATIVE FLEMING: You've got about five minutes left so I'm going to continue coming around the table.

Do you have a question right here? Sheila, did you have a question?

MS. ROSS: So when in the process would the ballot be scanned? Is it while the voter is still present or after or it's up to the individual precinct or how does that work?

MR. MURPHY: In the precinct, in the polling location, they would mark their ballot on -- in the voting booth, and then they would scan they would scan the ballot through the precinct
tabulator like they were showing in the video.
They just slide it through.
MS. ROSS: So the voter would slide it
through themselves?
MR. MURPHY: Yes.
MS. ROSS: And how long does that take to
scan a ballot?
MR. MURPHY: About three to four seconds.
MS. ROSS: Regardless of how long the ballot
is?
MR. MURPHY: Yes.
REPRESENTATIVE FLEMING: Nancy?
MS. BOREN: (inaudible)
REPRESENTATIVE FLEMING: Turn your mic on.
MS. BOREN: At the end of the voting day,
would the election workers certify this contest
or is that part of the post-election process? So
before certification of an election, at what
point do you look at the marks to determine
undervotes, overvotes, votes that are on the
ballot?
MR. MURPHY: It depends on the state's rules. You know, we've worked with jurisdictions that do it differently in different places. We can help you in the transition to figure out what
works best. Most people look at the overvotes, but depending on the law on how you decide it, some people -- $I$ know specifically with RLAs (phonetic) it focuses on margin. So if there are contests with close margins, you know, you could, you know, evaluate and look in the audits of those votes that were not counted or ballots that were not counted as votes to see if there was any uncaptured event.

But it's really more of a decision for the jurisdiction. You know, our job, I think, in this process is to present you guys with the tools to do whatever you need to do in the easiest way possible.

REPRESENTATIVE FLEMING: Continue around the table. Right here. Lynn?

MS. BAILEY: Thank you, Mr. Chair.
Can you tell us in a nutshell how your system works in terms of a recount and the ability to isolate one particular race for a deeper look.

MR. MURPHY: Yeah. Yeah. So that's a great question. I usually tell this example when we talk about recounts because it was a situation -we were working in Colorado. It was a first-time
clerk so it was his first election and we were -they were using our system for the first time. So there was a lot of firsts in this election for him, and it was at the end of the night. There was about three contests at the local -- you know, small contests that were within a three- or four-vote difference.

And in Colorado, they adjudicated all of their overvotes during the election process, that they do their vote-by-mail and they do early-voting. So they had looked at all of the overvotes that our system pulled up to make sure that they applied to state law. And his first reaction at the end of the night, at two in the morning when he realized that there were these three -- three contests were less full, all of that -- all of those ballots $I$ want to rescan to make sure that we counted everything correctly. I want to -- I was like: That may not be the best idea at two in the morning. Why don't we look at the dashboard first.

And we were able to go through each contest in about ten minutes and look at every vote that we counted, look at every vote that was counted as an overvote that they had adjudicated and
classified as an overvote, look at everything that they had changed, and look at every uncaptured ballot where there wasn't a vote for that particular candidate but to look to see if there was anything in there that could be interpreted as intent.

And in about ten minutes, he looked at all three contests and said: I'm going to bed. I'm fine. And when the candidates came in the next day, he showed them the dashboard and they shook hands and they said congratulations because he was able to show them the math behind the tabulation number, and they saw very quickly that there wasn't anything there that they were going to be able overturn with.

REPRESENTATIVE FLEMING: Judge, you look like you have a question.

JUDGE MCCOY: What about ballot-marking stations, booths for voters to actually privately mark these ballots? Is that something that comes with the package, or are we going to have to deal with that issue separately?

MR. MURPHY: No, that's part of the system that we would provide. I think there are probably going to be a lot of things from
whatever vendor you guys decide to go through from an infrastructure perspective that the jurisdictions will have to, you know, use to upfit their precinct voting, ballot booths, you know, little ballot booths or one of those things. There's a lot of options out there, but we've got a few that we think are good, both, you know, high cost and, you know, top of the line, and, you know, low-cost versions. So it depends on what you guys prefer.

MS. HOLDEN: Yes, I'm Deirdre Holden, Paulding County election supervisor in Dallas, Georgia. I have two questions. First question is when we were listening to our panels, there was a discussion of when that ballot is put through the tabulator if there is an overvote, does it kick that ballot back out and give that voter the opportunity to correct that?

MR. MURPHY: Yes, ma'am. Yep.
MS. HOLDEN: Second question: Currently with the system that we have in Paulding, I do have ballots -- I will tell you we print all of our ballots. I know that that would not be a reality to have one of those in all precincts for different counties. It wouldn't be for me
because $I$ know how much I paid for it. There is a setup fee that when we're done with our ballots that we have to pay, but there's also a cost per ballot.

Now, if we go all paper, I have a precinct that has over 15,000 voters. Now, I'm going to have to have 15,000 ballots there, but we know all 15,000 of those people are not going to show up. To me, that is going to be an extra cost burden on the counties to pay for ballots that we're basically going to put in the shredder. So that's a concern that $I$ have. I am a metro county but $I$ still have to think about my sisters and brothers around the state that don't have that extra money to just basically put into a shredder, you know, after the election's over with. That's one of my concerns.

And I don't, you know -- I know all the election people at the table have spoken but $I$ do have concerns with that because my biggest concern, number one, is that that voter does get to walk away knowing that who they voted for counted and it's tabulated correctly, but I also have to look at it on our side of how much this is going to cost us on the county level. So that
was one thing.
I guess my question is is there an additional price per ballot with your company? Will we have to pay 39 cents per ballot or 45 cents if it's color? That's what I would like for you to answer for us.

MR. MURPHY: Yeah. Yeah. That's not an uncommon concern with folks moving from a DRE to a paper system. We hear that all the time. Our ballot-on-demand system we have in, essentially, two flavors. We have one that would be in a check-in mode where you're printing off a ballot as the voter comes up to the registration desk and is checked in by a poll book that we integrate with, you know, your poll book of choice and to make sure that that ballot is of the correct style.

We also have a more enterprise ballot management system that would print out Test $X$ (phonetic), you could print ballots in bulk. So rather than printing out 15,000 ballots, you know, for a precinct that has 15,000 registered voters, you can print out half of that and then if it gets low you can print out more on demand for your central location and send it out to that
in plenty of time. We do not charge per ballot. We just charge a flat software fee for both of those systems and for the hardware, so ...

REPRESENTATIVE FLEMING: Good question.
Bill, good presentation.
MR. MURPHY: Thank you, sir. I appreciate that.

MR. MONDS: I have a question.
REPRESENTATIVE FLEMING: Who's that? Oh, okay.

MR. MONDS: John Monds.
What will the voter see once their ballot is scanned that shows them that they voted for exactly what shows up in the ballot?

MR. MURPHY: Yeah. So on the precinct --
REPRESENTATIVE FLEMING: Hold on.
John, I'm not sure $I$ heard that question.
Can you repeat it as you understood it, Bill.

MR. MURPHY: Yeah. So you asked what do the voters see --

MR. MONDS: Once --
MR. MURPHY: -- as how our system has tabulated their ballot?

MR. MONDS: Right. Once it's on the
scanner, what will voters see? An example beingGeorge Smith, will it show the voter their votewas for George Smith?
MR. MURPHY: No, not in the precinct. In the precinct, we only notify the voter for overvotes. It's configured along the alerts. We can alert for overvotes. We can alert for undervotes. Most people don't do undervotes. But the accessible voting system would allow the voter on the touchscreen to preview their votes before they print the ballot and inspect the ballot after it's been printed. Once they've put it through the tabulator, it is cast as they've submitted it unless it's an overvote in which case it would kick back and then you could spoil that ballot or they could submit it if they choose to do so.
REPRESENTATIVE FLEMING: Bill, thank you so much.
MR. MURPHY: Thank you for everything.
REPRESENTATIVE FLEMING: Yes?
JUDGE MCCOY: One quick question.
REPRESENTATIVE FLEMING: Judge?
JUDGE MCCOY: Has anything ever been brought to your attention about the South Georgia
humidity and moisture in a ballot and your scanners being able to scan those ballots in high-humidity situations?

MR. MURPHY: I live in Tampa, Florida and grew up in Charlotte, North Carolina so I'm familiar with what you're talking about. We grew up as an audit system in, you know, a kind of vote-by-mail environment. So our system is a lot more tolerant of ballots that may not be perfectly formed or may be a little bit bloated because of the summer weather. So we have not seen any instances of that being an issue.

I think paper -- the paper decision that you make -- you know, we like to tell people that we give you a lot more flexibility on the types of paper you can use in an election, but paper is one of the things that contribute to a factor like that.

So we would work with you guys to make sure that through the testing process, you know, that we're coming up with the best stock that works for your client because we know that it is sometimes challenging.

REPRESENTATIVE FLEMING: Bill, thank you so much. We're going to move on to our next --

MR. MURPHY: Thank you very much for the time. Thank you.

REPRESENTATIVE FLEMING: Thank you.
Unisyn, we're going to give you all time to get set up, and we'll start the clock when you're ready to go.
(Pause)
REPRESENTATIVE FLEMING: All right. We're going to get started now with our next presentation. This is Unisyn Voting System. Did I pronounce that right?

MR. WAGNER: Yes, sir.
REPRESENTATIVE FLEMING: I'm going to turn it over to you and let you introduce yourself.

MR. WAGNER: Very good. Thank you all for giving us the opportunity to come and visit with you a little bit today. One of the things that we want to emphasize is poll-worker setup and how easy it is for poll workers to use our system. You saw us wheel in the ballot box, on top of it our digital scanner. The poll worker is simply going to plug it in and turn it on.

I am going to do the introductions in a second, but $I$ want to start with that because, again, your poll workers are probably like my
poll workers. I used to be the director of elections in Jefferson County, Missouri. It's in St. Louis. And one of the things poll workers have always asked me during training, they said: Wes, don't skip any steps. So when I speak to you today, I am not skipping any steps. So when I say the poll worker simply plugs it in and turns it on, that's all they have to do.

Our touchscreen, we call it the FreedomVote. You'll see how it is deployed right now with the legs, a privacy shield. I'm going to have my coworker Mark, he's going to remove the shield so we can all get a look.

To turn this unit on, plug it in, turn it
on. Mark, he's already done that. He simply lifted the tablet into its current position. The tablet does have four positions. The vertical position would be most beneficial to voters with disabilities that require a wheelchair, but you can lay the tablet completely flat. The FreedomVote takes approximately 15 seconds to set up. The ballot box is about three minutes because it is a computer.

Our digital scanners are on the Linux platform, 256-bit encryption. Our touchscreen,

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the thing I want you to know about that is the
components, the tablet, the printer, those are
commercial off-the-shelf, what we call COTS. In
the event that a voter or poll worker breaks the
tablet -- I have not seen that happen, but if
they would, we would simply replace the tablet.
You don't incur the cost of replacing the entire
unit.
    Also, because it is tablet technology, we
are offering the benefit to your voters with
disabilities, with visual disabilities, the
screen-reader functionality. What we have found
is that braille is not enough, not any more.
We're going to show that to you today.
    It's just printing out the opening reports.
Again, poll worker, they simply plug it in and
turn it on, this is the opening report. It gives
you the opportunity to print multiple copies.
There's a place at the bottom for the poll
workers to sign. I would recommend to you to
have every poll worker at your precinct sign it.
If you have six poll workers -- three Democrats,
three Republicans -- everybody should just sign
and attest that we're starting at zero. When we
walk into the precinct and we're ready to go,
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you're looking at less than five minutes to set up.

Okay, so $I$ have with me today -- this is Dustin Vanderburg. Dustin is the vice president of Adkins Election Services. Adkins is a Missouri company. We have customers all through the Midwest. Adkins has been in business for 75 years.

This is my coworker Mark Carter. Mark has just joined our team recently. Mark has had a long career with Democracy Live. So Mark has real expertise with voters with disabilities and UOCAVA voters.

And my name is Wes Wagner. I am the former director of the Washington County clerk from Jefferson County, Missouri. I held that position for 11 years. Prior to that, $I$ served in the Missouri legislature for eight years as the ranking member on the elections committee.

Okay, so let's go a little bit out of order and I want to show you absentee ballots first.

REPRESENTATIVE FLEMING: Oh, hold on a second.

MR. WAGNER: Yes, sir.
REPRESENTATIVE FLEMING: You served in the

House or the Senate?
MR. WAGNER: I served in the House.
REPRESENTATIVE FLEMING: Oh, you're a good guy. Go ahead then.

MR. WAGNER: Threw me off track.
REPRESENTATIVE FLEMING: I'm sorry. I was having a timing issue. My bad.

MR. WAGNER: Okay, so what Mark is holding is a typical absentee ballot that you would send to someone who was going to be out of town on vacation. Our system can accommodate an 11-inch ballot, 14-inch, 17-inch, 19-inch, printed front and back. The voter is simply going to take a marker and color a bubble of his or her choice, send it back to the election office. We're going to adjudicate that outvote and make sure that all of the requirements have been met. And the election official in the office is simply going to feed the ballot into the scanner in any orientation. It doesn't matter faceup, facedown, backwards, forwards, doesn't matter. You just have to lay it flat like a dollar bill in a soda machine. And when $I$ do poll-worker training, that's absolutely how $I$ explain it because everyone seems to understand a dollar bill in
soda machine.
You see how quickly Mark is sliding the ballot in. That one's backwards. There's a little green light. You may not be able to see it in the back of the room. The green light says it's ready to have ballots inserted. And it's just that quick.

Okay, then Mark is going to grab this ballot because the other voters sometimes don't follow the instructions, and we have voters that they liked Donald Trump and they liked Hillary Clinton so they voted for both of those candidates, right? And so they colored in the circle for both candidates.

So Mark is going to insert it into the digital scanner. It's going to be rejected and a little slip of paper is printed off. That little slip of paper -- if you decide to use a paper ballot at the precinct level, that little piece of paper will indicate to the voter at the time of the casting of the ballot where the mistake is on the ballot. And so that one should say -overvote for sheriff is what that should say and that's what we're showing you.

The reason we think that is important is
because a lot of jurisdictions have what we call "busy ballots." In Missouri, we have a lot of constitutional amendments on the ballot. It is the same time as our congressional members and governor and so on.

That little ticket will allow the voters to look immediately to determine where the mistake was made. If this happened at the precinct level, the voter would simply take that ballot, bring it back to the poll workers who would spoil it, put it in a spoiled-ballot envelope, issue the voter a second ballot and therefore get a second chance and comply with federal law. If that voter says: You know what, I really do like Donald Trump and Hillary Clinton, I want to vote for both of them, the whole screen will allow the voter to checkmark the box and accept the ballot. Now what will happen is the votes, the incorrect vote, the overvote will not be counted but the rest of the ballot will. So the voter will not be penalized for the correct selection.

Okay, Mark is holding in his hand the same scenario. This is an overvote and the voter wrote us a note on the ballot. Those of you who have dealt with paper have seen all kinds of
notes I'm guessing. So why did the voter do that? Why did the voter scratch out that candidate and vote for somebody else? Well, because they only received one absentee ballot in the mail. Same process. The ballot's going to be rejected. You know, this scenario, what we would recommend that you to do, you go ahead and staple or paperclip that slip that indicates where the overvote has taken place. You would simply grab a new ballot out of the filing cabinet, if we're talking about in our office, and faithfully duplicate that ballot and slide it through the scanner.

Okay. I want to show you our electronic poll book. This is an iPad. We work with a company called Tenex, $T-e-n-e-x$, and Mark is going to -- we're going to do a little role-playing here. Okay. Let's show everybody the home screen first. Your poll workers are going to be on this particular screen all day -red, yellow, and green.

Mark, do you want to fold it?
MR. CARTER: Sure (demonstrating).
MR. WAGNER: Then just unfold it.
That's literally all your poll workers have
to do. Mark is going to demonstrate that the tablet flips back and forth. There's a reason for that. Because $I$ am a poll worker on this side of the table and when $I$ check you in, we're going to ask for your signature. The screen is going to reorient itself. We're going to flip that iPad to voters on the other side of the table. That's what we're going to show you.

Okay. So Mark the voter, we've asked him for his identification. The poll worker selects the green driver's license scan. It activates the camera on the iPad and the iPad is going to scan the barcode on the driver's license. We, as poll workers, are going to ask that voter if their information is correct. If it is, we're going to get their signature.

Mark, do you want to show them that it's -(Adjusting iPad)

MR. WAGNER: Okay, perfect.
It was upside down for the voter. Now it's correct. The voter has signed and we're going to issue the ballot.

Now, on that particular screen, we're looking at name, address, party affiliation if you want that on there, date of birth or just the
year of birth, voter ID number, all the information is customizable.

So Mark's going to complete the check-in process. And you may not be able to see but there's a little printer in there. The printer has printed out an authorization-to-vote slip that has a $Q R$ code. That $Q R$ code does not have your social security number, no birthdates, no name, no addresses. It's simply your ballot style. We are going to use this $Q R$ code to turn on our touchscreen. This is how most voters in Georgia are going to vote.

So, Mark, do you want to hold it under the left corner just under the green light.

Now, that barcode that Mark had in his hand, that is no longer any good. I would recommend to you, as a former election official, keep all of those barcodes. You want to keep those for auditing and reconciliation purposes. But if for some reason you didn't keep that and a voter left and threw it on the sidewalk, that particular barcode is no longer usable.

Okay, on the first screen, Mark, press start.

Yeah, I know it's a little difficult to see

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there in the back, but here's the list of
candidates. Mark's going to use his fingers to
select the candidate. He didn't like his choice.
He wants to vote for somebody else. Our
touchscreen will not allow you to vote for
someone else until you deselect and then
reselect. The reason I think that's important is
because sometimes voters have a tendency to drag
their hand down the front of the screen -- I've
seen that numerous times -- and they accidentally
change their vote as their hand drags to the
bottom.
    At the very bottom of the screen, there's a
couple of arrows that allow you to go forward or
backwards. My mom and dad use the arrows at the
bottom, but you can also use your finger because
it is a tablet to navigate back and forth.
    Mark's going to go the next screen. He's
going to choose someone for, I believe, attorney
general. He likes his choice so he goes to the
next screen. Either with his finger or with the
arrows, he's going to continue to vote. If he
doesn't like his choices, he may choose write-in.
If you touch write-in, a keyboard comes up.
Mark's going to enter my name because I know he
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wants to vote for me. No, he doesn't want to vote for me. He's continuing his -- okay.

This particular screen, here's an example of what happens if 30 people sign up for congress, not all of their names are going to fit on the screen. Our system that we are offering, even if you vote for the first -- this is a vote for three for city council. Even if you vote for the first three, our system will not allow you to navigate to the next race. Our system protects the voter and protects the candidates. Our system forces you to recognize that there were candidates to be seen at the bottom.

So, again, even if you've selected the candidate at the top, we don't want you to move on until you've seen everybody. I always use an example of a newspaper. You may not want to read the comics but we force you to pass through the comics to get to the sports section.

Okay. So Mark is happy with his selections. He is on a constitutional amendment. All we want you to recognize there is that there's more text and we want that voter to recognize that there's more text at the bottom of the screen. Once he's reached the end of his ballot, he's going to
choose "done" at the bottom. Here is the review screen. He is reviewing all of his selections. If he's not happy with any of those at any time, he can touch any one of those races and he comes right back to that race, but he can change his mind. So you can change your mind a million times. Any change that you make is going to be in blue. So it's a way for a voter to keep track of any changes.

Mark, will you do an undervote for me, please.

MR. CARTER: Sure.
MR. WAGNER: Choose any race, don't select anyone. Any time you see red, red is a courtesy to you, saying you didn't make a selection for sheriff. Obviously, our system does not require you to vote in every race. If you just want to come in and vote for governor or vote for president, that's fine. We've made you review all of your choices and that's the sizzle to our steak, which is on the system that you have now, your voters are going to touch the word "cast," they get in the car, they drive home. Our system, we're going to have you touch the word "print" and here comes your review ballot right
out of the machine.
Voters have a chance at this point to review their selections. They're not locked into it. If they like their choices and are satisfied, they're simply going to lay their ballot into the slot like a dollar bill in a soda machine.

In a normal precinct set up, just so we're clear, you would have any number of freeVotes. So you would have four or five or ten or twenty, but you would only have one additional scanner. Just so we're clear on that point.

Mark's going to lay it flat like a dollar bill in a soda machine. Doesn't matter faceup or facedown.

I heard a question earlier I wanted to address. The question was how $I$ know that that machine is faithfully counting my selections. As an option on that screen, if you want it to, it will display your choices on that ballot. You can see it right there at the time of insertion, okay?

As the ballot is inserted through the digital scanner, a digital image is taken of that ballot. We're going to talk a lot about that here in just a second.

Okay, Dustin, can I use you?
One of the things our company is very proud of is our working relationship with the disability community. And so the voter -- let's say the voter comes in and it's obvious that the voter's going to need to use the screen-reader functionality. That ability can be given to the voter at the time of check-in with the electronic poll book. With that little slip that's printed from the electronic poll book what would happen is when you scan it, it will turn on a touchscreen. And right now we did not make the screen go black, but it will (demonstrating). There we go.
(Recording played)
MR. WAGNER: The series of taps and swipes is how the voters with visual disabilities are using their iPads and their own lives. We incorporate that technology as part of our system. We are very proud of that.

Okay. So the election is over. Election day is over, and we're ready to close our equipment, we're ready to go home, I've been a poll worker for 15 hours, I'm going to go home. There is nothing to do on the FreedomVote. This
is simply a ballot-marking device. It does not
retain any of your selections. It's a very
expensive pencil is what is it.

So Mark, all he did was lay a tablet down, we'll put the lid on it, and that's all you have to do. The digital scanner -- I want to show everybody that Mark -- we give you a ballot with the word "close" on it. That will be in the poll-worker supplies. They simply slide it through the machine. It'll then ask you if you want to close the election and print the results. If the poll workers would lose that for some reason, there is a hidden button on the screen that the poll workers could select, enter the password, and prints the results.

I'm not sure who asked it earlier, but these would be the unofficial results. Just so we're clear, on election night we will report unofficial results. The ballots inside the ballot box, the box itself has plenty of opportunities for a Democratic/Republic padlock, lots of security seals. So it's really going to be up to the administrator as to what you want to do with the ballots. Do you want to have the poll workers break the seals and bring all of the

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ballots in on election night? Do you want to
leave them in the box and have the election
commissioners break the seals? We're very
flexible in what we're offering.
    Okay, so election night, we reported -- or a
hundred percent reported and now it's Wednesday,
Thursday, and we're doing our post-election
audits. I know you all dealt with a -- or are
becoming comfortable with a term called
"risk-limited audits." If y'all don't know what
that means, please find out because it's so
critical to what we're doing here.
    I'm a voter who -- I put my ballot into the
ballot box. How do I know this thing counted my
vote correctly? I'm going to show you how.
Dustin has a little mini scan on the table set
up. Yes, we do offer a central scan for big
counties like Fulton, but we offer a mini scan
which may be a more economical choice for smaller
counties. Lunch is over, the results are on a
thumb drive.
    Do you want to do that, Mark?
    MR. CARTER: Sure.
    MR. WAGNER: Mark is simply going to lift
the screen out of the way. He's going to use a
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barrel key. There's a security seal that he's already broken. He will remove the lid. There's a thumb drive, 256-bit encryption. That thumb drive will come back to the office on election night where it's downloaded into a laptop not networked. The thumb drive itself takes approximately three seconds to download the results. You can't make a mistake and download the results twice, okay?

So now the election is over and we have all of the thumb drives in our office, all of the thumb drives have been downloaded to a laptop. The thumb drives contain digital images. Every time you put a ballot through the ballot box, a picture is taken of your ballot and we don't know it's yours. It's all anonymous, but a picture is taken.

In the post-election auditing process, we call an auditor -- so Dustin's going to be my -my driver. I would recommend to you, as a former election official, that you have a Democrat and a Republican sitting here in front of the monitor. Our software's going to ask you what precinct do you want. So Dustin and his bipartisan coworker are going to choose a precinct. He's going to
choose a city. Now, our software is asking you how many ballots do you want to look at from the city. You can look at them all. You can look at a small percentage. Dustin's going to choose 50 percent. He's going to select right there (demonstrating). Perfect.

Okay, so you'll notice in blue that word says "unprocessed," right there at the top. It says unprocessed. Dustin's going to choose the first one. On the left side of the screen is the ballot. On the right side of the screen is how our software interpreted your selections. They'd better match, right? So in this scenario, we voted for Dwight Eisenhower for president, right there (indicating), and at the very top, Eisenhower is reflected. That is your risk-limited audit.

Dustin, want to do another one? Another --
MR. VANDERBURG: Okay.
MR. WAGNER: -- next process. No
selections, look at that (indicating). No circles were colored in for any voters so no selections were reflected. You may see a yellow color that's reflecting a write-in vote. This is a way to quickly and accurately ensure that the
voting system juju has integrity, that the results are fair and square.

If $I$ can take five seconds and get on my soapbox, elections are not about winners. Elections are about losers. They are. That's what makes our country the best country in the world because the losers always accept the results. It's not about the winners; it's about the losers.

Okay, Dustin's going to show you the adjudicator feature, something we're very proud of. I want to show you a couple of things. Let's talk about UOCAVA ballots. For the people in the audience, I'm talking about military, overseas citizens. When they send their ballots back to us, it's usually on copy paper. That's how we get it. We, as election officials, are forced to pull it out of the filing cabinet, get a marker and color in the circles.

What if $I$ showed you a way that you can eliminate human intervention and do it all electronically? UOCAVA ballot comes back, we scan it through our scanner. Just like the process I showed you before, Dustin is going to open up this ballot. There's the ballot
(indicating). At the top in red -- I know you
can't see it, but at the top it says: Can't
verify that this is a ballot. It doesn't know if
it's my kid's artwork from school, doesn't know
if it's a newspaper article. Just knows it's a
piece of paper.
So what we're offering to you is the ability
to recognize that's a UOCAVA ballot. Over on the
right our software asked you to pick a precinct.
Dustin's going to do that. Then he's going to
choose what ballot style is appropriate for that
UOCAVA voter. And he's simply going to
adjudicate this ballot with his bipartisan
teammate, right? This person wanted to vote for
Abraham Lincoln for president. You'll see the
dialogue box that comes up. He wanted to vote
for -- is that Senator Barry Fleming or Peggy
Fleming for attorney general. I think it's
Peggy.
REPRESENTATIVE FLEMING: You were doing good there for a while.

MR. WAGNER: (indiscernible)
Dustin adjudicated the vote for Peggy Fleming for attorney general. Now that voter's right there in the corner. That voter's intent

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is accurately reflected electronically. Those
results are dumped into the system, a report -- a
breadcrumb report is printed out that you can
simply staple and attach to the original UOCAVA
ballot for accounting purposes. That was just
used -- this process that I described was just
used in the Kansas gubernatorial primary two
weeks ago.
REPRESENTATIVE FLEMING: Wes, I know we've got a little less than five minutes left for you so I don't want to interrupt you, but \(I\) do want to give you the option to save time for questions if you like, okay?
MR. WAGNER: And feel free to jump in. We're here for this, so ...
REPRESENTATIVE FLEMING: Let's do it at this time --
MR. WAGNER: Absolutely.
REPRESENTATIVE FLEMING: -- if that's okay. Questions from members of the panel. I'll start with one and I asked the same one earlier. Do you know -- and if you don't, I understand. Do you know how much it would cost the state of Georgia to implement your system in all hundred and fifty-nine counties? Any estimate?
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MR. WAGNER: I hate people that don't answer questions. I mean, again, I think the first presenter was accurate. It just depends on your RFP.

REPRESENTATIVE FLEMING: Okay.
MR. WAGNER: If you all decide that counties in excess of a certain number of voters should have a big central scan --

REPRESENTATIVE FLEMING: Right.
MR. WAGNER: -- that may be a different price point than if you say counties with, say, less than 10,000 buy a smaller -- mini scan is what we call it.

REPRESENTATIVE FLEMING: Sure.
MR. WAGNER: You're going to decide what kind of service you want from our company. Our company prides itself on election-day support. That's a big service we provide.

REPRESENTATIVE FLEMING: One other quick question. The machine printed out a small piece of paper. You also had a bigger piece of paper, we could see that. Which is going to be the printout from the machine, bigger or smaller?

MR. WAGNER: So the FreedomVote ballot is what your voters are going to experience at the
polling places, small.
REPRESENTATIVE FLEMING: Small. And the other one may be an absentee ballot? I don't think I understood.

MR. WAGNER: We just wanted to show you that the FreedomVote ballot and the absentee ballot both can go through the same scanner.

REPRESENTATIVE FLEMING: Same scanner, gotcha.

Questions as I go along. I'm going to start on this side this time.

Sara, were you about to raise your hand? Go ahead, Sara.

MS. GHAZAL: So you showed us how the absentee ballots are audited. Do you also have a demonstration of how a live in-person vote would be audited?

MR. WAGNER: Yeah. Maybe I wasn't clear earlier on your question. If a ballot at the precinct, at the time of insertion, if you wanted it to, on your screen it will show you your ballot that's being inserted. It will hold your ballot in suspension until you say accept or reject. If you look at that screen and say: Boy, I really didn't want to vote for that
candidate, you could hit "reject," and the ballot will come out. Take it back to the poll worker and get a new opportunity.

MS. GHAZAL: But during the risk-limiting audit, how would that work?

MR. WAGNER: So during the risk-limiting audit the thing you have to remember, every ballot whether it's absentee, early, election day -- when $I$ say every, I mean every -- every ballot is going to go through a digital scanner. Every ballot has a digital image captured. Every ballot can appear as part of the risk-limited audit, that process. You can visually inspect every ballot.

REPRESENTATIVE FLEMING: Judge, do you have a question?

JUDGE MCCOY: Obviously, we'll need more than one poll book in a precinct. How do they sync or how do you know that somebody's already voted? Somebody comes through and then goes and gets back in line to another poll worker and tries to vote again. How do those sync?

MR. WAGNER: That's a great question. So the iPads have what they call bluetooth. Bluetooth is about distance. They talk to each
other if they're close by. Obviously, you're going to have at least two, maybe three iPads in a polling location. The idea that a husband and wife come in to vote, wife can check-in with this one, I'm helping the husband. They are talking through a bluetooth. So that's not Internet. Just so we're clear, that is not the Internet, but they are talking through a bluetooth. When the husband checks in with me, his name will show up as checked in here.

Now, Missouri, our rules allow communication between this iPad and central office. So during my time, I could sit at my desk and the newspaper would call and I could tell them accurately how many people had voted in a particular jurisdiction. I can see, you know, the husband and wife had checked in.

REPRESENTATIVE FLEMING: Sara, did you have a quick follow-up? You don't? Okay.

Senator?
SENATOR STRICKLAND: How many scanners do you have per voting booth because it looks like it'd take -- it could take a little bit longer to scan and actually review your ballot at the time. How many of those scanners do you have to have
per -- voting booth I'm calling that, I guess?
MR. WES: So every precinct is going to have one scanner, right? You could have a hundred of these, a thousand of these at a location. If you do what we call "full ballot review," that's what you're -- sure, you could have people standing there, you know, they're looking at their ballot. Sure, that could happen.

SENATOR STRICKIAND: So you don't have situations where you have to have more than one scanner per precinct?

MR. WAGNER: Only if you wanted more than one.

REPRESENTATIVE FLEMING: Nancy, did you have a question?

MS. BOREN: How would your iPad --
REPRESENTATIVE FLEMING: Turn your microphone on.

MS. BOREN: How is your iPad populated with the data?

MR. WAGNER: Through your VR system in your office.

MS. BOREN: But is it connected?
MR. WAGNER: It will be when we download the information initially.

MS. BOREN: Right, but on election day?
MR. WAGNER: Again, up to you. Missouri, we were allowed that connection. I'm not trying to twist your arm one way or the other. I found it beneficial for me to have inquiries and for trying to -- I'm sorry, go ahead. I'm just saying we're trying to really kind of prevent the potential voter fraud from somebody going from poll to poll if you want this frozen out. If they voted at the school, you don't want them showing up at the church and try to vote.

REPRESENTATIVE FLEMING: Dr. Lee?
DR. LEE: So this is more like a usability question. So the small printout that you print out from the tablet machine, have you done any user study to see how likely the user is bothering to actually verifying because they come to the section --

MR. WAGNER: You're asking me how long it would take a voter --

DR. LEE: No. Have you done a study to find out how likely a user is actually verifying and then scanning because it's very different from hand-marked where you have voters really carefully commit, whereas you're using digital
devices to make such an event and print it out, how likely is a user actually verifying?

MR. WAGNER: I am from the "Show-Me" state.
DR. LEE: Yeah.
MR. WAGNER: Voters, they want to know that their vote is accurately reflected on the equipment. So, yes, I see them. Yeah, they stand there and they look at it. That's a good thing.

DR. LEE: No. No. I'm not asking -- I'm not asking what you believe. I'm asking whether you've done a user study.

MR. WAGNER: Oh, no, we have not.
DR. LEE: Thank you. And also, because you actually secure the ballots in, you know, the physical device, right --

MR. WAGNER: Right.
DR. LEE: And then if you want to have the option that supplies a digital image sometimes people say $I$ don't want to be hampered, manually check their ballots. Again, so similarly user study, right? So these small pieces of paper, how easy do people find to go through those?

MR. WAGNER: Well, it may a little tangent but the part that I like is --

DR. LEE: Right.
MR. WAGNER: -- that we can security-seal the ballot, the ones that are cast on election day or early or absentee. No human being can get to those because they're security sealed. If we end up in a recount in front of a judge, we can honestly say when we raise our hand: Judge, no one's tampered with these ballots since election night.

I use this example all the time. It's like when you go to the doctor, the doctor might take an x-ray of your arm before he uses a scalpel to open you up. We're giving you an x-ray through our auditing software of what's inside that ballot box so a human being doesn't actually have to touch it. And I hope I answered it. I get your point.

REPRESENTATIVE FLEMING: Wes, what state is in your user system? What state is in your user system?

MR. WAGNER: All through the Midwest: Missouri, Iowa, Kansas. We have --

REPRESENTATIVE FLEMING: Several. Okay.
MR. WAGNER: Arizona.
REPRESENTATIVE FLEMING: This system that
you're showing us today?
MR. WAGNER: Yeah, we have approximately A hundred and sixty accounts in Missouri and Kansas and Iowa.

REPRESENTATIVE FLEMING: Any statewide?
MR. WAGNER: We do not have statewide.
REPRESENTATIVE FLEMING: Okay.
Yes, Cynthia? Quick question?
MS. WELCH: I have two questions as it relates to the poll book. The first one is on direct -- we talked earlier about directing voters to the correct precinct and making sure that they're not disenfranchised. Will the poll book allow us to tell people which precinct they are to vote in?

MR. WAGNER: Yes.
MS. WELCH: Without it being connected to the Internet?

MR. WAGNER: Yes. So I am at the wrong place. I should be at the church, okay? So you scan my driver's license, wrong location. So it's going to direct me to the right location. In Missouri, where it's really nice, we get that redirect. If you do have an Internet connection, you have Google maps, you can text the driving

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directions over to the church. There's some
bells and whistles in that, but I would encourage
you baby steps first.
REPRESENTATIVE FLEMING: You had one last follow-up, Cynthia?
MS. WELCH: Yes, and this is real quick.
Can -- on the ballot marker, is that the largest screen tablet that we could connect to that system, or ...
MR. WAGNER: Yes.
MS. WELCH: Okay, thank you.
MR. WAGNER: We could increase the font, just so you know that, on the screen.
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REPRESENTATIVE FLEMING: Amy?
MS. HOWELL: Quick question on the printout for individuals. Does that -- is there a way to enlarge the font on those, the individual verification?

MR. VANDERBURG: Yes.
REPRESENTATIVE FLEMING: Wes, a good presentation. Thank you so much. I appreciate you being here.
(Applause)
MR. MONDS: Representative Fleming? I'm sorry.

REPRESENTATIVE FLEMING: John, you're going to make me run over. You know I'm going to charge you for this, right? All right, quick question, John.

MR. MONDS: We're in the process of saying that you're selected sometime in 2019 or whatever. How long would it take to implement the system throughout the state?

MR. WAGNER: I suspect it's true for all of the vendors. We're already all making preparations now.

REPRESENTATIVE FLEMING: Good question.
Thank you, John.
Wes, thank you very much.
Our next presentation, as they pack up, will be Smartmatic. And we'll let these good folks break down and we'll get our next set up and get started.
(pause)
REPRESENTATIVE FLEMING: All right. We're going to go ahead and get started with our next presentation. This is Smartmatic.

And I'm going to turn it over to you and ask you to introduce yourself.

MR. SHELLY: Sure. Sure. My name is Kevin

Shelly. I'm with Smartmatic. First off, I want to thank the state of Georgia, secretary of state's office, and the SAFE Commission for giving us this opportunity to meet with you today.

What I'm going to do is I'm going to tell you a little bit about the company Smartmatic, then I'll turn it over to my colleagues: Ed Smith who is our director of services and James Long. James is the project director for a recent contract with LA County which is the largest county in the United States.

So Smartmatic, we are a global company. I don't know if you can see it, but the light blue depicts where we have offices. The darker text is where we have supported elections. We have supported elections on five continents. We are the largest elections company in the world.

So to look at some of the numbers, clearly from all of the work we've done, we've supported 3.7 billion ballots cast. The elections that we have supported, 62,000 candidates have been elected. In of all this activity and this history, we have not ever been breached, no vote was ever changed, it's always been very
successful.
So this is just a sample of some of our
clients. I mentioned LA County. This was
awarded to us in June of this year. LA County
has 5.5 million voters. It's larger than 40 of
the states in our nation. It's a very, very big
opportunity for us. In Belgium, we are in the
midst of a 15 -year contract to run their
elections. In the Philippines, we have a history
of supporting their elections, and I've got a
video that $I$ will show you that kind of depicts
everything that we did to support our customer.
And it's not to say that we'll face some of those
challenges here in Georgia, but $I$ think it does
show what we do to support our clients in their
requirements. And of course, we've got a legacy
of supporting elections in the United States.
So let's go to the video.
(Technical difficulties)
MR. SHELLY: We can run elections but we
can't run a video. It's right there. So it's
not going to ...
All right. So we don't have sound so I'll
ad lib.
Literally, we deploy voting equipment to

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7,000 islands. We use motorcycles to get the equipment over there, and \(I\) think in some of the slides from before, we actually used donkeys. But what we did for the customer was just --
REPRESENTATIVE FLEMING: Do you use elephants too?
MR. SHELLY: I don't know --
REPRESENTATIVE FLEMING: (indiscernible) --
MR. SHELLY: That's --
REPRESENTATIVE FLEMING: That was going to (indiscernible).
MR. SHELLY: That might be a best practice next time because they're probably more effective than donkeys. But, again, you know, I think there's 55 million voters, 62,000 -- 55,000 candidates. So it was just an enormous undertaking and here are the numbers.
(Video image projected)
MR. SHELLY: Okay, at this point, I will turn it over to Ed Smith, the director of United States services.
MR. SMITH: Thank you, Kevin.
Once again my name is Ed Smith. I'm director of US global services. Today we're bringing to you a voting system that has four
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pieces of hardware. We're starting with an electronic poll book, the VIU-800 which serves as a statewide electronic poll book. It also serves to activate voter cards in the polling place.

And once a voter is credentialed, you can scan their voter ID in an integrated scanner and make out this smart card with this encrypted information.

They'll walk that over to an $A-4$ series ballot-marking device. We have deployed 5,000 of these in Belgium. It's a tried-and-true ballot-marking device. As you can see, it's very self-contained. It's lightweight. And we'll offer it here in the state of Georgia with a cut-and-drop feed path on the right-hand side and, where needed, accessibility pieces on the left-hand side. And the voter will touch the screen, they will make their selections, review their selections, and then they can review and verify their selections on the voter-verified paper audit trail. We'll talk about that a little bit more in a moment.

If the state so chooses to go with paper ballots, we do offer both precinct scan and central count scan. This is our precinct
scanner, the 1800 Plus. We have over 92,000 of these deployed in the Philippines, and as you saw with some of the competitive offerings, the voter will mark in private a paper ballot, put that in the slot, and use the screen to review the selections. And the nice, large, red and green buttons to either cast their ballot or bring it back to correct any errors.

All of this hardware is underlaying and supported by our election management platform. And the election management platform is comprised of five pieces that run seamlessly as one piece of software.

The first is the election configuration system and it's, along with the results management system, comprised of what you traditionally think of as an election management system where the election configuration system is doing ballot layouts, ballot proofing, and machine programming, and the results management system is doing the results aggregation and reporting. But we've added to that three additional components.

The first is election-night reporting which offers a finer grain reporting facility and also
population of your county and state websites.
To that we have added Election-360. And Election-360 offers both the opportunity to examine your election on election day in real time and understand things like polling-place wait times, if machines are down and in need of repair and provide help-desk support and in post-election audit and forensics.

Lastly online ballot delivery provides a portal for the voter to $\log$ in, get their ballots printed, and turn it back in via mail or by hand. The state rules allow they are a printed ballot.

So that is the system we are bringing to you today. As we advance, we'll look in a little bit more detail.

First off, let's talk about security because it's on everybody's minds, right? We have the only system that you're going to see here today that from its inception was built to comply with VVSG 1.1. You might ask: Well, what's VVSG 1.1? So there were the original voting system standards promulgated by the Federal Election Commission in 1990. Those were updated in 2002 and then when the EAC came along, also in 2002, they wrote VVSG 1.0. And that was written in
2005. Keep that in mind, 2005. They updated those to VVSG 1.1 which are the current operative standards in 2015.

Now, do you think that the threat environment to the voting system has changed since 2005? Yes, indeed, it has. And so there's a huge advantage to the state by selecting a system that has started its development against these newer standards with their higher requirements for security and their higher requirements for accessibility. And we're the only folks with that.

We recognize because of our worldwide deployments, as Mr. Shelly pointed out earlier, some very unusual threats here. We can only say the parties don't necessarily trust each other, political parties, but in other countries that's certainly taken to a different level. And threats like voter coercion and stuff exists that have forced us to take a deeper and more comprehensive look at security than perhaps other systems that you'll see.

And we recognize that it's a combination of people, processes, technology, communication, governmental policy, all of those things come
together to create security in addition to the higher degree of inherent security in these devices.

So we're bringing forth today -- and it's a pleasure to coming before you -- in particular this A4 ballot-marking devices. So speaking today just briefly, it is a device -- once again, we've deployed 5,000 of these in Belgium. It is for in-person both early and election day.

I know on your request for information this would be Voting Method 2. And when you have ballot-marking devices as the sole option for people who are voting, you get a number of advantages. One is a uniform early and election-day voting experience. It's also a uniform poll worker experience so it will minimize your poll worker training. It also minimizes and aides your voter education and outreach.

If, for instance, different counties are voting on different technologies or you have different machines, when voters come from outside the Metropolitan Atlanta area, downtown Atlanta, to work, they see machines on billboards and it may not be the same machine they're trying to
vote on back home and that creates confusion. So uniform system, uniform machine allows for some serious education advantages. It also allows for uniform equipment maintenance, spare parts and supply chain that are all the same. All of your technicians across the state are trained to deal with one and only one of the same device. So there's certain advantages there as well.

You don't need ballot on demand. These units store all of the ballot styles for a given election. So as envisioned by the request for information, voters from any part of the county can go to any vote center and vote early regardless of if that vote center's across the county or their nearest vote center because all of the styles are contained inside the units.

We do not tabulate from barcodes. It's a sensitive subject. It's come up. I'm on Twitter. I see it every day. You probably do too. So we are taking the human and readable part of the VVPAT, the tape that comes down, and once a person accepts it, it's cut off and dropped in a bag. And we are doing optical character recognition on that tape and tabulating
it from the human readable just as a person verified. We're not tabulating from barcodes. So once again, the same as Georgia voters are doing now, they come and they get credentialed, they activate the unit and make their selections. Ultimately, they print the VPAT tape, review that, and cast their ballot. But it's a much better technology, a much better graphics, user experience, more modern, certainly more secure.

So with that, I'll turn it over to my colleague James Long.

MR. LONG: Again, I'm James Long. Some people may recognize me. I used to work here in Georgia quite some time ago. I've made it around the country and now I'm back here.

So what $I$ want to talk to you about is our effort the past couple of years has been to basically bridge the gap between accessibility and security. You hear that a lot at the federal level. I spent a good amount of time at the federal level and it really was the conversation that we engaged in the most: when you have accessibility or you have security. And so what I've been working on for the past two years is
basically to bridge that gap and to bridge that gap with this solution.

So let's start first with the election management platform as mentioned. This is a centralized platform. By centralized, I don't want you to get the impression that this all networked and, you know, on the Internet. What we mean by centralizing, that each of these proponents, all five of them, were developed at the same time, using the same user interface and the same user experience.

So across the whole platform as you interact with these different systems, you'll get the same experience. Nothing is bolted onto the system or an add-on. It was all developed from the ground up to meet the growing security concerns and accessibility concerns of the community.

This is collaborative software as well, meaning that within the election configuration system this is where you put in your candidates and all of that information. You can have several client relationships over your larger counties where there's a lot about ballot-proofing or a lot of machines that you can create. You can have several clients to create

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these machines from an open format like
ballot-proofing format. That's streamlining the
process, making it quicker.
So let me show you two things real quick on the election platform. First thing I want to show you -- this may be more of interest to, you know, the secretary of state's office -- we understand that you create all of your ballots centrally. These ballots are created, you know, at the secretary of state's office and distributed down to the election jurisdiction for deployment on the machines.
So right now you currently use a system which requires you to create a database for each jurisdiction copy and you have to copy to the new jurisdiction or you have to -- so you have to copy for a new election or you have to put all of this information in again, and this can introduce state integrity issues, et cetera, et cetera.
Our system allows you to add every jurisdiction to a single platform. You can manage those jurisdictions, you can share information between those jurisdictions, and centrally for contests, you just put the candidates in once from election to election.
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You don't have to insert the information again for your districts, you just create a new election. It loads all of the previous data, for your jurisdictions and precincts are laid out, all of that information. And you can modify the information of course from election to election, polling centers, et cetera. But this allows you to manage it more centrally.

So I mentioned ballot-proofing. The screen is a little whited-out here, but what you'll see here is an interactive view of the ballot. So what you can do here is you can check out some ballot styles because, as I said, this is collaborative. You can check out the ones you want for review.

You can perform that review by adding comments anywhere you want to on the ballot. It will also identify any errors that the machine itself has identified, saying there's probably one issue here, like this ballot where you have a contests rolling over different pages and into the margin. You can correct those issues right here (indicating). All of your actions that each user does -- each user has a log-in, so there's no one log-on for everyone. Their actions are
logged here and this ballot is either picked back up for more design help or accepted. All that's locked over here.

So let's talk about what's in a precinct because this is what the voter receives. This is their interaction. As Ed indicated, we have this electronic poll book system. It's designed in a way to be extremely lightweight and it's arranged to have two different sides.

The first side is basically your poll-worker side, and then we call this the voter side. So this is configurable to whatever that jurisdiction needs. If they require signatures, a signature pad can be added here. If they require authorization to vote, like in Ohio, you can print out a receipt so that they can take that to the polling station to get their ballot and continue the process.

This is very modular so you can put whatever you want on the backside to meet your individual jurisdiction's needs. This one's configured to work with a card given to a voter so that is what this looks like. So this is the voter confirmation card. It goes inside so it works just like any other poll book. You select a
candidate, you get your card, you give it to the voter.

So let's walk through a few screens here. So these are the kind of screens that you should be seeing right here. So you insert your card.

Move to the next slide.
Here are some options that you can add. These are configurable, what you want to be able to initialize for the voter before they get to the polling station. The idea here is to let the voter be as independent as they're capable of being.

So you can to go ahead and pass up these options to the machines. It's audio voting, but they need to connect their own sip-and-puff device. And the instructions will change on the screen based on these options as well. So the user is given a just generic list of instructions of how to interact with the machines. It's audio. All the instructions are on the different audio, et cetera, et cetera.

So once you've created the card, you'll give this card to the voter, and they'll come to this machine here. What you see is what we idealize here for George. This is a -- basically, it's a
digital interface with a cut-and-drop, voter-verified, paper-ready, so what you'll see to the right. All the accessibility controls are on the left.

And so the voter, just like they do right now, will insert the voter card. One difference here is that they can insert this card any direction they wish. It will activate the system.

So this is the screen. We'll insert the card. We have offered many different languages. I believe that only Gwinnett County has an alternative language requirement here, which I believe is Spanish, so Spanish can be added in here. No problem.

We go to the voting experience. One thing I want to point out is -- oh, here it is. I want to talk to you real quick about this voting experience. This is where we've vested a tremendous amount of time. So this is laid out intentionally into basically three zones. We have the top zone here (indicating) which is where all of your help, accessibility, and language features are presented. So accessibility, should that be your disability,
but you can change these throughout the experience.

So let's say you get into the experience, but you don't know what to expect. If you've never voted on this and you think that yeah, the text will be fine, I don't have to read it, and you get in there and you realize the text is a little small for me, so you can adjust it. I'll show you that in just a moment.

Language, again, you can, you know, be a pretty proficient English-speaker and decide when you get in there, maybe $I$ want to see it in a different language. The help is contextual as well. It's not just a generic help. It's -- it tries to anticipate where you are in the process to provide you help. It's not just a generic, just something out of a PDF or something to count the vote.

The next thing you see here is the contest navigation. It tells you the number of contests, which contests are relevant, allows you to navigate back and forth through the contests. You have the contest name pretty large here. I want to draw your attention right here (indicating). These are the instructions. Here
we have included this feedback in this.
So we've worked with disability experts across the country and Princeton University as well to find a better way to address the plain language requirement. So you'll see that term creep up in a lot of documentation, a lot of accessibility guidelines saying use plain language, and then you see this two-page definition of what plain language is.

So in that effort, what you will not see in our system are technical terms that you normally see in an election of lingo like under- and overvote, vote for one. We try to guide the voter by talking to them in a voice that would normally converse.

So here we have one option. So this says vote for one. So we said: Vote for one. You have one selection left, meaning that you haven't made any selections yet. And the contest is unvoted. So we present this in three different ways to help guide the voter through the process to ensure that they know at all times where they are in the voting process.

So let's vote for someone real quick.
REPRESENTATIVE FLEMING: James?

MR. LONG: Sir?
REPRESENTATIVE FLEMING: We're getting real close to the five-minute mark, so I just wanted to let you know.

MR. LONG: Thank you. I'm going to speed this up real quickly. So you see that it changed here. You have zero selections, contests fully voted.

So let's go to the next.
I print it out real quickly. Got some accessibility features. I just want to point out, we also offer small text as well. This ballot is -- the word's not going to come to me, but, anyway, it's kind of counterintuitive and, you know, large text would work better for some people so we could do that.

Let's go here to some of the usability features. We'll white this over. One thing I want to show you is in messaging. You have here -- this is a message, again, you won't see the word "undervote." This is where the undervote contest -- it tells you what happened and the consequences of you continuing.

Keep going.
We have the review screen. This lets you
modify your selections. You can go back to your contest and come back forward without having to navigate back and forth through the ballot.

This is the paper record that we'll print from the system. You'll see there is a $Q R$ code for more rapid auditing or processing. But, again, this here, the text is what is actually interpreted. This is what is read back to the voter using its accessible session, and this is also what is tabulated from when the voter accepts the ballot. It prints when it's accepted.

And this is not visible to the voter, but it ensures that you can do one-to-one ballot for risk-limiting audits. It will print a code on the ballot. The code has no associations to any voter or anything. The voter never sees it prior. It's the last thing it prints before it cuts the paper and drops it into a receptacle. I want to make sure that that's clear that this isn't reel-to-reel where you could potentially violate voter privacy. It actually cuts and drops into a large container that automatically shuffles.

I want to kind of just do this quick. If
the state does want to go a different direction than to go the paper route, we offer other options as well, which is the paper scanner. It -- you know, I could demonstrate it. You've already seen two of them. If you mark a paper ballot, it scans, it has a review screen. The voter can review the choices and accept the ballot.

Yeah, this is basically the end of the presentation. Just want to close and say, you know, we're, you know, a full-functioning elections company. We offer logistic support, manufacturing, training services.

So for further brevity here, we'll open it up for questions.

REPRESENTATIVE FLEMING: James or whoever, do you have any idea how much it would cost Georgia to implement one of these systems?

MR. LONG: I'm just a tech.
MR. SHELLY: So I anticipated that question.
So I think I have seen in the newspapers or articles that there was numbers as low as 30 million, which was primarily paper, and then $I$ think there was an upper limit of $a$ hundred and fifty million.

REPRESENTATIVE FLEMING: I've seen those.
MR. SHELLY: We can fit in there. Certainly it would depend on the density of the machines, the configuration of the machines. You know, it would depend on the requirements in the RFP, but without giving you a number, which is $I$ know what you want, we would be very competitive in the RFP when it comes to technology, past performance, and price.

REPRESENTATIVE FLEMING: No, I understand the range and $I$ appreciate that. That's the range I've heard people talk about.

I'm going to start on this side of the room.
Doctor?
DR. LEE: Just so I understand, so paper-scanning-based technology, that would be $\$ 30$ million range versus we go with the fancy tablet, it will be upwards of a hundred-and-fifty million dollars; is that right?

MR. SHELLY: Yes. I mean, so that's the low end to the high end. This piece of equipment would have a cut-and-drop printer, okay, so that would be additional. And this is the poll book.

DR. LEE: So you go into paper scanning solution. Do you have support for the ballot
design as well?
MR. LONG: Yeah, so the same record that comes out of the computer that you would tabulate off of would be (indiscernible), so you wouldn't lose any accessibility features. The cost --

DR. LEE: I'm talking about the ballot design. Ballot design.

MR. LONG: Yeah. Yeah. You can load any ballot design the state requires. To show the cost differences, the amount of equipment, you need more of this than you need of that.

REPRESENTATIVE FLEMING: Coming on around, Sheila, do you have a question?

MS. ROSS: Out of curiosity, which way did Los Angeles go? Paper? Or did they use a machine? And how much did it cost Los Angeles County?

MR. LONG: So the technology in Los Angeles -- so the first thing that $I$ would say, Los Angeles centrally tabulates so they went with the paper route. So it was a digital interface that prints on a thermal piece of paper that's eight and a half by eleven. So it prints the selections of the voter and the $Q R$ here (indicating), and then it goes into a secure
receptacle in which they gather it electronically and take it back to central to tabulate from the precinct tablet.

REPRESENTATIVE FLEMING: Estimation of the cost for Los Angeles you think as far as --

MS. ROSS: What would be estimated and how much did it cost to get them online?

MR. LONG: I think the total procurement, because there is design work here -- it's a custom solution, they don't have it -- it's not like we took it off the shelf and gave it to them -- was two --

MR. SHELLY: It was 200 and I think the initial --

MR. LONG: 280.
MR. SHELLY: Well, the 280 is -- that would include several years of maintenance and everything. But the base years of the contract, I think, are like 230, but it's a very different contract because we're actually doing the software development for them and the warehousing and cards and the maintenance. I mean, it's pretty much end to end.

MS. ROSS: Have you not had an election with them yet?

MR. SHELLY: No. We -- we were awarded this contract in June of this year.

MS. ROSS: So when will your first election be so we can watch it?

MR. SHELLY: So there's going to be some intermediate mock elections ...

MR. LONG: So the first time it will be voted is September of next year, '19. So that will just be a pilot. It will be used in the local election in November of next year, but its full-metal deployment will be for the 2020 March primary.

MS. ROSS: Thank you.
REPRESENTATIVE FLEMING: Over here on this side? Lynn?

MS. BAILEY: Thank you. Would you please explain to me then how the $Q R$ code is used?

MR. LONG: Sure. The QR code --
REPRESENTATIVE FLEMING: Remind us what the QR code is, Lynn. You're too smart for some of us.

MR. LONG: Do you have the slide to the image. Keep going.

Here, that's a QR code.
REPRESENTATIVE FLEMING: Okay.

MR. LONG: So it stand for quick response. You can embed a lot more data in that than you can in your typical barcode.

So this barcode is used several different ways. You can use this for quickly tabulating using a third-party auditing system, meaning like a system that doesn't tabulate the same way that we do. So unless you hire some independent auditing agency that wanted to, you know, scan it or do a recount for you, so you can use the $Q R$ code for that.

We use the $Q R$ code, you know, predominantly just for those features and just for auditing features. Internally, before the ballot is cast, we take the content of the $Q R$ code, we compare it to the OCR text and to what was contained in the machine buffer before it was printed. We compare all three of those together to ensure that the data and the $Q R$ code matches what was printed on the tape.

REPRESENTATIVE FLEMING: Coming on around. This side of the table? One more pass. Amy?

MS. HOWELL: Point of clarification. So in the instance when a paper ballot is used, they are still for individuals with disabilities who
have access needs? You're still getting the touchscreen in addition?

MR. LONG: We don't necessarily recommend having the -- your -- you know, you're ultimately putting an additional barrier in front of someone that already has barriers to vote. Because they have come to this machine first to get their printed ballot or to get their marked ballot. Then you have to take that ballot to another machine.

Now, this one could tabulate for you as well, but then you have two machines that have to consolidate at the end of the night, which, you know, it might not be an issue for you as well, so ...

There's many way to arrange it, but if you did it in a traditional fashion and you treat this only as an accessible machine, you are going to introduce the issue of barriers.

MS. HOWELL: Okay. So your solution is they use a paper ballot. How do they provide access?

MR. LONG: So if they require consolidation, most of those jurisdictions, you know, will do exactly that. They have it print from here and have the voter take it to another machine. A

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machine like this usually can't validate the
ballot in the same way that this can. It has no
accessible, you know, controls on it for the
voters. So after it's been cast, they can't
actually verify it. It's just something that the
counties exempted, the jurisdictions exempted.
    Now, we can tabulate it and we can treat it
just like it is a ballot. And you can have this
in addition to, but, you know, there's other
procedural barriers.
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MS. HOWELL: Thank you.
REPRESENTATIVE FLEMING: Okay. Gentleman, we appreciate it. We know you had to work through some technical difficulties. You had to integrate with a system that was already here. We understand that's difficult so we appreciate you working through that. Good presentation. Thank you very much.

All right, next up. Next we will have Election Systems and Software. And we're going to allow them to break down and allow Elections Systems and Software to set up. So we'll stand in recess for a moment.
(Pause)
REPRESENTATIVE FLEMING: We have our next
presentation of Election Systems and Software. So I'm going to turn to you and ask you to dazzle us.

MR. CAMERON: Great.
REPRESENTATIVE FLEMING: All right.
MR. CAMERON: We will do our best.
REPRESENTATIVE FLEMING: Welcome. Welcome.
MR. CAMERON: Thank you, Representative
Fleming and members of the commission. My name is Jeb Cameron with Election Systems and Software, and we brought today, in response to your RFI, a system that we think will be a great solution for the state of Georgia.

I've got a couple members of our team here and I'll briefly introduce them. We have Mac Beeson. Mac is a vice president of regional sales from North Carolina. And we have Miss Kathy Rogers, senior vice president of governmental relations from down on the coast, right outside of Savannah. I saw Kim Carlisle floating -- there she is. Kim Carlisle is one of our account managers from here in Columbia County.

Like I said, my name is Jeb Cameron. I am a regional salesperson. I grew up an hour and a
half south of here, in Swainsboro, Emanuel County. I live in Cobb County now.

I'm going to turn it over to Mac and Mac's going to give you a little introduction to our company. We'll talk a little bit about what you see in front of you and then we would like to really focus our time on the equipment itself and how this solution would work for county election officials, for poll workers, and most importantly, for voters. Thank you.

MR. BEESON: All right. Thank you, Jeb.
So, again, my name is Mac Beeson, regional sales manager with Election Systems and Software. And briefly, a lot of you are very familiar with our company, but for you that are not, we'll talk a little bit about Election Systems and Software. We are a US-based company and we are focused entirely on US-based elections. We've been in business for around 40 years. We're headquartered in Omaha, Nebraska, have over 450 US employees. We are currently in 42 states. We have a lot of experience with statewide implementations, statewide roll-out voting systems. Currently we're the statewide vendor in 12 states, including several that are right
around Georgia here. We have Alabama, South Carolina, North Carolina, Arkansas, West Virginia, several customers in this area with statewide implementation.

But what we want to spend our time on today is talking about this voting system. We're so proud of this system that we're showing you today. We call it the power couple. Why is it the power couple? Because this is the system that's revolutionizing the election business today.

We've got our DS200 precinct scanner. I'm going to start talking about that in just a little bit here.

So this system was built entirely with the poll workers in mind. So what makes this so simple? Literally all a poll worker has to do in the morning is look at the screen. It'll automatically turn on, automatically print your zero tape, and you're ready to go. We have poll workers standing up and giving us ovations in training class because they did not realize a voting system could be so simple for them to get started.

The DS200 is a digital scanner that takes a
digital image of the ballots that are scanned. Beyond the ease of use for the poll workers, we've got a lot of things that are very attractive for others as well. You see this very large touchscreen here. Great interaction with the voters. We've talked about with this system you can actually use it for full-size paper ballots that are marked with a pen.

So in this case, I've marked a ballot. We run it into the scanner and you can go with any orientation. Put it in faceup here. It takes about two seconds to scan the ballot. This was an overvoted ballot. Again, you've got a large touchscreen that notifies the voter that we've got this issue. We keep the ballot into the throat of the scanner so if the voter to call a poll worker over to assist, they don't -- they're not notified of how the -- what the voter -- how they marked the ballot.

In this particular case, it says clearly in the contest for favorite agricultural product in Georgia, you have two choices, and you made two choices and you're allowed one. So then the voter has two options. Hopefully they will return the ballot and spoil that and get a new
ballot. If they want to cast that ballot, they can actually do that as well. But it takes about two seconds to take a digital image of the ballot and so at the end of the night, after you close the polls, bring the results back to the elections office, not only do you have a paper ballot here with all of your selections, all of the voters' selections, you also have a digital image of every single ballot. And you also have the software, the image of the digital -- the digital image of the ballot, you have the vote cast record, and you have exactly how the system interpreted that ballot.

You've seen a lot of different -- you've already seen a lot of demonstrations of systems here. We're focusing on while the voter is in front of the machine, letting the voter make the decision that they overvoted. We want it to resolve right here in front of the voter. Let the voter make that change and rescan their ballot.

We don't want you back at the back end of the system having to go through a bunch of images and make changes. We want to provide the voter with as much information as possible. This
system right here, if it does not recognize the marks or if it's an overvoted ballot, it's going to be presented back to the voter and the voter then has an opportunity to correct that error, not election officials back at the end of the night trying to do that.

So, again, the DS200, very simple for the poll workers. Like I said, you literally lift a screen, print your zero tape, it's ready to go.

Another feature of this system that we really like is that at the end of the night, you don't have poll workers getting on their hands and knees, having to get these paper ballots. All of the ballots go into a blue bin and at the end of the night, literally, the poll worker just has to shut the bin, pull the ballot box out, and then this has wheels and a handle so all the poll workers have to do is lock this box and bring it back to the elections office. Poll workers are never physically touching the ballots.

Also the media on the DS200 uses a USB thumb drive so it's an encrypted, secure thumb drive. There's no batteries for the components for poll workers to have to deal with. There's no rolls of paper or anything that's printing throughout
the day that poll workers are going to have to change.

In this particular configuration, we use, like I said, full-size paper ballots and very simple set-up for the voters throughout the day. Very easy for the poll workers and this system is well-tested and well-used all over the US. Large jurisdictions like New York City. We have small counties in Nebraska with less than 200 registered voters. This system is proven and by far the largest, most widely-used precinct scanner in the US.

All right, now I'm going to turn it over to Jeb to talk a little about the ballot-marking universal device.

MR. CAMERON: Thanks.
We wanted to spend the time focusing on the DS200 first, and the reason I demonstrated that first is because across the configurations that we're talking about, and of course, in response to your RFI, we know that the state of Georgia is looking at a couple of different configurations: A straight paper system, ballot-marking devices for all voters, or sort of a hybrid system of the two where maybe early voters vote on the

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ballot-marking device and on election day all
voters would get a paper ballot.
    So we want to focus on the DS200 first
because this is where the tabulation happens
across all three of those configurations. We'll
talk next about our ballot-marking device which
is the ExpressVote.
    We call this a universal system, a
ballot-marking device and ADA device for all of
the voters. And that's important because what's
unique about the ExpressVote is that it is
designed as an ADA device. It creates
ADA-accessible ballots, but it's also designed
for all voters to use.
    So we'll go through a demonstration of this
in just a second, but, again, know that only the
ExpressVote Voting System, every single ballot
that is created and displayed is an ADA ballot.
There is audio attached to every single ballot,
and that's very important for voters with
disabilities who don't want to be called out at
the check-in process for having to receive a
special ballot. They don't want to have to go to
a different voting unit within the voting
location to vote their ballot. They want to
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vote, go through the check-in process, vote, and cast their ballot just like every other voter within the precinct.

In addition to the ExpressVote, we also have our ExpressPoll, our electronic poll book check-in system, okay?

So at this point, I'm going to go through sort of the voter experience. And I had talked about the DS200. I'm going to go through a check-in process. I'm going to go to our ballot-marking device and mark a ballot for us, and then I'm going to tabulate, okay?

So at the ExpressPoll, the check-in process happens just like it does today. If I'm a voter, I'm going to come in, I'm going to show my ID. A poll worker is going to validate that $I$ am a voter in the state of Georgia, in the county where $I$ am coming to vote. And they're going to look me up on the ExpressPoll and they're going to validate my information. And then they're going to give me something that will activate the ballot-marking device so that $I$ can start the process of marking my ballot.

So we're going to do that here. We're going to look up a voter. We're going to validate that
voter, and the poll worker's going to insert into a printer what we call an ExpressVote voter-activation card, okay? This started out blank. Whenever $I$ insert it into the printer, the information that it printed at the top is basically the ballot style that applies to me, okay?

So, again, the check-in process is the same for the voter, instead of receiving what we received today in the state of Georgia, that little yellow voter access card, this will replace the yellow voter access card. Same information that's on the yellow voter access card. Not showing personal information here, no social security number or blood type or anything else. It's simply the key that unlocks the unit and pulls up the ballot that is special to me, okay?

So the voter receives their activator, steps
over to the ExpressVote. We're going to insert it here. And just like today where we insert our yellow voter access card, this is what's going to start our voting process. When we do that, it pulls up our ballot. First race appears on the screen. There are instructions as well.

We're going to make selections simply by touching our choice for each race. Down here on the bottom of the screen, we do have the zoom option here. We have the high contrast that was mentioned earlier today. We're going to change the screen from color to straight black and white. And just like today, we go through the screen, we make our selections. We cannot overvote in any races, just like we heard earlier.

And at the end, we'll get to our review screen. And on the review screen, it shows each one of those races and each one of the selections that we made from the choices. And I know it's hard for you to see, but there is a race down here at the bottom of this letting us know that it needs our attention. And when I notice that I see that okay, this was a race where we could vote for two, but $I$ only voted for one, okay? So I essentially undervoted in that race. And I could continue just as before and I could choose to make only one selection in that race. At any time I want to go back and change anything on the review screen, I can do so simply by touching that race, making an additional selection. And
when $I$ touch that, it goes back to the review screen and highlights the changes that were made, okay?

So at this review point, we can continue to make changes as long as we need to, okay? Once we are satisfied we've reviewed all of those selections, we press next. And here's where it's a little different than it is today in the state of Georgia. Typically, we go through and we make our selections, we review our selections, and we've reviewed, we're satisfied with what we've done, we usually touch the button that says "cast vote -- or "cast ballot," okay?

With the ExpressVote, instead of touching "cast ballot," we're going to touch "print card," okay? And when we do that, the ExpressVote is going to take that same activator that we inserted and it's going to give us a review of each one of the races and each one of the selections that we made. If we did not make a selection in the race that race will still appear, and there will be an indication on our written record -- if you want to pass that around -- that basically says, "No selection made," okay? So at this point, the voter has a
hard copy record of all the selections that we just made on the ExpressVote on our ballot-marking device, okay?

Now, at this point, we still haven't cast our ballot. We're still in the review process, okay? If we see something that may be inaccurate on that record or we feel like there was information that we didn't see or there was a mistake made or an undervote we made, because we haven't cast our ballot, we can still go through a process of creating a paper ballot, okay? If we wanted to understand the content or have a selection read back to us by an audio ballot, we could simply reinsert this card -- and if you don't mind, I'm going to take that back from you. We can reinsert this card into the ExpressVote, and when we do, it will take us right back to that review screen and show us each one of those races and each one of the selections that we made, okay? And in addition to seeing it on the screen, we can also listen to it via headphones, okay?

But, again, if we're satisfied, we've reviewed all of our selections, then we're ready to cast our ballot. And when we do so, we step
over to the DS200, any orientation, slide it in there to the top, scanning dial-up, please wait. Thank you for voting. Your vote has been counted, okay?

As far as any additional information on the DS200 ExpressVote, ExpressPoll, we'll open it up to any questions y'all have.

MR. BEESON: Let me just add something real quick too. Our ExpressVote Universal Voting Device is running on battery right now. All of these systems -- both of these have internal backup batteries so if the power goes out, we can continue voting. So there's no additional components you have to buy. You're looking a system here, there's no UBS or no internal batteries or anything like that. You have them already in the system, so -- and, again, there's no printers. The paper we used here is thermal paper -- it's basically the half of a full-size ballot, thermal piece of paper so there's no waste in this particular scenario.

So I think somebody asked earlier about, well, I've got a lot of voters, when $I$ go to a paper system, I'm going to get a 15 percent turnout. We're going to pre-print all of these

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paper ballots. With this blank card -- piece of
paper, if you don't use them all on the election,
you can use them the next election. There's no
waste associated with that as well. And we're
using a full flat piece of paper that's half of a
ballot. There's no rolled up piece of paper or
paper rolls that have to be changed by poll
workers. There's no COTS printers that you have
to put ink and toner and things like that that
poll workers have to deal with. It is a thermal
printer that's inside the ExpressVote. There's
nothing the poll workers have to deal with or
change.
    And with that, we'll open it up with
questions.
REPRESENTATIVE FLEMING: Mac, how much would it cost the state of Georgia to implement a system like this?
MR. BEESON: Well, we just responded to the RFI. It was three different options in there, and the range is somewhere between 20 million on the low end to right under a hundred million on the high end, depending on how many units.
REPRESENTATIVE FLEMING: You said Alabama, South Carolina, what else around us?
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MR. BEESON: North Carolina, Arkansas, West Virginia.

REPRESENTATIVE FLEMING: And do y'all have statewide application in those areas where everybody uses the same machine?

MR. BEESON: That is correct, yes.
REPRESENTATIVE FLEMING: Who's been using the equipment the longest of those?

MR. BEESON: Most of these customers bought a new system around the same time Georgia did, but most of them around 2005 or 2006 . They all implemented them about the same time.

REPRESENTATIVE FLEMING: Who's the last one that implemented?

MR. BEESON: We just won the Delaware so --
MS. ROGERS: Maryland.
MR. BEESON: Okay, Maryland would be the statewide that we just rolled out, yes.

REPRESENTATIVE FLEMING: Okay. As we go around the room here. Dr. Lee?

DR. LEE: (inaudible)
REPRESENTATIVE FLEMING: Dr. Lee, turn your mic on.

DR. LEE: Okay, yeah. Yeah, so couple questions. First one is I want to make sure that
your system that you're demonstrating is not the same as the one that Georgia is using currently, correct?

MR. CAMERON: Correct.
DR. LEE: Second question I want to clarify is that when you demonstrated the paper ballot, you scan the ballot, you said it's an error, it's overvote. The voter can -- just using the touchscreen to register the correct vote, right? You do that when you introduce some discrepancy between the virtual record versus the paper record, so how are you going to deal with this in the audit process?

MR. BEESON: Yeah. If I understand your question correctly, so what we provide on the screen is we notify the voter that it's an overvoted ballot. In terms of a ballot that's undervoted, if it's blank, it's a mismarked ballot. So then the voter has a choice to cast that ballot or to return it and go correct the situation. So if it's an overvoted ballot, you will need to spoil that one, get another piece of paper and mark it if they didn't intend to overvote.

DR. LEE: But suppose he chooses to just
cast it? Then in the audit process, what would we do?

MR. BEESON: So if that voter wants to cast an overvoted ballot, they're totally allowed to do that. That particular contest wouldn't be counted and in all of the other contests the ballot would be.

DR. LEE: Thank you.
MR. CAMERON: In reference to the audit there, I mean, I think the important thing to note also is that post-election when county election officials are going through a post-audit, there will be an audit of any of those votes that the voter overvoted. It does provide you an audit of that ballot. It shows you that that voter did actually intend to cast the ballot as it was even though they were given the choice to --

DR. LEE: (inaudible)
REPRESENTATIVE FLEMING: Dr. Lee, turn your mic on again.

DR. LEE: Sorry. I was unclear how you actually record the action that the voter actually chose to miscast it. So how is that captured?

MS. ROGERS: You might be referring to the internal audit of systems today, how it logs that. It will show you every action that's captured. In post-election, we have election officials today who will use that audit-log data to determine how they can improve the election process of a certain poll. They can take that data and say we need more voter education in this particular area. A lot of voters overvoted on a particular ballot. So that capability exists now within our technology.

DR. LEE: Okay.
REPRESENTATIVE FLEMING: Okay. Going around the room here. Questions? As I move back to this side over here? Lynn?

MS. BAILEY: Thank you. So when processing absentee ballots on regular paper, there is a different type of device or is it the same device? And what's the scan speed for those ballots?

MR. CAMERON: That is a great question. Thank you for asking that, Lynn. In response to the RFI, in addition to the DS200 scanner that you see here, we also -- and this is something that at a personal level that I'm excited about
for the state of Georgia. Having worked as a county election official in both a small county and a large county, $I$ like that we are able to offer different types of scanners for different sizes of counties. We know that, you know, especially in a place like Georgia where you have all the way from Appling County to Fulton County, I'm excited that we're able to offer high-speed options from medium- to large-size counties.

So in response to our bid, we did do the DS200 for, you know, the vast majority of the counties in the state that are considered small. So in this county, for example, Judge McCoy may have a couple hundred absentee ballots to count at the end of the election. You can use the DS200 in your office to scan those ballots.

Lynn, you asked the question. In a place like Richmond County, in addition to the DS200, we also have our DS450 which is one of our high-speed scanners, and it counts anywhere between a hundred to two hundred ballots a minute, okay?

We also have for the Fulton Counties in the world, Cobb Counties, Gwinnett Counties, DeKalb Counties, we have our DS850. And our DS850
counts the hand-marked absentee ballots and ExpressVote components for that matter as well at a speed of close to 300 ballots.
Did that answer that question?
MS. BAILEY: Yeah, thank you.
MR. CAMERON: Great. Thank you.
REPRESENTATIVE FLEMING: Jeb, I have a very important question for you. Instead of it coming in red and gray, will it come in red and black?
MR. CAMERON: As a UGA graduate, we will color this however the state wants it.
REPRESENTATIVE FLEMING: I will be more apt to color it red and black than $I$ would anything else.
All right, the judge has a serious question.
JUDGE MCCOY: Couple of questions. First of all, I'm not clear on the ballot marker, the receipt. The paper comes back out and the voter says this isn't right or $I$ want to change that. I saw you reinsert it. If that voter makes a change, what happens to the paper?
MR. CAMERON: That's a great question.
That's a great clarifying question. Whenever I reinsert it to review, know that that is a marked ballot. It's already been printed as a record.

So if $I$ were to reinsert a ballot that's already been marked into the ExpressVote, I can't make any changes at that point. It's simply going to provide us a review of what has already been marked on a ballot.

So I do my record and I say no, I think I see a mistake. The state would use the same procedures that are in place today. For spoiling a provisional ballot, for example, you would create a spoiled ballot, you would go to the ExpressPoll, reissue a card, and that voter can begin their marking over.

JUDGE MCCOY: One other question. Are the votes embedded in a barcode? Is there a --

MR. CAMERON: The selections are represented
on the ballot marked -- any votes that are cast, any ballots marked on the ExpressVote are represented by a barcode in addition to the hand-readable text that appears on the ballot as well.

REPRESENTATIVE FLEMING: Okay, any more questions? Deirdre?

MS. HOLDEN: I want to go off what Lynn was asking with the high-speed counters because I know that would be something that Paulding County
would have to have because we have several thousand absentees, but does that counter take a digital image of those ballots --

MR. CAMERON: Yes.
MS. HOLDEN: -- for auditing purposes?
MR. CAMERON: Absolutely. So the DS200, DS450, and the DS850, all, as they are tabulating and scanning are taking a digital copy, front and back, of every ballot that's being scanned.

So back at election central, when y'all are doing post-election audits, you can look within the election management software itself. Every image of the ballot and a cast-vote record, side by side, to show you here's the image of the ballot, and then here is how the software itself interpreted that ballot.

But most importantly, in addition to the digital image and the cast record, you also have all of the hard copies of the ballots that could be audited postelection.

MS. HOLDEN: Next part of my question is with this system or any of the other systems that we've seen, is this going to help in the logic and accuracy testing? Is it going to be simplified more than what we have to do now?

Because, you know, it could take -- in Fulton County, it would take them weeks. It takes us a couple weeks to do that. So will the process of the testing of the machines be simplified with these new systems?

MR. CAMERON: It will. And the important thing is you're going to continue to test the most important part of what happens on election day which is, of course, the tabulation itself.

You will test the ballot-marking devices to make sure when you talk about things like barcodes, that the barcodes are representing the correct selections that are being made in that ballot-marking device.

Let me put it in a nutshell and let me talk about election day real quick, opening and closing procedures to kind put in a nutshell how this kind of consolidates down based on what we do today.

So today let's say, Ms. Holden, in your largest precinct, how many touchscreens do you employ?

MS. HOLDEN: Thirty.
MR. CAMERON: Thirty? Okay. So let's take that precinct. In the morning, your poll workers
go through an opening process on 30 units and part of that opening process is you are printing tapes, zero tapes on 30 units, and they are verified that each unit has a zero count at the beginning of the day. Throughout the day voters are voting on those 30 units. 7 p.m. rolls around, it's time to close down the precinct. Your poll workers now are going to go through the process of closing down 30 units and they're going to end the election on 30 units. Then they're going to print three copies of the results tape on the 30 units, and then they're going to remove the memory device out of 30 units and they're going to bring those tapes, those memory cards back to your office. And then you're going to go through the process of uploading 30 cards to get the results for that precinct.

Let me tell you in a nutshell how this is a little different, okay? You may have -- let's say, you take that same precinct. You may have -- if you do a one-to-one ballot-marking device for the touchscreens that you have today, you'll have 30 touchscreens, ballot-marking devices for the precinct. You may have one, you
may have two scanners depending on the volume of that precinct, okay?

The opening process for the ballot-marking device, because it does not tabulate, is to simply open the security door and power it off. That's it. There's no printing zero tapes from here because there is no tabulation that's done here.

So you've consolidated down the opening process for 30 units to one single or two units at your precinct. Same goes for the closing process.

To power down the ExpressVote and close out the election on the ExpressVote, you simply reopen that security door and you turn it off. That's it. There's no tapes you have to get. There's no memory devices that need to come back to election central. Instead, here, with the DS200, you open the security door, there are two buttons for your poll workers. One says power. One says close poll. And when they touch "close poll," three copies of the results tape are automatically going to generate out of the DS200, okay? Then they bring, just like Mac showed you, that blue ballot bin, the memory device, the
tapes back to your office. Instead of uploading 30 memory cards, you're uploading one or two. Does that give you kind of a high-level idea of what we're talking about when we're simplifying the process, not just for you but for your poll workers as well?

MS. HOLDEN: Thank you.
MR. CAMERON: Sure.
REPRESENTATIVE FLEMING: John?
MR. MONDS: I have a question about the digital scanners. Now, you said that possibly in the polling precinct you have one or two of those. And in your demonstration $I$ believe you said that if a voter was unsure that they wanted to change their ballot, that they could do that, and my question would go to would that possibly cause any backups, you know, in a polling place if you have a voter that's standing there taking a long time, you know, making their decisions if you only have one or two of those? And is that your recommendation that there will only be one or two digital scanners in a polling place?

MR. CAMERON: Yes. Most precincts across the US have chosen a system that's one scanner in a polling place. We have a few in New York

City -- I have some locations that use two. Fairfax, Virginia has 800,000 registered voters. They use one in most of their polling places. The digital scan technology in the system is so good, you could scan the ballots -- it's about two seconds to scan the ballot.

And then it's really one options for -- or two options for the voter if they overvoted a ballot. If they cast it or return it. So then they would move away from the scanner and then go back to the check-in.

MR. MONDS: And then my other question is going back to deliverability on the scanner. On the time frame of implementing and changing the whole system, what kind of time frame would we be looking at?

MR. CAMERON: Well -- and we have a lot of experience rolling these out statewide, and, you know, different -- often we're given shorter time frames than everyone would like, sometimes we have more time. I would say with us being the largest $U S$ manufacturer, we've got a great supply chain. We're preparing for a really large number of jurisdictions to buy new equipment next year, and we're planning now for something like that,

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and, again, it's just -- you know, some states
will do a phased-in approach, some states will go
everyone at the same time. And we would work
with you all on what the best plan based on your
timelines is, and we've got the team ready and
available to get it done in the time frame you
need us to.
    Thank you.
    REPRESENTATIVE FLEMING: All right? All
right, Sheila has our last question.
    MS. ROSS: Thank you, Mr. Chairman. I'd
just like to piggyback on one of John's questions
which is in the 42 states that you have active
and rolled out already, what is the average
voting time for the voter?
    MR. BEESON: We've done some studies on --
especially we have a lot of experience with
customers moving from DREs to this type of
system. And if we're talking usually going from
a DRE to ballot-marking, we're seeing the times
all very similar to the time it takes to load it
on a DRE as the time it takes to load it on a
ballot-marking device. So very similar to what
you're used to today.
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MS. ROSS: Did you actually do studies on
that or is it just ...

MS. ROGERS: First I want to say I have tried to study that but it becomes difficult because ballot size is different all across the country. Georgia's done a pretty good job of trying to reduce amendments and summary language on their ballots. Not everyone is that good.

We just recently had an election in another state where there were, like, hundreds and hundreds of ballot decisions because of some precinct committee races. So it does depend on the ballot length as to how long it actually takes a voter to cast a ballot.

But Mac's right, if the ballot size is similar to today, then you wouldn't really see any degradation in time.

But I apologize. It is a hard question to quantify because of ballot complexity across the states.

REPRESENTATIVE FLEMING: Gentlemen, Mac, Kathy, thank you for a very good presentation. Appreciate your being here today. Thank you.

Our next presenter will be Hart InterCivic. And as they breakdown and Hart sets up, we will be in recess for a moment.
(Pause)
REPRESENTATIVE FLEMING: All right. If everybody will come on back and find their place, we will begin with Hart InterCivic.

I'm going to turn it over to you. Please introduce yourself. Good to have you today.

MR. BROXTON: Thank you, Mr. Chairman. My name is Dwayne Broxton with Hart InterCivic. It's good to be here today. I've worked with Hart beginning of this year, prior to that $I$ worked with the state of Georgia (indiscernible) election night reporting system.

So today, we're going to take some time and talk about who we are as a company. I think that Hart may be new for some of you. And we're also going to talk about the Verity Voting Platform. And we're going to talk about the paper ballot and also we'll walk you through a quick demonstration of our software.

Unfortunately, Sean Phillips had to go back to Texas because of a family emergency this morning. Again, my name is Dwayne Broxton. I'm the regional sales manager.

So for those of you who have not heard of Hart, we have been in business since 1912,
printing ballots. I don't think there's anyone else that we've seen today that can say that they have been around in the elections for that period of time.

And as you notice as you look at the timeline, throughout all of that, we introduced the first DRE in 2000. We were the first digital ballot in 2002. In 2011 -- and why I point that out is because it's pretty important. We were the first company to actually have a survey. And we're going about what we got from the survey and why it was important.

2015, we came up with the Verity Voting Platform for our customers. So you'll notice that we've got a footprint all over the United States, and that's important. And Georgia is looking to pick their next voting hardware vendor. You definitely want to pick someone that has experience.

From Hawaii to Virginia and a lot of states in between, you'll notice that we're in those states. We have over 800 jurisdictions served and Texas is where we're headquartered, in Austin, Texas. We also manufacture our equipment in Austin, Texas as well.

Statewide implementation experience: Oklahoma and Hawaii. So let's talk a little bit about both of these states and why I think it's important for Georgia here today. The state of Hawaii, which we handled their elections, does everything except hire their election workers. From soup to nuts, we run the elections for the state of Hawaii.

Oklahoma's a little bit different. For Oklahoma, we support them as they need. They have regions similar to your regions that you have here. I think they have 11 as opposed to you have 13. We train their technicians to be able to actually do some of the repairs to their equipment. We don't -- and we'll talk about maintenance as we get into the presentation.

Why this is also very important, both of these two states are top-down states and they're paper states. So we have the experience with states that are top-down and use paper ballots. Again, proven experience: Our largest county, Harris County, Houston, Texas, 2.3 million voters. Our smallest county, Kenedy County, Texas has 208 registered voters.

So I say this essentially, the make up of

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counties, large counties, small counties, and
everywhere in between, we services those
counties.
    So just to let you know, our VP of
operations is not actually Pete Lichtenheld, it's
Dr. Phil. And why I put that out there, it's
pretty important because, you know, working with
states and counties, Dr. Phil talks about
communication and that's very important and we're
going to get into why that's important. So our
customers rate us 95 percent of overall customer
service. The biggest number there is a hundred
percent.
    So there are roughly 4,000 jurisdictions
nationwide. Out of those 4,000 jurisdictions,
you know, as you can imagine, in the industry
some people move from one vendor to the next.
Those counties or jurisdictions that have chosen
to moving to Hart have rated our services far
superior to the vendor that they left.
    So we talk about how we do that.
Communicate, we'd like to help. Our VP of
operations spends about half of his year meeting
with current clients, talking about what are
their issues, what are they going through, what
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are their challenges. We've taken that feedback and put it into action.

The Verity Voting Platform which is why I'm here today. So every vendor that's been here in front of you, at some point in time had a decision to make around 2011, 2012. Ten years after Harvey, we had the experience of running the elections -- I'm sorry, I said Harvey. I live in Houston. It's on my mind. Ten years after HAVA, we realized that we got a lot of feedback and HAVA was a great starting point.

But in that ten years, from talking to our clients, we learned a tremendous amount about elections and how we can process better. So instead of bolting onto existing technology, we took a blank sheet of paper and we decided to come up with the Verity platform. Easy, modern, trusted.

So, again, we took that blank sheet of paper -- there we go, a blank sheet of paper, and we took feedback from our clients, came up with the Verity platform, and here's what makes it easy. As we walk through a demonstration, we're going to talk about the user interface. They're all similar, they're all the same.

So once you train the election worker on this piece of equipment, they're going to understand how to operate this piece of equipment as well as the scanner.

The compact design, as you'll notice, our ballot box on top here (indicating) at the very end. It's an ADA-accessible height. It's a collapsible ballot box, 17 pounds, breaks down to about 6 inches.

You'll also notice the hardware. All of the pieces that you see in front of you come in a suitcase with the tablets protected inside of the suitcase. You've got three different pieces in front of you. This is called the Verify controller. This is a full-working device. It allows the election worker to manage the polling place from your desk, from your setup.

This is the Verity Touch Duo. This is a ballot-marking device. This allows you to keep the DRE experience and add a paper trail.

And this of course, the last piece, is the scanner. And we're going to get into all of these a little bit more later.

So Verity by the numbers: We're in 11 states, 92 jurisdictions, 4,100 precincts. The

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biggest number there, 6.4 million people have
voted on the Verity platform. And, again, that
is a new platform, first implemented in 2016. So
in that short period of time, we've been able to
gather 6.4 million registered voters.
    Common platform for adaptability. If
there's one thing I want you to take away from
this platform, it's common platform adaptability,
what that means to Georgia.
    I've talked to many people in this room and
I know that Georgia financially is in a very good
position. You don't have to go out and buy the
cheapest voting system just because it's the
cheapest voting system. You've done a very good
job and right now, 2018, you can afford to go out
and maybe spend that a hundred million dollars, a
hundred fifty, hundred seventy, whatever the
price tag may be once you decide.
    Where are you ten years from now?
Purportedly in 2019, 2020, your counties, some of
your smaller counties have to go out and purchase
equipment, okay? And even if that pendulum
swings from where it is is right now where
everyone's talking paper, we can go back to DREs
in ten or fifteen years. This platform will
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allow you to convert this scanner into a DRE. Let me say that again and why that's important. Right now, we offer an initial investment, you're going to try your best to make sure every county, every jurisdiction has the equipment that they need, the proper configuration. But sometimes populations change, voters move from one county to the next. You can't predict in 15 years down the road where you're going to be.

We're the only system that allow you to be able to do that, to convert one piece of hardware into other as a county needs at a fraction of the cost of actually going out and purchasing new equipment.

Let's talk paper. One thing that Hart is not going to tell the state of Georgia to do is exactly how you should spend your money. We're going to give you options. We support an entire voting platform, all forms of paper, whether we're talking preprinted ballots, which is essentially preprinting the ballots, and a scanner in a precinct along with an accessibility device. There's also the option to actually print out ballots in the precinct on demand.

That's exactly what it sounds. And when the voter is checked in, you're able to look up their ballot style and print their particular ballot there in the precinct, eliminating the waste of preprinted ballots. They take that ballot and then put it directly into a scanner.

Now, the option that you see in front of you today is what's considered in the industry a hybrid concept. Again, taking a ballot-marking device, adding a piece of paper to it, which is thermal, after they vote, they will be able to actually see. And here's where it's going to be a little different. I'm going to walk around so you all can see this. You'll notice a full-size ballot even though it's a contest and the candidates on the paper. You'll also see that QR code in the corner.

Let's talk about all of it. We read the contest in character off the paper. In this code, there is nothing that ties the contest or the candidate or the voter inside that code. This code strictly allows this piece of paper, the ballot, to be put into the scanner. There's nothing in here that, again, reveals the voter, the contest, or the candidate in that barcode.

So this is a bad picture of a screwdriver, I apologize, but this is to talk a little about our maintenance plan. We don't lock you into a maintenance plan. All you need is a Phillips-head screwdriver to change the battery in the bag.

So there are two batteries. There's a hot-spot battery which powers the tablet itself, and also there's a battery for the motherboard. Now, having talked to people in Georgia, I understand that some counties have different resources. I think what we would do is work with the state of Georgia in 13 different regions to be able to actually train roaming technicians throughout the state of Georgia, closest to the models we have on loan.

Now, if the state of Georgia wants to spend the money for a maintenance contract, we'll do that, but $I$ think the more responsible way fiscally is to actually train you all to be able to handle some of the light repairs. We can always send major repairs back to Hart.

We're going to talk a little bit about security. We call it defense in depth. If you think about back in medieval times in a castle,
you had different levels of security. You had an open field, you can see any intruder coming from miles around. You have a moat and you also have the drawbridge and the wall.

So the first thing in security is the physical access. Key locks, you'll notice on all of our hardware we have key locks, sometimes on a handle, tamper evidence seals. So inside here -you can't see it from where you are, I apologize -- we have what's called -- like everyone else, we have a removable flash drive. That's where the media and the vote's going to be stored. On actually, this piece that we see today, it's under a lock. It can also be a tamper evidence seal.

We also have what's port obfuscation. Now, what that means essentially is this. Our cable is not the standard wiring for our cables. As the data is transmitted from one piece of hardware to the next, it's actually so the wires are scrambled. So no one will be able to come and take it. The cable bought at Walmart, Radio Shack and that's just taken into the back assuming you'll be able to get information off of it.

One of the most important parts of this is actually people and procedures. All of your election administrators will tell you this. Hiring the right people, coming up with the right procedures. You're going to go from right now using DREs and paper. That's going to be a lot different than what most people in most elections have experience. So it's going to be important that Georgia sits down with a partner that has the experience and can bring best practice to the state on the people and procedures you need to have in place.

So we'll go through these very quickly. Threat modeling, walled-off security protocols, attack service reduction. This essentially is a custom Windows 7. It's industrial-strength Windows 7, not typical to what you would go on your computer at Best Buy and purchase. It's industrial strength, industrial grade. We basically only use the components of Windows that we need for our operating system.

When you start, this starts the kiosk system mode, you do not have the ability to have solitaire or any other applications you would like to.

Whitelisting. So essentially what we do, we don't blacklist. For those of you that are unfamiliar with the term, blacklist is essentially knowing what threats are out there and making sure that those threats can't get into the door. Well, as soon as you actually publish that, those are old threats.

So what we do, our system only allows you to use what's actually coded for it to use. You can't actually load anything onto these systems, again.

Secured boot. Again, they boot up. They boot in the kiosk mode. When they boot up, they're actually able to tell if they've been tampered with. One of the things that's out there -- and we'll talk about the hacking of election equipment. I think we all understand at this point that the system is air-gapped. There's actually no way to actually hack on to any of our equipment -- probably most of the vendors will say the same -- from the Internet. They just don't have the hardware, the internal hardware, to get online.

Well, also with the secure boot, if someone tried to actually sit down at the system and get
into the system, it would basically shut down the hardware.

Two-factor authentication. Something you have versus something you know. There's a security key and a password key, exportable hash files, and we'll get into the role-based access and control. So it's based on permission levels at the county level and the state level and credentials. You basically can control who has access to what -- that's essentially what we're saying -- at state level, even into the counties you have the ability to lock out people.

And also this: You can see who has accessed the data, just as important. If someone goes in with their password, you can know what functions they performed. Password management, again, will give you best practices on password management, system log-in auditing.

Permission levels, we've gone through that.
Human readable data, this is important. Our keys, our flash drives are basically encrypted. But if you stick that in, you've gotten access to it, you will actually be able to read the votes. What you will not be able to do is change them. If you do somehow figure out a way to change
them, if it is, quote/unquote, hacked, as soon as you take that to the central count or the workstation, you'll know right away that that was -- that somehow that flash drive became corrupted. You will simply go back to the scanner, download the results again, and take it to your central count.

Now (indiscernible) encryption standards, data in motion, again, human readable, tamper evidence seals, $I$ think we've got over that.

Let's talk about the ballots again. I think I mentioned this earlier. Again, that QR code, nothing ties the voter to this piece of paper. You can't see the contest, you cannot see the candidates. Let's vote.

Bethany, if you would come up.
So, again, I'll walk through it quickly. The hardware you have in front of you, this is what we call the Verity controller. Again, this allows the election worker to actually manage the precinct. I have it facing you right now, but in the precinct -- in the polling location, it would turn around, facing the election worker. This is a ballot-marking device and again that is the precinct scanner.

So right now, you'll notice -- this may be a little difficult for you to see -- these two pieces communicate right now to send the data. The reader is not -- so this piece of paper in here -- the voter has already voted. This is going to happen when you move to paper. Because of the DRE experience they experience now, it's probable the voter's going to walk away and leave their ballot sitting right here.

Now, what you'll see, after a couple of seconds, it will let an election worker know, okay, that this voting terminal is not ready to be used.

So, Bethany, if you want to vote.
What she's doing is actually creating a voter access code. That's a voter access code (indicating). That essentially makes sure that when a voter goes to the ballot-marking device, they vote the right ballot style. The election worker is going to hand the voter that voter access code and a piece of paper.

Punch in your access code. Go ahead and insert.

So you'll see here that the voter has correctly inserted the piece of paper that's
creating a check mark, let's her know that it was accepted.

Go ahead and vote. Yeah.
So you can't see the screens from where you are but as she's voting, on the left-hand side of the screen, it gives the voters instructions to every single screen. So the voter always knows exactly what to do. If they have any questions, they will see it on the left-hand side of the screen. All of our screens, again, you can adjust the contrast and the font size.

For contests that have more than two choices, not until you mark both choices will it actually appear green. So once she's actually gone over her choices, she has the option to print. It's going to ask her twice if she actually wants to print the record.

This is her ballot, the same ballot $I$ showed you earlier. And she'll walk over to the scanner, place her ballot on the scanner, she's voted. And similar to the other systems you've seen here today, if we were talking hand-marked paper ballots ...

Okay, perfect. So there's an error screen. The error screen says that you cannot scan -- it
let's the voter know right away what's going on. There's a paper jam. Contact your poll worker.

REPRESENTATIVE FLEMING: She forgot to vote for me. That's what the problem is.

MR. BROXTON: Could be exactly what it was. REPRESENTATIVE FLEMING: Yeah, that's it.

MR. BROXTON: Unfortunately, that's a problem for the scanner. That was a poll-worker issue by the way. It could happen. It's probably exactly like that. The scanner wasn't placed on top of the ballot box. That never happens, right?

Lynn, that never happens? Probably not. And she's voted.

Any questions?
REPRESENTATIVE FLEMING: So in that case, the machine, the scanner knew it wasn't in the right place?

MR. BROXTON: Correct. So the ballot box --
REPRESENTATIVE FLEMING: Ah, it lines up.
MR. BROXTON: It lines up. There's a
locking mechanism right here that locks into
place. So an election worker sets up. It's as simple as pulling this white cord to lock it into place.

REPRESENTATIVE FLEMING: Okay.
MR. BROXTON: They may do what I did, it's quite possible, probable even. Once it locks into place, it lines up.

REPRESENTATIVE FLEMING: Dwayne, how much would it cost the state of Georgia, in y'all's estimate, to implement this all across a hundred and fifty counties? Any guestimates there?

MR. BROXTON: Absolutely. So if we're talking pure paper, you're talking roughly around $\$ 40$ million for a pure paper-based system. If you're talking a hybrid, similar to what you've heard, around a hundred-million dollars. And printing the ballots at the poll location, somewhere in between.

What we would need, as probably every other vendor here, was the correct configuration of not just precincts but polling locations. And Fulton County precincts, the polling locations may be different than some of your smaller counties here. Your metro counties may have combined super precincts at a polling location, and in those places you may absolutely think about a second scanner, whether it's preprinted ballots or a hybrid system.

REPRESENTATIVE FLEMING: Dwayne, you've -- I think you began to touch on this. It's something that's been brought up today. I think Dr. Lee mentioned it a time or two, but what about the flexibility of the system as we move forward into the future. You know, as Georgia has different needs or the industry demands change, how about that?

MR. BROXTON: So I'm going to go over this again. Thanks for the question. Right now it's not just Georgia, it's all across the United States. Everyone's going to paper on some form, whether it's preprinting the ballot, printing the ballot at the poll location, or hybrid.

Ten years ago, no one saw going back to paper or very few people saw going back to paper. Where are we going to be ten years from now? No one can tell you. I can tell you probably this with some certainty, as you go back to paper, there will be some people that remember paper from before, and they may even say: You know what? Maybe we want to go back to the DRE. That -- those calls are going to be out there just like the calls for paper right now. What the Verity Voting Platform will allow you to do,

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if you go back to a DRE and you no longer need a
scanner or if you decide to go another version of
paper just -- if you decide to go to preprinted
ballots and you wouldn't need either one of
these, you can convert those to scanners.
Complete flexibility across the platform.
    Fiscally, ten years from now, you also don't
know where Georgia will be. I think Georgia will
probably be in a pretty good place. I'm sure you
all feel the same. What if you're not and you
still have these concerns about your hardware and
your platform?
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REPRESENTATIVE FLEMING: I'll start over here on this side and work my way around the table. See if there's any questions.

Nancy?
MS. BOREN: The first step that you do --
MR. BROXTON: Yes.
MS. BOREN: -- does that contain voter data?
MR. BROXTON: No.
MS. BOREN: Okay. Where do you get the voter data for the code to create the ballot?

MR. BROXTON: So what happens, the voter comes in, they check-in at the electronic poll book, similar to what you've seen earlier. And
we've worked with Tenex, Know.ink, and many of the poll books that are out there. Once that voter gets checked-in, they get their ballot style. You can come over and the election worker can manually input that or they can use a bar-code scanner. Now, we suggest using a bar-code scanner that would print out from your electronic poll book. They scan the barcode, it prints out -- it's called the access code. The access code is essentially their ballot style. So if they go to the ballot-marking device, they punch in the access code, and I'll use the old access code. And you can see it turns red because this code has already been used. So a voter won't be able to come back and use the code and try and vote and again. Or even go to another precinct and try to use this code. Does that answer your question, Ms. Boren? MS. BOREN: Yes. And so in a primary if a voter changes their mind and they want to vote Democrat instead of Republican or vice versa, they go back to the beginning and get another code?

MR. BROXTON: Correct. I'm glad you asked that question because a voter -- and I think it's

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already been said here today -- they have never
really voted so they actually cast this into the
scanner. I think everyone understands that.
    So any point along the process, depending on
how Georgia wants to do it, you can spoil this
ballot and then they would have to base it on
your policies and procedures to get it back in
line to vote Democrat or Republican.
    Or even -- again, this is a full ballot with
the contest, and they say: You know what? I
don't want to vote for Beverly Davis any more,
I've changed my mind. Spoil the ballot, start
all over again, and they will cast their vote.
REPRESENTATIVE FLEMING: John, that will be
Democrat, Republican, or Libertarian, right? Is
that all right?
    MR. MONDS: In my opinion (indiscernible).
    REPRESENTATIVE FLEMING: I just want to make
sure we got that.
    MS. BOREN: One last question.
    REPRESENTATIVE FLEMING: Sure, Nancy. Go
ahead.
    MS. BOREN: I'm sorry.
    So the first step, will it contain every
ballot style in their county for early voting,
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and then secondly, can it be programmed for a precinct to only contain ballot styles in that precinct?

MR. BROXTON: The first answer is yes. The program only contains ballot styles at a particular precinct.

That's a question I'll honestly have to get back to you because $I$ don't know the answer to that. I think that it can, but $I$ want to give you the right answer. And I apologize. If Sean were here with me, we would know that right away. But $I$ don't know, I'll have to get back. I will get an answer to you today.

MS. BOREN: Sure. Thank you.
REPRESENTATIVE FLEMING: Going around the room. Dr. Lee?

DR. LEE: Thank you. So can you clarify which user uses the $Q R$ code. In particular if a user hand-marked ballot, do I also have QR code and where does that come from?

MR. BROXTON: Okay. So let's start with the hand-marked ballot. If you have a hand-marked ballot, there is $a \operatorname{QR}$ code on all of our ballots. On all of our ballots, we are going to read what you see on paper. We're actually going to read

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the contests and the character. You'll see
barcodes but they're essentially -- they're just
to line the paper with the scanner, make sure
we're reading the correct contest and the marks
on the paper.
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The second part of your question was about this QR code. Again, this only contains the information that you see at the top of the paper which is the precinct and the date.

DR. LEE: Why do you need that? Why make a difference between the hand-marked versus a printed-out ballot? Why have the QR code there on the side?

MR. BROXTON: Why is there a $Q R$ code on this?

DR. LEE: Yeah, and not on the hand-marked ballot.

MR. BROXTON: On the hand-marked ballot we still have voting on the hand-marked ballot. It's essentially used to scan to line it up here. The QR code here is just to really use for the further precinct information. I think I'm misunderstanding the question.

DR. LEE: But then if $I$ go to the precinct, I use hand-marked ballot, and you said I don't
have a QR code. Why not? Because you said QR code is containing the precinct information. So why is it different between hand-marking versus ballot machine printing?

MR. BROXTON: Well, on the hand-marked ballot, you do have codes on the side which will contain precinct information. Is that -- am I answering your question correctly now? So you'll still have a version of coding on your hand-marked ballot. Am I ...

DR. LEE: Yeah (inaudible).
REPRESENTATIVE FLEMING: Cynthia, hold on. I'm going to go to Lynn and then we'll come back to you on this side.

MS. BAILEY: Thank you. So can you address how your system in the central count environment would adjudicate an overvoted ballot.

MR. BROXTON: Okay, absolutely. So let's first start with -- if you're talking hand-marked ballots, before $I$ get to central count, if you'll allow me that, the voter will actually be able to correct because it will not take overvotes here. It will allow them to overvote if they choose to but it will not be counted. And you can force the undervote.

In the central count situation -- and we don't have the software displayed but you would essentially be able to pull up all ballots that they have an issue with. It will be flagged. And let me mention how our central count looks a little different than what you've mainly heard here today. You do not have to presort your absentee ballots. You're able to just take all of those ballots, put them into central count, and they will sort based on their precinct. When it comes to adjudication, those ballots are flagged, they are put in the separate box where you can actually pull up each individual ballot and basically adjudicate voter intent at that time.

REPRESENTATIVE FLEMING: Okay, Cynthia's going to have our last question.

Cynthia?
MS. WELCH: Real quickly. I want to confirm the steps that a voter will go through when they come in to vote. One, they would go to the e-poll book, and from that step they will go to the machine here to get the ballot code.

MR. BROXTON: Correct.
MS. WELCH: And from the ballot code, they
would go to the ballot marker and from that point, they go to the tabulator?

MR. BROXTON: Yeah. So you can actually -depending on how you feel works best for your efficiency, you can actually have the person that's checking them in also operating the election management poll book, this device, as well.

So it can be separated out or it can be right -- we have counties that actually have this one election worker checking in the voter and also administering the access code. Now, once that voter gets the access code, they would then move to a ballot-marking device. However, your precinct will have total (indiscernible)figure, they will be there after they've voted and go to the scanner.

MS. WELCH: Okay, so here where they get the access code, and the voter comes over to the unit to do the balloting --

MR. BROXTON: Ballot-marking device? Yes.
MS. WELCH: Right. Explain to us if someone put in the wrong code. If you don't use the scanner and we punch the number in there and we put in the wrong number and give the voter the
incorrect ballot style, how do you prevent that between the three stations?

MR. BROXTON: So let's make sure I understand your question. If they punch in the wrong code?

MS. WELCH: Right. The wrong ballot and access code here, based on the paper that they received, it's the incorrect ballot style --

MR. BROXTON: Okay, so --
MS. WELCH: -- how could that be corrected before you --

MR. BROXTON: Couple different --
MS. WELCH: -- let the voter know?
MR. BROXTON: Couple different things. So this code is only good at the polling location. If they put in a wrong code that was not issued by this, they would not be able to vote here.

MS. WELCH: Okay.
MR. BROXTON: But let's take the second half of your question because $I$ think there was a question there that how are we able to catch if there's something wrong on the ballot. They actually have a paper ballot, before they scan it. And I think another question I heard earlier in the day was wait times, what we've seen when
people actually use either a preprinted ballot or a ballot printed at the polling location. Generally speaking there's not a big issue with waiting at the scanner because they actually have a paper ballot in their hand. They've got something they're actually physically holding. They're reviewing the contests and the candidates.

Does that answer your question?
MS. WELCH: Yeah.
JUDGE MCCOY: Mr. Chairman, one quick question.

REPRESENTATIVE FLEMING: Yes, Judge.
JUDGE MCCOY: So you totally rely on the poll worker to manually enter a code in there to get the right ballot style.

MR. BROXTON: No, sir. I'm glad you asked again. We actually have a scanner. So this scanner, which you just heard, this actually eliminates the human error of the poll worker. When they get that access code or that $Q R$ code from the electronic poll book, they scan it and that pulls up their ballot style, and that will actually print the access code.

JUDGE MCCOY: But your company does not
provide the electronic poll book. That would be another company that would have to partner with you.

MR. BROXTON: Correct. And we've been partnering with a company called KNOW.ink which I think some of you are familiar with. Tenex, we've been partnering with them all over the United States.

Thank you.
REPRESENTATIVE FLEMING: You were left short-handed today, you did a great job. We appreciate it, thank you.

MR. BROXTON: Thank you, sir.
REPRESENTATIVE FLEMING: All right.
And our last presentation will begin momentarily. We'll standing in recess with Dominion Voting making a presentation for us.
(Pause)
REPRESENTATIVE FLEMING: All right. If everyone would make their way back to their seat, it is the presentation we've been waiting for all day, the last one.

We appreciate you being here and I'm going to turn it over to you and we'd love to hear from you. Welcome.

MR. HORACE: Good afternoon, Chairman, and good afternoon, Commission. My name is Matt Horace. I'm the chief security officer for Dominion Voting Systems, and in that role I'm responsible for Dominion's enterprise-wide security, cyber security, and physical security, information technology, and all things security. As you know, Dominion is US owned and we're very experienced in executing statewide implementations. We most recently received the support of the state of Louisiana, our latest acquisition, and it is my honor today to introduce to you to our team of professionals. First, Dr. Eric Cooper, he is our director of product strategy. He has worked in elections for over 13 years, including software and hardware development as well as on-site election support, including the creation and management of election projects and election-day activities.

Mr. Scott Tucker, customer relations manager, he's been in the elections industry for seven years. He's held positions as regional manager, national trainer, and now as customer relations manager. He has an IT background for 15 years in various roles from customer help desk
through IT management.
Finally, Mitch Kedrell, his title is system support specialist and he has vast experience since 2003 and he is a resident of Gwinnett County, Georgia.

I introduce to you Dominion Voting Systems.
DR. COOPER: Thanks, Matt.
And it's so great to see in the room the commission and the members of the public, our fellow vendors. I know it's been a long day, so let's get on with it.

As Matt said, I'm Eric Cooper, I'm the director of product strategy for Dominion Voting Systems. And what we have back here is every piece of equipment that's necessary to run an election. I would say it's an election in a box, but we have a couple of boxes.

Just to give you a brief overview, I'm going to run through our product offering, a little bit about the company, and then we'll get into the hands-on demonstration.

So about us, Dominion Voting was founded in 2003. We're an experienced, dedicated, team of professionals. We're more than just a vendor, we're an elections partner. We have six offices
throughout North America, including over 250 employees, 1,200-plus individual customers, and over a hundred thousand units in the field.

This is our US footprint. It changes pretty rapidly but $I$ believe we're currently in about 35 different states. Statewide implementations in Louisiana, Nevada all but one county, New Mexico, Colorado all but four counties, and Alaska.

The key thing there is Louisiana. They have a very similar model to Georgia and whereby the state election authority actually programs all of the different parishes centrally, programs all of the tabulators and then delivers that election-day equipment after going through last-minute accuracy testing to the individual parishes. So it's a very similar model to what Georgia does.

My key role as director of product strategy, I have an engineering background. I was previously the vice president of engineering for Squillion Systems. I've migrated into a role that's more customer focused. So my job is to meet with our customers, look at the market, look at what's on the horizon as far as products and services and then turn that back into actual
engineering requirements and at the end of the day, the equipment that you see out here on the table.

Democracy Suite: This is our core sweep of products. It drives the entire election process. Everything from building a ballot, voting and tabulating the ballots, reporting results, and auditing results. It's simple. It's simple, it's flexible, it's efficient. The same system that you see here, we feel those jurisdictions that have, you know, maybe one or two thousand voters over jurisdictions that have several million registered voters, same platform, same hardware, same software.

Core advantages: It is a single election database. If you're looking at statewide for multiple counties, we start with a single template database that has most of the jurisdictional information and then we can spawn individual projects for each individual county, but all of that data resides in a single database, all right? It's a powerful, flexible ballot, laid out design engine. It can handle a variety of ballot types and slate types, referenda, various styling elements for both

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paper and our touchscreen interfaces. And it's
an easy tabulating program. So we can define
multiple tabulators. Those for early voting have
all of the precincts available, all of the ballot
styles. We can also filter those down into
individual precincts with just those ballot
styles or a combination thereof if you have
polling locations that have multiple precincts as
well.
So in person, this is the core of our in-person voting solution. It includes the ImageCast \(X\), which is the touchscreen interface. We call it the ImageCast \(X\) because the \(X\) is configurable. On either end of the table, this is the ImageCast \(X\) in a ballot-marking device configuration. And on the other end is the ImageCast \(X\) in a DRE with a voter-verified paper audit trail configuration.
But again, it's the same voter interface, same programming, it's just whether you're getting the ballot that needs to be scanned in our ImageCast precinct scanner or if the results are being stored and verified on a paper audit trail by the voter.
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Next. We also have our central count
offering and that's this Canon G1130. Again we started to consolidate our focus on commercially off-the-shelf available components. We do have two proprietary scanning devices, but the rest of the equipment is off-the-shelf, including the tablets, including the VVPAT, voter verified paper audit trail printer, and the BMD printer is an $H P$ as well.

And then finally we do have a digital education system as well, and this a way of adjudicating not just voter intent issues for vote-by-mail ballots or absentee ballots but also write-ins and any cast in precincts or any combination thereof.

Finally, we do have a remote accessible vote-by-mail product also used for UOCAVA voters, and this is an online presentation that's secure, has full accessibility features, and prints at home a ballot that can be mailed, faxed, or e-mailed back into the central jurisdiction and scanned on our equipment as well.

And we do have a very robust results tallying reporting module. This is for all of your election night reports but also your statement of casts reported for campusing as well
as any extracts that may be used for a web-based recording, whether it's at the county or state level as well.

And then our final module is we do offer a ballot augmenting solution for printing ballots at your precinct or in a central office. And like most of our equipment, it's very scalable. So if you have a small jurisdiction that's not printing any of their own ballots, we have a printer that's around $\$ 300$ all the way to a very large, robust, high-volume printer that's a little more expensive.

Some of our core technologies -- so all of our scanning solutions implement what's called a dual threshold. So when you are actually marking a hand-marked ballot, here (indicating), voters may not have, especially absentee, used the right kind of pen or filled the ovals in completely and legacy systems, there was a well-identified issue where it was a single level, anything below that was not a vote, anything above that was a vote, and the problem was is that when you would write on that margin, multiple scans of the same ballot could actually lead to different results.

By implementing the dual threshold, we have
a lower ballot, anything below that lower ballot is not a vote. We have an upper ballot, anything above that is a vote. In between is what we call an ambiguous mark. So we're saying that we're not going to determine outright whether that's a vote or not. In the precinct if you have a hand-marked ballot, the voter is presented an opportunity to clarify the voter intent, and for an absentee voter, that kind of vote will go through our adjudication system for voter intent.

And then finally we have our AuditMark. So, again, whether it's the VVPAT, whether it's our in-precinct scanner that's scanning a ballot-marking device ballot or a hand-marked ballot, we're taking a digital image of the front and back of the ballot, but at the end of the image, we're appending a text record of how the scanner interpreted that ballot when it was scanned. So it's a fully traceable and auditable record of how that ballot was handled at scan time. And you'll see that a little bit later when we actually get into the adjudication process.

And then finally we do have a ballot audit-and-review module, and this is, again, sort
of outside of our system. It allows members of the public, election officials to actually filter and view subsets or entire elections where the ballot image is and compare those against the past voter records and also the AuditMark.

This system was used in the only statewide risk-limiting audit that's been conducted. That was in Colorado. The first one was done in 2016 and they just did a second statewide in the most recent election.

Security: So we take basically a holistic approach to security. It's multiple levels. It's both software- and hardware-based and also policies and procedures and best practices. And we put that throughout our entire product suite. Things like voter access, poll-worker access, we use two-factor authentication for all of that kind of access. We have robust signed blogs for all of the activity that happens on the machines. And, again, at the end of the day, we have the AuditMark for how that ballot was cast and interpreted and scan done.

We do industry best practices for secure protocol, including code obfuscation, penetration testing, and we are up to the latest 1.1 VVSG
security guidelines.
Cyber security, again, we look at the entire system, and we have developed our security approach looking at all of the threat factors that are out there.

Next.
So we have an ongoing focus. Obviously we have a chief security officer who's overseeing all of this activity. We have an ongoing focus both for our products and also for our company. Security is not just our equipment, it's also the people that work for our company. We're constantly reviewing and enhancing those security models and we are continuing to partner on not just with election administrators but also government DHS, FBI as threats become identified in the election system.

Final aside here, it's kind of a company motto, it's tower of partnership. We're not just a vendor that's going to sell you something and walk away at the end of the day. All of this equipment that you see up here was actually developed in conjunction with our customers.

We have the first iteration of the Imagecast that was done in partnership with Denver County
in Colorado. We then took the base system to Michigan and we worked with the customers there and made customizations, modifications based on the needs. We did the same thing the following year in Nevada for a full implementation. We are currently doing that with Louisiana as well. So it really is a partnership, we're not just a vendor.

That's the end of the fun stuff, so the actual voting experience. The first is we will start with the ImageCast ballot-marking device. So I'm a poll worker, I've turned on the machine and before $I$ can do anything with the machine, I have to provide a poll worker access card and a secure pin.
(Technical difficulties)
DR. COOPER: I think I had two different cards with two different versions here. While I get the right card, we'll move on here briefly.

So if we were using hand-marked ballots here, the hybrid solution where you have both a ballot-marking device and hand-marked ballots in the precinct, you have two different precinct scanning options.

The first is the ImageCast Precinct. So for
a hand-marked ballot, the voter fills in bubbles. Simply goes up to the device, inserts it. If there are any additions, if it's an overvote, if it's a blank ballot, the voter will be alerted. The computer is saying that this is a blank ballot and at that point $I$ can return the ballot and make a modification or if I'm happy and I want to maybe cast a protest ballot, I simply hit "cast," and it drops into the box. This device can also be configured for a full ADA review, so it gives an audio review of the ballots inserted for those voters with disabilities.

We have another precinct-based offering over here. It's the ImageCast Evolution. It's very similar to the ImageCast Precinct, but this is an all-in-one accessible device as well. So if I put a blank ballot in this device as an accessible voter, $I$ can then use an audio-tactile interface or a touchscreen to actually make my selections. There's an integrated printer that will actually mark the ballot, rescan it, provide a review to the voter and then cast the ballot. Waiting on the poll worker card. Oh, found the right poll worker. Two-factor authentication is something you have, the card,
something you know which is the pin, so I enter that. It's not the right one.
(Technical difficulties)
DR. COOPER: All right, so we're going to have to move on.

Let's talk about the voting process. I'm a voter that comes into the precinct. We do not have our own e-poll book but we do directly interface with several third-party poll books, including Tenex, Votec, and Know.ink. So they can directly program our voter access cards through their e-poll book.

So as a voter, I would come in, I would go up to the check-in station. They would look my name up in the e-poll book, program the card, and then the voter is sent to the device. Once they put in their card, they're displayed the ballot that they're eligible to vote on. And again, the interface is the same between VVPAT and the BMD version of the ICX.

There are several disability-related items, including if you have multiple languages, the voter can choose their language at will and toggle back and forth. I can choose text size for low visual acuity, and $I$ can also change the

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contrast level. So again, this is all voter
controlled. If I'm a fully disabled voter, we
also do have a handset that's configured over
here, and this allows you to interact with the
device and get audio feedback and use various
keys to progress through the ballot. We also
support sip-and-puff and two paddle -- two switch
paddles as well for navigating the ballot.
    So it's a pretty standard touchscreen
interface that we're all sort of familiar with.
Couple key things: Obviously, this is my
hardware. So things like screen calibration are
things of the past. It's much like your phone.
You never have to calibrate the screen on your
phone. You don't have to calibrate these tablets
either. It's high-resolution and, again, I can
change the size of the font at any time.
    To make a selection, I simply choose
anywhere within the candidate area. The nice
thing about touchscreen interface is it prevents
overvoting. If I want to modify my selection, I
simply deselect and modify. And I can move
throughout the ballot making my selections,
including brightness, and then I can go to my
ballot review, and, again, it shows each
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selection that I've made. If I skip the contest, there's clear indication to the voter that no selection has been made. If I want to go back to that, $I$ can simply choose that contest. It'll take me back to that and I can make my selection, back to review, and the final step is to cast my ballot and it will print the record of my vote in clear text on the voter-verified paper audit trail.

The voter has the opportunity to verify those results and to modify them at this point if they want to. If they're happy with that, they simply print the next page. And, again, I'm in the larger font here so the font size on the voter-verified paper audit trail is also larger. And if I'm happy with all of the selections, I simply hit "accept," and now that vote has been cast.

Again, this is a direct-report electronic device with a paper audit trail so the results are stored on secured media behind locked and sealed doors. At the end of the day, you would take those USB sticks out, bring them down to the central office for tallying and tabulation.

When I close the polls on this device, a
results report is automatically printed on the same paper audit trail record. So all of those results are included with the individual records as well.

So we're having a little trouble with our security. That's the problem with -- when you have too much security then you can get in a bad spot.

Through our system, we have the ability to have individual keys for each device. We can have consolidated keys at a given precinct location, or we can have a unified key. So you can have access to all of the devices with a single poll worker card.

Again, the interface -- I'm going to move on just for time. The interface is exactly identical to the one $I$ just displayed but instead of printing the record on a voter-verified paper audit trail, it prints each ballot on a standard eight-and-a-half-by-eleven sheet of paper. This comes out, again, off the off-the-shelf HP printer. The voter can then verify their results here before inputting it into our ImageCast precinct scanner.

And, again, whether it's hand-marked or a
ballot-marking device, both can be scanned and tabulated in our ICP.

REPRESENTATIVE FLEMING: So let me go ahead and start asking a question --

DR. COOPER: Sure.
REPRESENTATIVE FLEMING: -- if I may.
DR. COOPER: Yeah.
REPRESENTATIVE FLEMING: Something that I think you pointed out. So the printer and the tablets, these are -- I think the word you used, "off the shelf?"

DR. COOPER: Yes, sir.
REPRESENTATIVE FLEMING: Explain that. So you can just buy printers from different locations and ...

DR. COOPER: Well, for some of the devices you can. So this is a standard HP printer. So you can buy it at OfficeMax. If your printers go down at the end of the day and for some reason you don't have a spare, you literally can go to Office Depot and buy it off the shelf.

The tablet's -- it is commercially available. It's with a company called Avalue. We do not manufacture the devices, they do. They have large experience with medical device
tablets. So tablets that are on the crash carts, so high-impact environments. We have partnered with them to provide these devices for us. They guarantee a minimum of 10 -year life delivery of the units themselves and then 20 years for parts and any other issues with the tablets themselves.

REPRESENTATIVE FLEMING: So what would be the range for the state of Georgia to implement such a system and one of these versions of the system in all hundred and fifty-nine counties?

DR. COOPER: I'll be able to give a very similar answer that all of the other vendors have given. I mean, it really depends on the implementation obviously. So to put some bounds on that, if we look at the RFI that we responded to and we stuck with all 27,000 units, you're looking somewhere north of a hundred million dollars.

Based on our experience in other states and similar implementations, I don't think that you would need all 27,000 units. If you did a hybrid approach, obviously the number of units would be less, so you're looking at a number around somewhere between 40 and 50 million.

REPRESENTATIVE FLEMING: All right. Let's
go around the table. At this point, I'll start over here.

DR. COOPER: And as you are asking questions, I'm going to just --

REPRESENTATIVE FLEMING: Please.
DR. COOPER: -- bring up one more thing.
REPRESENTATIVE FLEMING: Absolutely, as we move our way into our questions.

Dr. Lee?
DR. LEE: Yes.
REPRESENTATIVE FLEMING: Turn your microphone on.

DR. LEE: To clarify, when you show voting on this machine and you showed us a paper trail, but you only show the image. So the voter will not be able to verify again his actual physical paper trail.

DR. COOPER: Yeah, they can't put their hands on it, but they can verify it through the window and look at the text that's on there, and if they're an accessible voter, the scan of the text is actually what generates the audio for review.

DR. LEE: Okay. So how readable is that paper trail?

DR. COOPER: How do you?
DR. LEE: How readable is that paper?
DR. COOPER: It conforms to the latest VVSG guidelines for -- as far as minimum and maximum print size.

REPRESENTATIVE FLEMING: And as we come on around the table, yes, Cynthia?

MS. WELCH: So on the unit here, has the voter cast their ballot?

DR. COOPER: Yes. Once they hit that final "accept," the vote is actually cast.

MS. WELCH: So what's the purpose of verifying if they can't take it back at that point?

DR. COOPER: Because it is still a paper-based system. The official record is what's printed on the VVPAT vote and that's what the voter is verifying.

MS. WELCH: Okay, thank you.
REPRESENTATIVE FLEMING: All right. Going around. Nancy?

MS. BOREN: So what can happen on elections will happen on elections, right?

DR. COOPER: Absolutely.
MS. BOREN: So obviously on that first
machine, it -- and you mentioned that there's a unified card and a card assigned specifically to that unit --

DR. COOPER: There can be, yes, but that's not how it's configured, yes.

MS. BOREN: Right. It depends on how you do it. So you, I'm assuming, as a supervisor, reset the cards so that you were then able to turn on that machine, correct?

DR. COOPER: Correct.
MS. BOREN: And so you can only do that from the main --

DR. COOPER: From the election management system, yes.

MS. BOREN: Okay. The capacity of the paper printer for the VVPAT?

DR. COOPER: Again, it depends on the number of selections, but generally you're looking at between two and three hundred voter records per roll.

MS. BOREN: Will it allow for a partial print?

DR. COOPER: No. So it has a low-paper sensors, so if it's in danger of not being able to complete the record, it will actually notify

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the voter even before they start to cast that so
that either they can change the paper roll, or
what we've seen in our implementation in Nevada
is that they actually keep a couple of extra
complete VVPATs that are, you know, with fresh
tapes in them that are locked and sealed so that
then they can just basically hot-swap those.
    MS. BOREN: Thank you.
    REPRESENTATIVE FLEMING: Going around.
Okay, Lynn?
    MS. BAILEY: I have one.
    REPRESENTATIVE FLEMING: Thank you.
    MS. BAILEY: Can you tell me the data that's
contained in your QR code?
    DR. COOPER: Yes, I can. So there's a
variety of data. So there is a digital
representation of the voter selections. There is
election-related information, precinct, ballot
style, election date, and then there's also some
security elements, some keys and signing values
for the actual printed record so you can verify
them if it's been altered after it's been cast.
    REPRESENTATIVE FLEMING: Going around. All
right. We certainly do appreciate your
presentation today. Thank you very much.
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DR. COOPER: Thank you.
REPRESENTATIVE FLEMING: All right.
(Applause)
REPRESENTATIVE FLEMING: We are now going to move directly to the public comment portion of our meeting. I do have a couple of dozen folks that have signed up.

So I think the way we're going to do this is -- right here at the podium? Yeah. Right here at this podium. What I'm going to do is I will call your name and ask you to come up. What I'll do is I'll probably tell you who's on deck. So the person who's going to be next can go ahead and come up and either sit here or be ready to go.

You will have two minutes. We would ask you to come and state your name and tell us where you're from, whether it be city or county or in Georgia or where else. And I will thank you for coming and then we'll let you start talking.

So we're going to begin with Debbie Anderson, chief registrar of Wilkes County. Debbie? Can you reach that? Okay.

And after Debbie, I'm going call on Jean Ann? Jean Anne? Jeanine? Dufort maybe? No?

Okay. If I mess up your name, I sincerely apologize. If you will set me straight.

Debbie, tell us where you're from.
MS. ANDERSON: My name is Debbie Anderson. I'm the chief registar at Wilkes County. I have been working in elections for about 20 years, six years last year as the chief registrar. So I was there from all paper to the DRE and whatever is going forward from there.

It's real important that, you know, we get everything right while we've got the time, even as short as it is.

One of the questions $I$ was going to ask, am concerned about was, one, funding and the number of units that would be provided by the state or whatever to the counties because we all -- we've got to come up with funding if we're going to need more than whatever is provided.

What I'm looking at here though is I have about 6,600 voters, seven precincts, probably one set-up in each one would probably be adequate for us. This is really important to know so we can start looking if we need to do some kind of a special-option tax or what we need to do to start being ready so that next year we don't all of a
sudden find out we got -- you need to get this stuff in there now.

So if y'all could, vendors, please give them some ballpark figures, even if it's, you know, just what one set-up would be for what the normal unit might be. It's nice to look at what the state would do. We don't need, what was it, 200 -and-something or a thousand units. We just need a -- we might need one or two.

But it is important if we can get that information. And thank y'all for letting us know about this. I'm really glad we have it. I'm glad to see we've all got a chance to have input and to gather and share our time together and ideas and try to work together.

It's really important we get all this done. And I took some videos of the presentations. Going back to show my commissioners, my board members, and others as far as what we could be looking at because we've got to start preparing them. And, of course, there's a lot of variations on what we saw today. Nothing was totally cut and dry.

REPRESENTATIVE FLEMING: Okay.
MS. ANDERSON: But it kind of gives us an
idea of where to go.
REPRESENTATIVE FLEMING: Thank you.
MS. ANDERSON: Thank y'all again.
REPRESENTATIVE FLEMING: Appreciate it.
Jeanie (pronouncing) Dufort. Jeanie, tell me how you pronounce your name.

MS. DUFORT: Jeanne.
REPRESENTATIVE FLEMING: Jeanne.
MS. DUFORT: Dufort.
REPRESENTATIVE FLEMING: There we go.
Exactly what I said, right?
MS. DUFORT: Exactly what you said. That's right.

REPRESENTATIVE FLEMING: Four times.

MS. DUFORT: I'm one of five girls and my mom's rule was you can call me anything but don't call me late for dinner, so ...

REPRESENTATIVE FLEMING: Jeanne, tell us where you're from --

MS. DUFORT: I'm from Madison, Georgia.
REPRESENTATIVE FLEMING: Okay.
MS. DUFORT: And I'm not an election
official. I'm not an elected official. I'm a concerned citizen and don't -- we in Morgan County are very aware of the wrestling with the

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problems, the security problems our votes
currently have. And I will admit I came here
today predisposed towards hand-marked paper
ballots because it's the easiest way to have a
meaningful voter-verified thing.
    We've seen some re-creations of paper
ballots today, re-creations that are slips that,
you know, are about like looking at a grocery
store slip. I think some people register what
they've written much easier than looking at a
little printout thing.
    And there is some tests. I know the good
doctor over here asked a few people have you done
research, and I'm aware of some research that's
happening, about whether that's a meaningful look
if you're going to have a digitally-printed slip.
    And they should be talking about optical
scanners from what a computer's (indiscernible)
well may count. They're really, really good at
counting, so let's count them with optical
scanners and let's use risk-limited audits.
    But an audit isn't meaningful if it's not
done with original material. You know, there's a
reason why if you get audited by the IRS, they
ask to look at your actual receipts and your
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actual checks you wrote, not the digital re-creation of that.

The cyber-security experts we heard today do seem aligned behind those choices as the best way to minimize risk and that's what we're all about and the best way to discover problems quickly when they occur, and to have the ability to do a meaningful recount if you really have to.

And all you election officials, you can groan with me right now because recounts really suck, right? We don't want to have to do that, but you ought to be able to do it well, with confidence, if you have to go there.

And we know that three out of four American voters right now have the ability, are actually voting with paper ballots. So we're lagging here in Georgia and I love it. We just did state of in Morgan County last week, and everything out of Bert Jones' mouth, everybody: We're number one in this, we're the top five in this. Well, when it comes to voting, we're in the bottom five and we need to fix that. I think that's why you've spent your time with us today.

But here's the thing that was news to me --
REPRESENTATIVE FLEMING: Jeanne, we'll give
you --

MS. DUFORT: Okay, I'll --
REPRESENTATIVE FLEMING: -- you time to wrap up.

MS. DUFORT: -- wrap it up. I wasn't paying as much attention to some of you. Thirty-million dollars, a hundred-and-thirty-million dollars, I didn't hear one thing today that showed me why you would look the voters in the eye, look the taxpayers in the eye and say: We just spent an extra hundred-million dollars for this really cool thing.

If there's a \$30-million solution that is sound and solid, that's what y'all need to do.

REPRESENTATIVE FLEMING: Thank you. We appreciate you coming today.

MS. DUFORT: Thank you.
REPRESENTATIVE FLEMING: Next up will be Phillip Williams, and after Phillip will be Mac Beeson.

So, Phillip, come on up if you are still here.

Is Phillip here? Going once, going twice ...

Mac Beeson? Is Mac here?

MR. BEESON: (inaudible)
REPRESENTATIVE FLEMING: Okay. All right. Okay.

Jeb Cameron? Jeb Cameron?
MR. CAMERON: (inaudible)
REPRESENTATIVE FLEMING: Also? Okay.
That's all right.
Kathy Rogers? Might've been a
misunderstanding there. How about Denice Traina?
Denice? Is Denice here?
(Audience member speaking off mic)
REPRESENTATIVE FLEMING: Okay, who is your son? Joseph?

Joseph, come on up. Say your name and tell us where you're from.

MR. TRAINA: Sure. Thank you. I'm Joe Traina. I'm a voter in Richmond County, a former county party secretary, and $I$ participated in the Burke County recount, so I've been following the work here. I appreciate the work that Lynn does -- she works every day -- and the work that she's done here today.

As a local voter and a founding member of Progressives for Democratic Reform, we welcome the commission members to preserve our most
precious right, the right of Americans to select representation who govern on our behalf. PDR believes that it's a precious right must be protected and not be put at risk which is why we understand this is a not a partisan issue and even stands to hold our own accountable when exclusionary practices jeopardize our inalienable rights as citizens.

Three quick points $I$ want to leave you guys with and just to be on the record for: Number one, the most important is the right to vote must not be infringed by any feature of access, technical skill, economy, or partisan limitation. This means ability, income, transportation, physical address. Partisan identity must not be functional deterrents to determining our representation.

So we encourage the commission to lobby leadership for automatic registration, allowing some voters to cast ballots for, quote, none of the above, end quote, or at the very least, same-day election-day registration -- to include election-day registration.

Number two, as taxpayers understand elections and the ever-expanding campaign season

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are incredibly expensive, we therefore ask the
commission to consider proposing instant run-off
voting, also known as ranked choice voting, which
are proving to be great reductions of costs in
recent elections where they've been held.
    And finally, number three, when we vote, it
is vital in order to trust in the process that
verifiable results are secure, with a paper trail
and digital corroboration, which means is -- or
what we're asking then for the commission to
consider is the following proposal. Make no
changes to the current system, simply add
physical receipts and a digital verification
component.
    Nominal investment in printing receipts
would mean the same process folks are used to is
leveraged by a time-stamped copy of a voter's
ballot with barcodes or unique ID that voters can
use to verify or report problems themselves
within real-time databases. This way votes and
receipts are physical but audit processes remain
largely unchanged beyond the inclusion of digital
backups verified by the voters themselves in
partnership with boards of election.
    Thank you for your time.
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REPRESENTATIVE FLEMING: Thank you, Joe. Appreciate you being here today.

Next I have on my list is Terry Reeves and after Terry will be John Fortuin.

Terry Reeves? Terry, welcome. Tell us -go ahead and say your name again for us and tell us where you're from.

MS. REEVES: Yes. Thank you very much. I'm Terry Reeves. I live in Rutledge, Georgia in Morgan County.

REPRESENTATIVE FLEMING: Good to have you.
MS. REEVES: Thank you very much and thank you all for having this commission. I am a concerned citizen. I'm not with any one particular group. I called the secretary of state after we attended our local board of elections meeting out of concern for the security of voting and the need for paper ballots because we knew that Kennesaw State hacked into our system and our voter information was out there for more than six months and nothing was done about it.

I'm concerned that every vote is cast and counted accurately and securely. So I urge you that whatever system you go with -- I haven't
heard the entire day here, but whatever system you vote in, I, too, urge that you have a paper trail, receipt trail, so that there can be no error. That is our one wonderful beautiful right and that is to choose our elected officials and to vote.

And I ask you to please protect that right and do everything in your power to make sure that we do have a trail and that it is done accurate.

And I appreciate your time. Thank you all very much for this commission.

REPRESENTATIVE FLEMING: Thank you very much.

All right, John? John Fortuin? Is John here?

Okay. John, welcome, please pronounce your last name correctly because I'm sure I did not and tell us where you're from.

MR. FORTUIN: Hi. My name is John Fortuin, and I'm from Athens-Clarke County.

REPRESENTATIVE FLEMING: Thank you, John.
MR. FORTUIN: I'm actually a candidate for Senate District 46. I'm in the Green party, but I come here today as a concerned citizen who's been working on this issue actually since 2004.

There's been concern about this voting system from even before it was implemented. And people have said: No, it's just old, we need to replace it because it's old.

It needed to be replaced before it was deployed. And we need to make certain we don't make the kind of mistakes that we did back then. I've heard some well-meaning citizens today talk about the need for a paper trail. We folks who have been working on this for years, including the Verified Voting Foundation -- which I'm not officially affiliated with, but $I$ did give you that handout.

We're asking for paper ballots in general because a paper trail is not defined in the law. There's plenty of state law about how paper ballots are being handled. In order save money for the state, we need to use ballot scanners in each polling place.

If we wanted to incinerate George's tax dollars, we could go with ballot-marking devices for perfectly able people, but they amount to very expensive pens and pencils, and we don't need to spend thousands on a device that substitutes for a pen or pencil.

REPRESENTATIVE FLEMING: John, I'm going to let you wrap-up.

MR. FORTUIN: All right. And once again -and we were subjected to the misinformation since the initial deployment of this original system. We need complete transparency on every aspect of the bidding. We need the bidding process to be open. We need actually to make certain that the lobbyists are not raking the citizens over the coals. We need to know how much they're getting paid, what their contracts are as well.

REPRESENTATIVE FLEMING: John, thank you. Appreciate you coming today.

MR. FORTUIN: Thank you.
REPRESENTATIVE FLEMING: Next is Susan McWethy and after Susan, Dave Barbee. So is Susan here?

Susan, please come on up. Do you want us to pass those around for you? Okay. Susan, welcome. Tell me how I mispronounced your last name and where you're from.

MS. MCWETHY: McWethy.
REPRESENTATIVE FLEMING: I did okay?
MS. MCWETHY: Yes. Susan McWethy from -- I live in Decatur.

REPRESENTATIVE FLEMING: Decatur. Welcome, Susan.

MS. MCWETHY: Thank you. Well, I feel that voting should not be an active of faith, and I really want to believe elections officials when they give us assurances that everything is great with our system, and $I$ just can't. And there's been so much that's come out over the years of the vulnerabilities with our current system. I could name a bunch of places: Homeland Security, Princeton University did a study, Johns Hopkins University, Brennan Center for Justice, Election Assistance Commission, on and on, Government Accountability Office, Defcon. I could go on and on.

I never read that our system is great, and I want to have confidence in it. And now it looks like we're going to have to trust barcodes to represent our votes, and they're every bit as obscure as hitting "cast ballot" on a DRE machine. I can't read barcodes, you know? I voted for who? And also, we've learned today that these $Q R$ codes are a part of the different -- with the other vendors' products.

So I just think simplicity is better, and I

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would -- I can reiterate what John Fortuin just
said about paper. It's simpler. It allows for a
voter chain of custody. It makes sense, and I
think scanning is good too, but we also must have
an audit, a proper audit, proper risk-limiting
audit.
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    So, again, transparency, simplicity, then I
    will have confidence.
Thank you.
REPRESENTATIVE FLEMING: Thank you, Susan.
We appreciate you coming today.
Dave Barbee and after Dave will be Liz
Throop. I think I pronounced that right. We'll see.

Dave --
MR. BARBEE: Okay.
REPRESENTATIVE FLEMING: -- tell us your name and where you're from.

MR. BARBEE: My name's Dave Barbee. I'm from Richmond County.

REPRESENTATIVE FLEMING: Thank you, Dave. Good to have you.

MR. BARBEE: Thank you.
Two reasons we're here: Number one, Diebold's out of business, machines are old and
we've got to replace them.
Number two, everybody's afraid that somebody's going to change the vote.

Now, folks, that Diebold machine has been voting in Richmond County for 16 years in this thing. And the only way that that thing's hooked up to the wall is through electricity. I don't care who you are, you can't change my vote.

Lynn's been great. She's had over 500 machines that we have for Richmond County, a lot of money to be replaced. And I've trusted every vote that I've cast and $I$ know it's been counted. Now, this thing about paper trails $I$ think is just metal hats.

Lynn and $I$ have even had a discussion about the "I voted" peach sticker. That's legal tender on election day. You can take that, go to a certain areas or a certain whatever and get paid for turning in that sticker.

And $I$ certainly don't want to do anything with the systems that we have now that would change our system to where my vote is not private. That's my vote. I don't want any -you know, any record. I know how I voted and that's all that matters. It's none of your
business, except mine and the Almighty.
If you want to talk about paper trail and paper ballots, I'm the oldest guy in here. I remember when we had paper ballots this long and you marked the top of it with an "x" and you put it in the box. Guess what? After all the votes were counted, somebody always found another box. They had ballots that wasn't counted. I'm not going to -- it happens, okay? So --

REPRESENTATIVE FLEMING: Need to wrap-up, Dave.

MR. BARBEE: -- be careful what you do. I'm just asking you to make sure we have the same safe system, the safe system we have now.

Thank you.
REPRESENTATIVE FLEMING: Thank you, Dave.
We appreciate you coming today.
Liz? Is Liz here? Liz? Tell me how to pronounce your last name and tell us where you're from.

MS. THROOP: Hi, I'm Liz Throop.
REPRESENTATIVE FLEMING: Say it again.
MS. THROOP: From Atlanta.
REPRESENTATIVE FLEMING: All right.
MS. THROOP: Again, I'm so impressed with
all of you and your really sweating all these details and there's so many: Things like accessibility, overcounting, undercounting, the cost of equipment, how quickly machines tabulate, and I appreciate that, but if votes are miscounted, that really dwarfs -- it invalidates all of these other problems.

And I'm concerned because I see a strong and growing perception that Georgia's elections don't or might not reflect voter intent. I can't think of a bigger reason for business and for the business class to actually leave Georgia than for the perception of corrupt government.

And I'm stressing that, you know, perception is reality when you're talking about getting people out to the polls and to making decisions about where they live. Only counted verifiable votes directly tabulated without encoding and barcodes will restore trust in the voting system.

Again, thank you.
REPRESENTATIVE FLEMING: Thank you, Liz. We appreciate you being here today.

Next I'm going to ask Dave Titus to come up and then after that Jackson Faw.

Dave? David Titus? Is David still here?

Okay, after -- then we'll move on to Jackson Faw.

Jackson, did $I$ pronounce that last name right?

MR. FAW: (inaudible)
REPRESENTATIVE FLEMING: Okay. Jackson, good to have you. Tells us where you're from. Happy to hear from you.

MR. FAW: Likewise. Thank you very much. Jackson Faw from Atlanta, Georgia. I'm just a concerned voter.

Last year in Atlanta, y'all might remember we had -- I-85 caught on fire. Six lanes both ways went down. It affected 250-million cars a day, and everybody said: Well, that's going to take six months. I know it takes a certain amount of time for concrete to cure. But guess what? Georgia resolved it. Georgia funding got that bridge fixed in 44 days.

Right now, the eyes of the nation are on Georgia in this coming election as we're preparing to possibly elect the first black female governor, first black female to be running on a major party ticket.

Yesterday, Judge Totenberg threw out our
secretary of state motion to dismiss a case, and she's going to make a judgment or they're going to make a judgment in about -- in another couple of weeks. And today we heard the secretary of state, controller of elections who's also running for governor, say that well, she might not make us do that. That -- folks, that can't be our solution. We can't say that maybe it won't happen because there's a lot of scrutiny right now.

There's a lot of people saying why do we have the person in charge of elections is in charge of his own election. Last week -Mr. Harvey, I know you know about this -- we had ten black counties in Georgia targeted for poll closures. Were it not for media attention from across the country, Randolph County would've closed seven out of its nine polling locations in a community that's $\$ 35,000-a-y e a r$ (indiscernible).

So my point is, folks, we can get this done. We heard the vendors say they can get it done. We had two vendors say today they could get it done in eight weeks, whatever they're going to bring, donkeys and elephants, to get it fixed.

REPRESENTATIVE FLEMING: Jackson, I'll allow you wrap it up.

MR. FAW: Yes, sir, I'll wrap it up.
REPRESENTATIVE FLEMING: Okay.
MR. FAW: Each of you are that are making this decision, history's going to be looking at you, and whichever way this election goes, we're going to be looking back and y'all's names are going to be on this. As a Georgian, I want to be proud to say this election was fair and accountable.

Thank you.
REPRESENTATIVE FLEMING: Thank you, Jackson.
Next we have Priscilla Smith, and after Priscilla, I'm going to ask Smythe DuVal to come up.

Priscilla, welcome. Tell us where you're from.

MS. SMITH: Thank you very much. I'm Priscilla Smith. I voted in DeKalb County. I lived in the city of Atlanta.

REPRESENTATIVE FLEMING: Welcome.
MS. SMITH: Thank you. Thank you very much for your service to the commission. We really appreciate it.

There are many people who are, like, amazed that $I$, an ordinary citizen, am here for this. Does the citizenry really care, do people really care about this? Well, of course they care. I've been doing a lot of work in rural counties, trying to get voters out. And also looking at what happened in Richmond (sic) County last week, I went and helped collect signatures to make sure that people understood about what was going on with their polling places possibly being closed and doing what we could to stop that from happening.

The only reason that happened was -- and I realize that I'm probably speaking outside of what is your purview. I understand that SAFE is not about this year's election, but what is about this year's election? It's been demonstrated that the current voting system, in spite of what was said earlier, is not SAFE. The reason why we knew that those places, those polling places were going to be shut down was because there was a tiny legal published in a weekly in Richmond County -- in Randolph County, and one person found it and started circulating the information to the press and so forth and so on.

I don't know who's protecting us. The secretary of state is running for governor himself. He doesn't have a vested interest in undermining what's going wrong with the current voting system. I don't know who's going to represent us if you don't.

I'm begging you to recognize that something has to be done between now and October 15 th when early voting begins. There are people here who said they can handle the situation. We can do something. Stacey Abrams is calling for absentee ballots. No one wants to do that in the massive amounts that's going to be required. But I don't know how we're supposed to trust our vote.

And the disaffected voters that I've run into across rural Georgia don't trust anything. And nothing I've seen today makes me know that this next election is going to encourage people to be the citizens that they have to be in order to make democracy work.

So I beg you with what power you have as this commission to do something to increase the voter security for the next election.

Thank you very much.
REPRESENTATIVE FLEMING: Thank you,

Priscilla. We appreciate you coming today.
Mr. Smythe? Pronounce your last name for me.

MR. DUVAL: DuVal. Smythe DuVal.
REPRESENTATIVE FLEMING: DuVal. Tell us where you're from.

MR. DUVAL: I am from Marietta, Georgia.
REPRESENTATIVE FLEMING: Thank you for being here today.

MR. DUVAL: You're welcome. Thank you for hosting us. I am a Kennesaw graduate student in IT. I have experience in IT. And I'm also a Libertarian candidate for the Georgia secretary of state and a concerned citizen.

So I'd like to thank you again for hosting the meeting. Let's see. I want to do three things. First, for a candidate, two minutes is always really, really hard.

But hand-marked paper ballots, along with post-election audits, that is the gold standard. I think there's a lot to it to talk about that. But for everybody on the panel, I would definitely encourage you to look at the presentations you had today and see which of these options were the one in your RFI. We
really want the gold standard of verifiable ballots in this state.

The second thing $I$ wanted to talk about is this coming-up election. I was in the camp that we don't really need to change anything until the news came out our foreign adversaries were actually looking at our sites. At that point, the risk profile has gone up for me personally. I certainly don't know what the professionals are finding out, but $I$ was very glad Mr. Mike Garcia spoke this morning. He was talking about risk, risk assessment, and how to actually prioritize risk.

That is my specialty in IT and I would like to point out that it's something we do need to take extraordinarily seriously, especially when we're talking about the potential adversaries are state-sponsored types of adversaries, people who have gone under so many other types of organizations that have way more resources than we do.

This is going to get decided by the judge on the 18 th. With that in mind, I was, again, shocked to hear that a lot of places in Georgia are not planning on any kind of interruption or

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any kind of plan B, even though they know that
there's a possibility that these machines are
going to get decertified, or there's a
possibility --
REPRESENTATIVE FLEMING: I'll give you a chance to wrap it up.
MR. DUVAL: Sure. Thank you.
-- a possibility that, you know, more information could come out.
And lastly, \(I\) just wanted to thank the panel again, but also I'm concerned that the panel is not transparent enough. I'm hearing from panel members that there's really not a whole lot going on in the panel besides these meetings. There's no study groups, no requirements definition, no meetings. It sounds like the work of this going on is in the secretary of state's office and not the panel.
I'd like to hear more about it. I would love for you guys to get a Twitter handle or a Facebook page or something so we can start communicating with you directly.
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REPRESENTATIVE FLEMING: Thank you, Mr. Smythe (sic).

Next will be Dana Bowers and after Dana will
be Rick Barron.
Dana? Is Dana here?
(inaudible)
REPRESENTATIVE FLEMING: She's coming?
Where is she coming from?
(inaudible)
REPRESENTATIVE FLEMING: Oh, okay. There you are, Dana. Good to have you today.

MS. BOWERS: Thank you.
REPRESENTATIVE FLEMING: Say your name again for us and tell us where you're from and we'd love to hear from you.

MS. BOWERS: Hi. My name is Dana Bowers. I am from Gwinnett County. I am a native Georgian as well.

REPRESENTATIVE FLEMING: Thank you, Dana.
MS. BOWERS: I just would like to thank the commission for taking public commentary and questions into consideration. I attended the first state commission meeting and I presented a proposal for the easy and inexpensive implementation of paper ballots for the November general election using the current equipment the state already has on hand.

As an election integrity activist and
everyday Georgia citizen, I am extremely concerned about the lack of verifiable facts being used by our top election officials almost as much as the lack of verifiable votes we pass every time we go to the polls. The secretary of state's office has taken a personal interest in unverifying our organization as well as misquoting and misinterpreting the law.

So basically what I'm trying to say is they're actually using their power to come back on the counties that actually have their own power.

So in a formal letter to all Georgia county boards of elections and boards of county commissioners, the secretary of state's office appears to have threatened counties with some form of punishment if they abide by the law that allows them to independently implement paper ballots. No such punishment is defined in any election law in the state of Georgia. This has the feeling of voter intimidation because after all, these commissioners and board members are voters just like me. And from one voter to another to another, I would like to urge the state commission to please consider expert

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testimony from those that do not represent a
corporation and the voice of the voters.
    Our organization filed a motion for a
preliminary injunction for emergency statewide
implementation of paper ballots in federal court.
As of yesterday, Judge Totenberg dismissed
Secretary Kemp's motion to dismiss our case --
    REPRESENTATIVE FLEMING: Dana, I
(indiscernible) --
    MS. BOWERS: -- and recorded that hearing --
    REPRESENTATIVE FLEMING: Ma'am?
    MS. BOWERS: -- where we will --
    REPRESENTATIVE FLEMING: Ma'am?
    MS. BOWERS: -- be able to prevent more --
    REPRESENTATIVE FLEMING: I want to give you
a chance --
    MS. BOWERS: -- information --
    REPRESENTATIVE FLEMING: -- to wrap up.
    MS. BOWERS: -- and reiterate the
feasibility of our paper-ballots plan.
    Thank you very much.
    REPRESENTATIVE FLEMING: Thank you, Dana.
Appreciate you coming here today.
    Rick Barron? Is Rick here?
    Rick, come on up. Good to have you. Please
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state your name again for us. Tell us where you're from. We'll be happy to hear from you.

MR. BARRON: I'm Richard Barron. I'm the director of registration and elections for Fulton County, Georgia.

And, well, I'm here today to encourage the commission to -- whatever system you end up deciding upon, please be sure that it accommodates early voting. We've -- in Fulton County, we've tried to make sure that everyone is enfranchised. During the presidential election, we had up to 27 locations per day going. We plan on doing up to 22 in the gubernatorial election.

So what we've done is tried to take a lot of pressure off on election day. It is very difficult with paper ballots or a pure paper system to administer early voting. Early voting is on the book in Georgia. We've got 19 days of it. We have to have every ballot style in every early voting precinct.

If we come up with a system that is based mostly on paper, we're going to have a very difficult time administering early voting. At that point, we're going to need to increase the number of election-day sites that we already
have. I think you're all familiar with the problems Fulton County had from 2012 and before.

So I think over the last five years, my staff and I've worked very hard to make sure that Fulton County runs its elections well. And I think we've achieved that. A lot of it is because of early voting.

And there's -- three minutes or two minutes isn't enough to go into all of the other things, but I have had eight years of experience in conducting early voting with -- or -- and voting with paper ballots in Texas in addition to my time here in Georgia.

So the biggest complaint with paper ballots are in early voting when voters received the wrong ballot. And that was basically a pure paper system. If we go to ballot-on-demand printers --

REPRESENTATIVE FLEMING: You want to wrap it up.

MR. BARRON: Yeah. If we go to ballot-on-demand printers, we already have multiple printers in each early-voting site because Georgia has an onerous requirement of printing out every absentee-ballot application.

On-demand printers is going to add more printers. We would have more backups if that happens, so we're going to need to have some sort of ballot-marking device with paper printout or a DRE with VVPAT for early voting.

Thank you.
REPRESENTATIVE FLEMING: Appreciate you
coming in today.
Next will be Joe Traina. Joe? Is Joe here?
(inaudible)
REPRESENTATIVE FLEMING: Oh, okay, maybe it was on the list twice. Okay.

Next, Gerald Favato (pronouncing)? Gerald? Favorito, okay.

MR. FAVORITO: I'm Garland. Garland Favorito.

REPRESENTATIVE FLEMING: Garland? Okay, Garland. Garland, you write as well as I do. Thank you. Welcome. Good to have you today. We'd love to hear from you. Tell us where you're from.

MR. FAVORITO: I'm from Roswell, Georgia. And I have a handout there. I'm -- there's two sides, front and back. I'm the cofounder of VoterGA. We've led the election-integrity
movement in Georgia for 13 years.
All but two of the speakers who spoke at the June 13 th meeting were our members. I've got 30 years of IT experience. In 2002, I warned Kennesaw state University and the secretary of state's office not to purchase the current voting machines because they can't produce a verifiable product or handle recountable results.

Last year, 20 computer scientists wrote a letter to the secretary of state's office urging him to decommission these machines for the same reasons I gave them 16 years ago.

So at the June meeting $I$ requested to make a presentation to you at a future meeting. The agenda -- I have since fleshed out the agenda. It's on the back of your handout. I requested a vote at that time and $I^{\prime} m$ requesting a vote again today if you think that this information that $I$ printed out for you is worthwhile.

In looking at today's presentations, I need to let you know that at least half or more of the presentations you saw today were for unverifiable voting systems just like we've been fighting for 16 years. So imagine how that makes me feel to see that we're not really making any progress in

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the 16 years and we're still looking at
unverifiable voting equipment again.
    Now, I know that you would not really
understand that because you haven't seen my
presentation. You haven't identified in the
current the proven opportunities, you haven't
defined the requirements you have, and you
haven't evaluated one of the most critical things
which is centralized versus decentralized
election --
REPRESENTATIVE FLEMING: Garland, I want to give you a chance to wrap it up.
MR. FAVORITO: Okay, give me about 10 seconds.
The security flaws that are in that election preparation, that's centralized, and that's what we need to discuss now, and I'll go into more detail in my presentation.
So again \(I\) would ask for a vote on that today, please.
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REPRESENTATIVE FLEMING: Garland, thank you for coming today.

That concludes the public input for people that signed up.

Committee members, you've been here a long

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time today. I want to appreciate y'all, the
members of the commission, for coming today and
we thank you for your time.
    Thanks again to Columbia County for all of
their kind assistance in setting up the venue for
us. We will stand adjourned. Thank you.
    (Concluded at 6:00 p.m.)
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STATE OF GEORGIA
COUNTY OF DEKALB
I hereby certify that the foregoing meeting
was taken down and was reduced to typewriting under my
direction; that the foregoing transcript is a true and
correct record given to the best of my ability.
The above certification is expressly
withdrawn upon the disassembly or photocopying of the
foregoing transcript.
I further certify that $I$ am not a relative,
employee, attorney, or counsel of any of the parties;
nor am I financially interested in the action.
This, the $25 s t$ day of September, 2018.
**Mary K McMahan**
Mary K. McMahan
Certified Court Reporter
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| 66/1 75 | 16 years [1] | 20 | ercent | 67/6 68/19 78/3 78/5 |
| \$ | 17,000 [1] 148/19 | $\begin{aligned} & \mathbf{2 2}[1] 347 / 13 \\ & \mathbf{2 3}[2] \quad 117 / 25118 / 4 \end{aligned}$ | $\begin{aligned} & 500,000 \text { [1] } 120 / 4 \\ & 538[1] 120 / 1 \end{aligned}$ | $\begin{aligned} & \text { 89/15 89/23 90/9 91/18 } 98 / 16 \text { 105/7 } \\ & 97 / 14 \end{aligned}$ |
| \$100 [1] | $\begin{aligned} & \text { 17-inch [1] 177/12 } \\ & 18 \text { [1] 122/23 } \end{aligned}$ |  |  |  |
| \$30 [2] |  | 230 [1] 229/19 | 55 million [1] 208/15 55,000 [1] 208/15 | 106/22 107/2 107/7 <br> 110/2 110/3 111/5 <br> 112/21 123/20 124/10 |
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| \$54 [1] 126/11 | 1983 [1] 16/23 | 256-bit [2] 174/25 | 6.4 million [1] | 220/8 253/3 |
|  | $\begin{aligned} & 1986 \text { [1] 17/14 } \\ & \text { 1990 [1] } 211 / 23 \\ & \text { 1990's [1] 18/21 } \\ & \text { 1996 [3] 118/6 118/10 } \\ & 136 / 22 \\ & 1: 00 \text { [1] } 144 / 10 \end{aligned}$ |  | $\begin{aligned} & \text { 62,000 [2] 206/22 } \\ & 208 / 15 \end{aligned}$ | $\begin{aligned} & \text { 253/8 266/14 270/4 } \\ & 271 / 12 \text { 272/2 272/11 } \end{aligned}$ |
|  |  |  |  |  |
| '19 [1] 230/8 |  | 27 [1] 347/12 | $\begin{aligned} & \text { 6:00 [1] 352/ } \\ & \text { 6th [1] } 51 / 2 \end{aligned}$ | $\begin{array}{ll} 273 / 14 & 273 / 20 \\ 274 / 24 & 276 / 14 \\ 277 / 21 \end{array}$ |
|  |  |  |  |  |
|  |  | 27,000 [2] | 7 | 277/24 285/15 289/21 |
| $\text { ....... } 354 \text { [1] 2/25 }$ |  | $\begin{aligned} & \mathbf{2 7 5 7} \text { [1] 353/19 } \\ & \mathbf{2 8 0}[2] 229 / 15229 / 16 \end{aligned}$ | $\begin{aligned} & 7,000 \text { [1] 208/1 } \\ & 70 \text { [1] 120/6 } \\ & 75 \text { years [1] } 176 / 8 \end{aligned}$ | $\begin{aligned} & \text { 290/3 290/8 292/17 } \\ & \text { 292/21 312/11 313/16 } \\ & 315 / 8315 / 24322 / 12 \\ & 329 / 22346 / 14 \end{aligned}$ |
|  |  |  |  |  |
| 94 [1] 2/22 | $\begin{aligned} & \text { 2,000 [2] } 123 / 7 \text { 129/21 } \\ & \mathbf{2 , 3 1 4} \text { [1] } 73 / 12 \end{aligned}$ | 3 |  |  |
|  |  |  |  | about [268] 3/2 4/23 6/15 12/23 13/2 13/20 |
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| $\begin{aligned} & 1 \text { percent [1] 96/5 } \\ & 1,000 \text { [2] } 50 / 2351 / 3 \end{aligned}$ |  | 260/2 350/3 | 84 [1] 156/1 | $\begin{aligned} & \text { 28/24 28/24 29/1 29/23 } \\ & 30 / 130 / 7 \text { 31/9 31/17 } \end{aligned}$ |
|  | 20-somethings [1] | 30 million [1] 226/23 | $\begin{array}{\|l\|} \hline 55 \text { [1] } \\ 86 \text { [1] } \\ 153 / 13 \\ \hline \end{array}$ |  |
|  | $\begin{aligned} & 200 \text { [3] } 154 / 3 \text { 229/13 } \\ & 240 / 9 \end{aligned}$ | 30-somethings [1] |  | $30 / 130 / 7 ~ 31 / 9 ~ 31 / 17$ $33 / 433 / 933 / 1634 / 8$ |
| $\begin{aligned} & \text { 1,200-plus [1] 297/2 } \\ & 1.0 \text { [1] } 211 / 25 \\ & 1.1 \text { [4] } 211 / 20211 / 20 \\ & 212 / 2303 / 25 \end{aligned}$ |  | 96/15 | $\begin{aligned} & 87 \text { [1] } 69 / 14 \\ & 88 \text { [1] } 52 / 18 \end{aligned}$ | $\begin{aligned} & 35 / 2435 / 2537 / 22 \\ & 38 / 2339 / 342 / 1643 / 6 \end{aligned}$ |
|  | $\begin{aligned} & \text { 200-and-something [1] } \\ & 319 / 8 \end{aligned}$ | $300 \text { [1] 254/3 }$ |  |  |
|  |  | 30813 [1] 1/11 | 9 | $\begin{aligned} & 43 / 843 / 1144 / 344 / 11 \\ & 44 / 1845 / 1846 / 22 \end{aligned}$ |
| 10 [1] 351/13 | 2000 [5] 13/24 98/22 | 32 [1] 118/1 | $\begin{aligned} & 92 \text { [1] 269/25 } \\ & 92,000 \text { [1] } 210 / 1 \\ & 94,000 \text { [1] } 132 / 6 \\ & 95 \text { percent [1] } 267 / 11 \\ & 9: 11 \text { [1] } 1 / 9 \end{aligned}$ |  |
| 10,000 [1] 195/ | 123/1 137/1 265/7 | 35 [1] 297/5 |  | 46/22 48/8 48/11 48/25 49/25 54/21 54/22 55/8 55/22 57/6 57/7 57/24 58/5 60/19 61/4 61/17 62/15 63/6 63/23 64/20 |
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| :---: | :---: | :---: | :---: |
| 1 | SECURE, ACCESSIBLE \& FAIR ELECTIONS COMMISSION |  | Transcript Legend |
| 2 | State of georgia | 2 | (sic) - Exactly as said. |
| 3 |  | 3 | (phonetic) - Exact spelling unknown. |
| 4 |  | 4 | -- Break in speech continuity. |
| 5 |  | 5 | . . . Indicates halting speech, unfinished sentence |
| 6 | The above-entitled SAFE Commission meeting | 6 | or omission of word(s) when reading. |
| 7 | was held before Mary K. McMahan, Certified Court | 7 | Quoted material is typed as spoken. |
| 8 | Reporter, in and for the state of Georgia, commencing | 8 |  |
| 9 | at 9:11 a.m. on August 30, 2018, in the Columbia | 9 | TABLEOFCONTENTS |
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| 1 | PROCEEDINGS | 1 | pledge to start us off this morning. |
| 2 | SECRETARY KEMP: We've about got everybody | 2 | (Pledge of allegiance) |
| 3 | settled here. Let me just welcome you this | 3 | SECRETARY KEMP: And if you'll pause with me |
| 4 | morning to our second meeting of the SAFE | 4 | just a minute, I'll say the invocation. |
| 5 | Commission. I'll just note for the record that | 5 | (Invocation) |
| 6 | it's August 30, 2018 and I want to certainly | 6 | SECRETARY KEMP: All right, again thank you |
| 7 | thank you all for being here this morning. It's | 7 | all. You can be seated. I certainly want to |
| 8 | great to see such good turnout and involvement in | 8 | thank the commission members for their commitment |
| 9 | this as we work on this meeting for the Secure | 9 | to serving on this panel as we move forward. |
| 10 | Accessible Fair Elections Commission here at the | 10 | Again thanks to all that helped us have the |
| 11 | Columbia County Exhibition Center in Grovetown. | 11 | ability to be here in this great facility this |
| 12 | And just before we do the pledge and the | 12 | morning. And I'm looking forward to another |
| 13 | invocation, I want to -- Co-chair Fleming is | 13 | great meeting today as our work continues to |
| 14 | going to speak a little bit more in detail to | 14 | progress. I also want to thank all of those |
| 15 | this, but I just want to thank all of those in | 15 | local elected officials that are here. I know we |
| 16 | the facility -- Ms. Wells and others -- for | 16 | have many members of the legislature. If you |
| 17 | helping coordinate this. Certainly | 17 | guys would please stand. |
| 18 | Representative Fleming, I know Chairman Cross is | 18 | Just thank you guys for being here and for |
| 19 | here this morning, several members of the | 19 | your involvement. We have local elected |
| 20 | commission, a lot of public safety folks who are | 20 | officials. Would you please stand. |
| 21 | making sure that we have a good, safe meeting | 21 | Doug, you guys stand up against. Local |
| 22 | today. | 22 | elected officials. |
| 23 | So thank you all for your hard work. | 23 | And then how about our local election |
| 24 | Mr. Chairman, we appreciate that. | 24 | superintendents, registrars, board members, and |
| 25 | If you would all rise, we're going to do the | 25 | other people that are involved at the local |

1 election level. Any of you guys here if you'll oull

Page 7
please stand. Thank you so much for what you do every day and for all the others that are representing different constituencies and groups from around the state.

I think if you took anything away from our last meeting, we had a very inclusive group. We want to hear from everyone as we move through the process. I know that we have people here from the Georgia Municipal Association.

Larry, thank you for being here.
I'm fairly certain we have folks from the Association of County Commissioners of Georgia that are here. There's Todd in the back.

So thank you guys for being here and we will continue to move forward.

This session that we're going to have this morning will be composed of four panels on voting rights, election security, voting accessibility, and intergovernmental coordination to discuss the vital considerations in play as we move forward on the replacement of our voting system.

My co-chair Representative Fleming, we thank you again, Representative, for your dedication to co-chairing this and for all your work. He will

And now I'm going to turn it over to Representative Fleming and he will offer some guidelines and logistics on the rest of the meeting today. And thank you all again for being here.

REPRESENTATIVE FLEMING: Good morning.
AUDIENCE: Good morning.
REPRESENTATIVE FLEMING: Thank you, Mr. Secretary.

As Secretary Kemp mentioned, this beautiful facility was made available to us free of charge by my county commission.

And he also mentioned my chairman Brian Cross is here with a couple of his fellow commissioners: Trey Allen and our incoming chairman in January Doug Duncan. We certainly do appreciate all of the work that they did in helping us set this up today. It's invaluable to us.

My sheriff also, Clay Whittle, he has been invaluable in helping to set up all of the details for today's event. I want to publicly thank him as well.

Just some housekeeping measures. Commission members, thank y'all all for coming over. This
be moderating the voting rights panel.
Dr. Wenke Lee, the co-executive director of the Georgia Tech Institute for Information Security and Privacy will moderate our security -- election security panel.

Amy Howell, the assistant commissioner and general counsel for the Department of Behavioral Health and Developmental Disabilities will moderate the voting accessibility panel.

And then Nancy Boren who's the Muscogee County Director of Elections and Voter Registration will moderate the intergovernmental coordination panel.

You will see that we have a great lineup, truly impressive folks talking about important subject matters. And we appreciate all of you that have joined us for this today.

Now, our afternoon session has been well-noted. We're going to hear from the following vendors which is Clear Ballot, Unisyn Voting Solutions, Smartmatic, Election Systems \& Software, Hart InterCivic, and Dominion Voting. We certainly look forward to their presentations and appreciate you all making your way to the meeting this morning.

## Page 8

is our second meeting, as the secretary said.
We've got a full lineup today. I'm going to ask
you that when you speak today -- and there will
be, of course, many opportunities for that --
that the microphones that are on the table. When you see that green light on, that's a hot mic. So if you don't want it to be green, then you press it and it'll turn off and you won't see any light. So remember that, but if you bring it to you, make sure it's green so that we can hear you.

We will have four panels this morning.
There will be portions of that where you as commission members will be allowed to ask questions, and we encourage you to do that, as well as vendors this afternoon. They're going to show us their wares.

I will mention also that at the conclusion of our meeting today, there will be a portion for public comment. We will be circulating during the day sign-up sheets. I see one moving around right over here so please feel free to sign up as we will take public comment, two minutes each person, towards the end of our session today.

Of course, before we launch into each panel

|  | Page 9 |
| :--- | :--- |
| 1 | session today, we will provide a brief |
| 2 | introduction of those participants that are in |
| 3 | the panel process. Because there is a public |
| 4 | comment portion to our meeting today, I would |
| 5 | certainly welcome our public that is here, but I |
| 6 | would ask you if you would hold your comments |
| 7 | until that point. I think we have a good, civil |
| 8 | crowd here today, so that's not going to be a |
| 9 | problem. |
| 10 | measures, some of you may have noticed this when |
| 11 | you came in, but there are restroom facilities |
| 12 | right outside these two double doors. There is |
| 13 | another hall on the other side behind you there |
| 14 | with more restroom facilities in case these are |
| 15 | full. | here today. We're going to get right to it. I'm going to ask the first members of our panel if they would come forward in these chairs right in front of me. I will introduce you and we'll switch to that mic over there and then we can start.

I also think I failed to mention, but I want to make sure that I do, we have a court reporter

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The purpose of this panel is to provide information to the commission from a diverse group of experts in the field of voting rights as to what we should be considering regarding voting rights' perspective as we formulate a recommendation for our next voting system here in Georgia. This will also allow our commission members to be formulating questions they want to ask the vendors this afternoon when we have our demonstrations.
The panel today, this morning, is not meant to be a survey of the entire landscape of voting right issues. That's a big area. However, it is meant to be focused on the issues that are relevant to the work of this commission, which are really the ones that take place from the time the voter shows up to vote to the time he or she casts their ballot. And we have a distinguished group of panelists to take us through some of those issues this morning.
I'll introduce each of you, allow you to say a few introductory remarks, and I will ask some follow-up questions with the idea of getting our panelists to engage one another, and then we'll allow the commission members also to ask

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session today, we will provide a brief introduction of those participants that are in the panel process. Because there is a public comment portion to our meeting today, I would certainly welcome our public that is here, but I would ask you if you would hold your comments until that point. I think we have a good, civil號

Just some other little housekeeping measures, some of you may have noticed this when you came in, but there are restroom facilities right outside these two double doors. There is with more restroom facilities in case these are full.

So with that in mind, thank you for being
\[
0
\]
here with us this morning who is taking down all of these proceedings. As you know, when two people talk at once, it's hard for you to understand. Can you imagine the court reporter trying to take down everything that's said? I've told y'all before that my dear wife is a court reporter and I have been trained not to talk over somebody else -- at least I think I've been trained -- when the court reporter is taking down what we've said. So if during the day, I mention that to you or remind you, I know that not everybody is not as used to being in a legal proceeding where everything is being taken down, but I'll certainly try and keep it straight so we have a good public record of all of the things that are said here today.

At this point, it is my pleasure to introduce our panelists for our first group to speak this morning, and as mentioned to our members of the commission, as we work through this, if you have a burning question just raise your hand up there, and I'll try to recognize you. And of course, as we moved through toward the end, we'll also try to make sure there's time for any questions for you.

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\section*{questions.}

First, to my far left, your far right, Sean Young with the ACLU. Sean is the legal director of the ACLU in Georgia. He's been actively involved in litigating cases around the country, challenging voter discrimination, identification requirements, cutbacks to early voting and same-day registration, and other attempts to make it harder to vote.

Prior to joining the ACLU, he was a judicial law clerk in the US Court of Appeals for the Seventh Circuit, and the US District Court for the Southern District of New York. He also served as associate to Skadden, Arps, Slate, Meagher \& Flom LLP where he litigated a variety of pro-bono matters involving civil rights, fair housing, and racial justice issues.

He has published articles in the Yale Journal of Health Policy, Law and Ethics and the Florida Coastal Law Review. Sean is a graduate of Yale Law School and Duke University.

Sean, welcome, and tell us a little bit about what's on your mind.

MR. YOUNG: Sure.
Members of the state commission, thank you
\begin{tabular}{|c|c|}
\hline & Page 13 \\
\hline 1 & so much for giving the ACLU of Georgia an \\
\hline 2 & opportunity to speak about the impact of voting \\
\hline 3 & systems on voting rights this morning. We're \\
\hline 4 & especially dedicated to ensuring that voters from \\
\hline 5 & vulnerable populations and historically \\
\hline 6 & disenfranchised communities, like communities of \\
\hline 7 & color, are able to participate in our democracy. \\
\hline 8 & The manner of voting, of course, can have a \\
\hline 9 & direct impact on that participation. \\
\hline 10 & So for that reason the ACLU of Georgia would \\
\hline 11 & love to make three concrete recommendations \\
\hline 12 & concerning any anticipated move to a paper ballot \\
\hline 13 & system. \\
\hline 14 & The first is catching errors. Transitioning \\
\hline 15 & to a paper ballet system increases the rate of \\
\hline 16 & voter error. I would venture to say that's \\
\hline 17 & pretty understated. So there must be a system of \\
\hline 18 & automatically catching those errors before the \\
\hline 19 & ballot is cast. The most common error, as most \\
\hline 20 & of you've heard about in the last session, is \\
\hline 21 & overvoting, when a voter votes for more than one \\
\hline 22 & candidate in an office that can only have one \\
\hline 23 & candidate. The commission is well aware that \\
\hline 24 & this problem was rampant through the 2000 \\
\hline 25 & elections. One example of a system that can \\
\hline
\end{tabular}

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\begin{tabular}{ll}
1 & electronic or paper-based, must be transparent in \\
2 & order to determine whether a procedure that seems \\
3 & to be facially neutral on its face may actually \\
4 & violate the Voting Rights Act or other laws by \\
5 & having a disserted act of vulnerable computer \\
6 & needs. And I don't think anyone in this room \\
7 & wants to wait until litigation in order for that \\
8 & black box to have to be opened. If it's opened \\
9 & up-front, that would resolve a lot of issues. \\
10 & The last recommendation is increased access. \\
11 & have to increase the number of check-in stations, \\
12 & of voting stations, and perhaps even polling \\
13 & places because there will be guaranteed longer \\
14 & lines at the polls when voters need to recast \\
15 & erroneous ballots and especially in the short \\
16 & term as coworkers and voters adjust to the new \\
17 & system. Longer lines almost invariably \\
18 & disproportionately impact lower-income \\
19 & communities because many do not have the flexible \\
20 & working schedules or childcare arrangements \\
21 & necessary to wait any longer than 30 minutes to \\
22 & cast a ballot. \\
23 & And to that end, we strongly urge the state \\
24 & com to also recommend increase -- or the
\end{tabular}
\begin{tabular}{|c|c|}
\hline & Page 17 \\
\hline 1 & the League of Women Voters of DeKalb County, \\
\hline 2 & president of the League of Women Voters of \\
\hline 3 & Georgia, and from 2010 to 2016 was president of \\
\hline 4 & the national league. During her tenure as \\
\hline 5 & national president of the League of Women Voters, \\
\hline 6 & engaged in national campaigns to protect and \\
\hline 7 & empower the vote of every American eligible to \\
\hline 8 & vote. \\
\hline 9 & Professionally, Elizabeth is an attorney in \\
\hline 10 & the state of Georgia. She received her \\
\hline 11 & bachelor's and juris doctorate degree from Emory \\
\hline 12 & University in Atlanta. She serves as a fellow -- \\
\hline 13 & she served as a fellow prosecutor in DeKalb \\
\hline 14 & County, Georgia from 1986 to 2010. \\
\hline 15 & Since 2004, Elizabeth has volunteered with \\
\hline 16 & the Georgia High School Mock Trial Program as an \\
\hline 17 & attorney coach at her local public high school. \\
\hline 18 & Elizabeth, great to have you this morning. \\
\hline 19 & We appreciate you being here. We'd love to hear \\
\hline 20 & from you. \\
\hline 21 & MS. MCNAMARA: Thank you. Well, thank you \\
\hline 22 & for including the League of Women Voters on this \\
\hline 23 & particular voting rights panel. For any of you \\
\hline 24 & who are not familiar with the league, the League \\
\hline 25 & of Women Voters was founded nearly 100 years ago \\
\hline
\end{tabular}

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\begin{tabular}{ll}
1 & developing amendments and lobbying for key \\
2 & positions. \\
3 & We continue to support the Election \\
4 & Assistance Commission. We appreciate their \\
5 & standard best practices and the fact that they're \\
6 & sharing election administrators around the \\
7 & country, which we think is extremely important. \\
8 & The League of Women Voters of Georgia was \\
9 & actively involved when the current voting system \\
10 & was designed and created. Our members work \\
11 & closely with election officials in every election \\
12 & and many of our members serve as poll workers. \\
13 & So we are intimately familiar with the current \\
14 & system in Georgia, how it works, and we have \\
15 & supported that system since it was implemented \\
16 & \begin{tabular}{l} 
16 years ago. \\
17
\end{tabular}\(\quad\)\begin{tabular}{l} 
The league supports an election system that \\
18
\end{tabular} \\
19 & is secure, accurate, recountable, accessible, and \\
20 & transparent. For that reason, we support a \\
21 & system that doesn't include voters verifying \\
22 & paper ballots. \\
23 & statistical principles to certify election \\
24 & results. We support a system that treats all \\
25 & voters equally, providing for voters with
\end{tabular} voters equally, providing for voters with
by the women who fought so hard for voting rights for women.

Since 1920, we've been defending our democracy by empowering voters so that everyone has the right, the desire, the knowledge, the confidence to participate. And of course the most important way, there is no more important way for Georgia citizens to participate than by voting.

The League of Women Voters has been actively engaged with elected officials and with election officials at every level of government to ensure that our election systems are free, fair, and accessible to every eligible voter. And we've done that throughout the country and throughout our history.

The league helped draft the Help America Vote Act in 2002. The League, I want to mention also, was actively involved in the passage of the National Voter Registration Act in the early 1990's and of course it supported the Voting Rights Act as well, particularly recently with all of the changes the courts have made to that particular piece of legislation. In 2002, we worked closely with civil rights coalitions in

\section*{Page 20}
disabilities, and ensuring language accessibility and while ensuring the privacy of each voter's ballot. Protecting voting rights at the polls means protecting voter access and ensuring that every vote counts.

A voting system is about more than simply the device upon which we cast our ballots, and ensuring equal access and accurate results is about more than what voters experience at the polling location. The league is focused on the entire system and so it's not prepared to be too prescriptive as to what technology is employed in the new system so long as it is secure, accurate, recountable, accessible, and transparent.

Creating a system that significantly limits our options moving forward simply for the sake of creating a voter-verified paper ballot strikes us as dangerous and the Georgia league does not support such a move.

The league also supports a voting system that is uniform throughout the state and funded by the state. We see this as a matter of protecting voting rights by protecting voter access and ensuring accuracy. Uniform procedures, protocols, and trainings are critical
\begin{tabular}{|cc}
\hline & Page 21 \\
1 & to protecting the vote. \\
2 & So I want to thank you for this opportunity \\
3 & and look forward to the discussion this morning. \\
4 & REPRESENTATIVE FLEMING: Thank you, \\
5 & Elizabeth. We appreciate that. \\
6 & Our next panel member that I have the \\
7 & pleasure of introducing is Anne Lewis with the \\
8 & law firm of Strickland, Brockington, and Lewis. \\
9 & Anne is a partner of the Atlanta law firm I just \\
10 & mentioned. Her practice involves \\
11 & election-related litigation including \\
12 & redistricting, Voting Rights Act cases, election \\
13 & contests, and candidate qualifying challenges. \\
14 & She has served as counsel in elections to the \\
15 & Georgia general assembly and as a special \\
16 & attorney general for the state of Georgia in \\
17 & election litigation. She is the general counsel \\
18 & to the Georgia Republican Party, President of the \\
19 & Atlanta Lawyers Chapter of the Federalist \\
20 & Society, a member of the State Bar of Georgia's \\
21 & Indigent Defense Committee and Post-conviction \\
22 & Relief Committee. \\
23 & the University of Georgia -- go Dawgs -- and her \\
24 & law degree from Georgia State University where \\
25 &
\end{tabular}

Page 23
1 weird questions about: Okay, what do you do
about this? I think something came up about this about 20 years ago. And Lynn always says: Oh, yeah, yeah, you know what that was. That was a particular precinct.

So I appreciate all of the help I've gotten from you over the years. If you look at our backgrounds, you might think that we have a lot of differences, and maybe we do philosophically, but I think with respect to lawyers who practice in a voting arena, we all are dedicated to one purpose which is that every eligible voter gets to vote and it's not hard to vote, it's not hard to get on the list to vote, and if you have a problem, it's not hard to figure out how to resolve the problem.

When we started talking about this panel, we were originally talking about voting rights and so all of you are familiar with the capital VR, Voting Rights Act which generally speaking involves Section 2, minority vote dilution, and for a long time involved Section 5, the preclearance provision. We're not really talking so much about that today.

I think with respect to the voting machines,

1 being named as the defendant in every case and having to come up with the money to resolve litigation.

And so I think that what we want to see is a system that (a) is going to be a system that contemplates what is the registration mechanism. We have a great voter registration system in Georgia. We're not looking to change the voter registration system but you have to have the electronic polls books, which is garbage in, garbage out, right? We have to make sure that what goes in is actually who's supposed to be voting. And then when people come in, they need to show up on the list. If they don't show up on the list, they need to know what to do about that so that whether you pick to vote absentee, early, or at the polls, when you get there, it's not a problem for you to vote so long as you're eligible to vote.

I think that any voting system has to consider how do we troubleshoot on the spot. I know when we first installed the voting machines back in 2002 -- and some of you may remember this -- the biggest complaint on that election day was: I voted for Sonny Perdue and the

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we have to have a system that works, but it may not be the most expensive system that has the most bells and whistles. And I'm not trying to, you know, disparage anybody's system out there that might have every bell and whistle, but I do think that that has to be a consideration when the state is thinking of spending so much money on something new. And I agree -- I think everybody agrees it's time for something new.

REPRESENTATIVE FLEMING: Thank you, Anne.
And I want to go ahead and mention -- or start us off by talking about -- I think Sean mentioned this and so did Anne. When we think about voting machines, our mind immediately goes to particular laypersons that don't deal with elections every day: How do I touch that thing and how does it record my vote?

But there's something very important that happens before that. The voter shows up at the polls and they have to be allowed the privilege of going into it and touching that machine because that's where they're registered. And in my polling precinct, the ladies that sit there tell me whether or not I'm registered and in the right place.
machine said I voted for Roy Barnes. Or I voted for Roy Barnes and the machine said I voted for Sonny Perdue. Well, there's no way to sort of go back and figure out what happened there. So a lot of it is training for voters to not leave the machine. Until there is a resolution, I think any system is going to have to contemplate what is it that we do with problems.

And then finally, at the end of the process, if there is a problem -- so a big problem is a recount on contests. A smaller problem is something that doesn't rise to that level but is going to have to be followed up on. What system is going to allow us to go back and find out -and along the lines of what Sean was talking about, what is it, how do we -- do we understand how the system works so that when you have to go back and find the evidence, do we know how to get that and are we confident that we're getting everything that we need?

I wanted to address real quick something that Sean said. I think that, yes, you do want to make sure that any system adequately "staffs," for a lack of a better word, the precinct. Well, we also have to live within our means. I mean,

So this -- you called it a poll --
MS. LEWIS: Poll book.
REPRESENTATIVE FLEMING: Poll book. Talk about that for a second and we'll pass the mic around, the part of the machinery, the system we're buying -- because you have to make sure when people arrive there, it's been set up well so that we can tell them that they're in the right place. Anne?

MS. LEWIS: So for those of you who have been, you know, working in or being voters for a long time, like me -- I mean, originally the books were kind of giant things that were delivered to the precincts probably the night before the election had happened, everyone that was eligible to vote -- or whoever was listed as a registered voter in that precinct and if there were any problems that were noted in some sort of room.

And now we have the -- as you will recognize, when you go in and vote, your driver's license is scanned in. And so the book is now electronic. But we were talking when we were talking about this panel about how do we -because I think for so long we sort of thought

1 about, okay, well, that's one part of the system, then the voting machine's another part of the system, and the counting is another part of the system, and it really has to all work together.

So as Barry said, when you go in, you're eligible to vote there, your name does appear on the list -- and if it doesn't appear on the list, then how are we going to fix that quickly so that (a) your time doesn't run out before the day is over or (b) you just don't get so frustrated that you just leave.

REPRESENTATIVE FLEMING: Any other comments or any of the others want to respond to that issue? The poll book that would make sure that when they walk in to vote in the system, it says: We know you're in the right place.

MS. MCNAMARA: Yeah, absolutely. And, you know, I realize that the -- I think we all realize that the voter registration system is not necessarily within the commission's purview, but nevertheless it has to work with whatever system gets designed. And I think perhaps the focus that we keep talking about is the design of the voting machines.

Really I think everybody on the commission

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in the poll book and they can't tell you where else to go, we have something in Georgia we call a provisional ballot. And that means that you get to vote and then you can come back later and straighten it out for three days. Touch on that as well --

MR. YOUNG: Yeah.
REPRESENTATIVE FLEMING: -- and what the new system might entail or keep the same about the provisional ballot.

MR. YOUNG: That's exactly where I was headed. Provisional ballots -- and they have some version of this in every state, the principal reason for the use is if your name doesn't appear in the poll book when you show up to vote.

As you think about what system you're going to design, I wanted you to have the provisional-ballot fear linger over your heads because no one likes them. They're confusing. They reduce voter confidence. Poll workers don't like dealing with them, election officials don't like dealing with them. They're confusing. They -- there's very little confidence that your vote is going to be counted because how the
understands that we're talking about redesigning a voting system and that that system has to include considerations on the voter registration system.

The league supports an online voter registration system. In this day and age, we're talking about eliminating human error. The best way to do that is to have the voter enter in their own data and eliminate transcription errors. We'd also have the ability to communicate with the secretary of state's office because when we were resolving problems out of those big books and we had to get on the phone and the frustrations with having to get through voters waiting absolutely has to be avoided.

So how you, you know -- securing that voter registration system which needs to remain online, it needs to be -- it needs to communicate with all polling systems, it has got to be part of the design of the system and understanding how that's going to work at polling locations.

REPRESENTATIVE FLEMING: Sean, if we get to the point -- and you commented on that and I want you to touch on this also. If one walks into the polling site and, for whatever reason, you're not

Page 32
registrar is to determine on the back end whether you're really a registered voter is, frankly, from experience, a kind of ad-hoc process. I may be wrong and I don't mean to -- I haven't surveyed all hundred and fifty-nine counties and I'm not saying there's a better way because it is kind of an ad-hoc issue.

And so really making sure that people who register to vote actually show up on the polling book, accounting for potential discrepancies in, you know, someone putting drive instead of avenue or accounting for that small margin of error is so critically important because otherwise you result in provisional ballots, and I know that Georgia has one of the fewest rates of provisional balloting in the country and it would be great to keep it that way.

REPRESENTATIVE FLEMING: So, Sean, this whole idea of provisional ballots is kind of like a floatation device on the airplane seat that you hope you never have to use --

MR. YOUNG: Yeah.
REPRESENTATIVE FLEMING: -- but it's there for emergencies and if you ever have to use it, people have a hard time with it sometimes, but we

1 have to figure out how to work through that, 2 right?

MR. YOUNG: Absolutely.
REPRESENTATIVE FLEMING: Let's talk about something that needs more time for people to work out a problem and it's becoming more popular in the state when you look at the numbers and that's early voting.

So right now -- and then, Anne, talk about this for a second -- when \(I\) walk into the voting booth, I vote on a touchscreen. When I walk in to early vote, I think I can do the same thing unless I ask for an absentee ballot. Our new system is going to have to take into account both of those things: absentee ballots and early votes. What are your thoughts about that?

MS. LEWIS: Well -- and real quick before I answer that, I want to say that I am a proponent of provisional ballots because I do think that you shouldn't -- the answer should not be that you don't get to vote. There should be some way -- and in Georgia, it is very transparent. You can see what was voted as a provisional ballot and what was counted.

Now, can you sit there with the election

Page 35
all the candidates before I cast my ballot. Well then you want to mail in an absentee ballot, saying you can do that. You want to just make sure you vote and don't miss election day because work or something requires you to be out of town on that Tuesday, then you're going to go and -and I always get this wrong. I think the period, the one week before is called advance voting and maybe the two weeks before are called early voting, but in any event, you can vote on the machine for three weeks before the election.

So that's just like being in the polling place or you can go to the polling place. I think a lot of people have found that: Oh, I'll just go to the polling place because there's nobody there.

REPRESENTATIVE FLEMING: And whatever kind of system we adopt, we would have to account for those two things. Well, really three things: The provisional vote, then we have now the early voting, and the absentee voting.

Sean, you may have touched on this
earlier -- and I don't know, maybe it was Elizabeth -- you talked about Georgia has very low residual votes. And we're about to wrap this
officials as they determine that? I guess you could if you wanted to, but there are specific instances we know why they will or will not count. So I would not be for having fewer provisional -- I agree with Sean. We don't have a lot of provisional ballots, but I think that safety measure is always needed.

So back to your question about early voting versus absentee voting. So, you know, when we first started early voting, we had a constrained period and we opened it up more. Then we found out, hey, look, people are not coming. We are having these for six weeks and they're not showing up. And we haven't found that the overall voter turnout has increased because of the early voting. I think people who are going to vote, they either decide they're going to go to the polling place on election day or they're going to early vote, but I don't think people say: Oh, now I can early vote, I guess I'll vote when I used to not vote.

So in terms of deciding, which way do you want to do it? So do you want to -- you decide: I want to vote at home, I want to be able to look on the computer and spend 25 hours researching

Page 36
up. I'm getting close to the end of our
discussion, but you said, and I think that was very good, in residual votes. Explain that in a little more detail and tell us why the current system we have has been good at keeping that low.

MR. Young: Residual votes, at least the way I understand them, are votes that don't end up being counted because there's an error. Usually, again, overvoting, someone voting for more than one candidate or just otherwise marking the ballot in a way that can't be logically correct.

Georgia has had a low rate because of its electronic voting system, because the machine automatically will not let -- it just will not let you cast a ballot that is logically inconsistent.

REPRESENTATIVE FLEMING: In other words, if you try to vote for two people for the same office --

MR. YOUNG: Right.
REPRESENTATIVE FLEMING: -- it will revert that to you and make you correct it before you finish.

MR. YOUNG: Exactly. And it's so important to keep it that way, and that was our first
\begin{tabular}{|c|c|c|c|}
\hline & Page 37 & & Page 38 \\
\hline 1 & recommendation, which if is there is a way, if & & voter is now going to have to go through the \\
\hline 2 & you're moving to paper, to still do it by running & 2 & process again and that, you know -- so \\
\hline 3 & it through some kind of scanning machine that can & 3 & convenience to the voter, there are obviously \\
\hline 4 & automatically catch that there's inconsistencies & 4 & new -- technology has now caught up with the need \\
\hline 5 & and then they can spoil the ballot and get a new & 5 & to have a voter-verified paper ballot that \\
\hline 6 & one and do it again. & 6 & doesn't necessarily require another human being \\
\hline 7 & Representative fleming: When you contrast & 7 & to have to mark that. And human error has of \\
\hline 8 & that to some of the other systems, when you & 8 & course been one of the largest issues in any \\
\hline 9 & paper-ballot vote, you can actually mark two & 9 & election system all the way along. \\
\hline 10 & people for the same thing and spoil your vote, or & 10 & And so -- from the least point of view, just \\
\hline 11 & if you have a punch system, you can punch two & 11 & remember and, you know, just bear in mind that \\
\hline 12 & people for the same ballot. With our current & 12 & making it as -- you know, in making sure that the \\
\hline 13 & system, you don't have that, correct? & 13 & vote counts and that we do have as few \\
\hline 14 & . Young: That's correct & 14 & provisional ballots as possible is the technology \\
\hline 15 & REPRESENTATIVE FLEMING: Elizabeth? & 15 & is there and it would be dangerous, I think, in \\
\hline 16 & MS. MCNAMARA: Yeah. Georgia's rate of & 16 & our opinion, to ignore that technology simply for \\
\hline 17 & overvoting and undervoting is something to & 17 & the sake of making people feel better at the \\
\hline 18 & be very, very proud of. The machines have & 18 & polls because they can touch that ballot and mark \\
\hline 19 & certainly made it a lot easier for us to & 19 & it themselves. \\
\hline 20 & accomplish that. & 20 & REPRESENTATIVE FLEMING: As we get ready to \\
\hline 21 & I do want to, however, point out that, you & 21 & wrap this up, Anne, I'm going to go ahead and \\
\hline 22 & know, when we're talking about pen and paper, & 22 & I'll let you comment on that. But I'm going to \\
\hline 23 & human-marked paper ballots, no matter how you set & 23 & give each of you about a minute after Anne \\
\hline 24 & hose machines, you know, you catch an error & 24 & speaks. And we'll start with Sean to give us a \\
\hline 25 & there at the polling location, nevertheless that & 25 & closing while we get ready to move the next panel \\
\hline & Page 39 & & Page 40 \\
\hline 1 & in. & 1 & Jimmy? I'll repeat it. Go ahead and say it \\
\hline 2 & MS. LEWIS: I just wanted to make one & 2 & because I have a mic \\
\hline 3 & comment about overvotes and undervotes. I think & 3 & MR. MCDONALD: No, just when they're done, \\
\hline 4 & the biggest risk of an overvote is a paper ballot & 4 & just to go over some things, I do have a question \\
\hline 5 & because the machine is not going to let you vote & 5 & before we let them go and it might not be \\
\hline 6 & for two people for the same office. And while, & 6 & Representative fleming: Well, ask it now. \\
\hline 7 & yes, you could have a system where a voter scans & 7 & MR. MCDONALD: Well, since we have the three \\
\hline 8 & in his or her paper ballot and it spits it back & 8 & here, it's not exactly in the scope of what we've \\
\hline 9 & out and then you have to vote again, I would say & 9 & been discussing, which has been very informative, \\
\hline 10 & I think people would lose patience with that. & 10 & but I was wondering if you could speak a little \\
\hline 11 & But the overvote issue really is only an & 11 & bit to -- is there a legal standard regarding the \\
\hline 12 & issue on the paper ballots. The undervote issue & 12 & language in which ballots are made available and \\
\hline 13 & I would suggest is not an issue. You have the & 13 & is that something that is maybe not currently \\
\hline 14 & right to vote for governor but decide you don't & 14 & right, but can anticipate being right, and, if \\
\hline 15 & want to vote for county commissioner -- no & 15 & so, is that something that should be considered \\
\hline 16 & offense to any county commissioners, but you have & 16 & when we're looking at machines regarding the \\
\hline 17 & just the right to do that. & 17 & flexibility of the machine or anything happens \\
\hline 18 & An undervote doesn't really tell you & 18 & with respect to being able to have access to a \\
\hline 19 & anything. It tell you that there were more votes & 19 & ballot that might be in a different language or \\
\hline 20 & cast in this election than there were in the same & 20 & something? \\
\hline 21 & election but for a different position. So I & 21 & Representative fleming: Here's how we're \\
\hline 22 & don't really think that undervote has anything to & 22 & going to handle that question. Sean, I want the \\
\hline 23 & do with that particular issue. & 23 & mic to go down to you and I'm going to let you \\
\hline 24 & REPRESENTATIVE FLEMING: We have one & 24 & answer that and also give us your closing \\
\hline 25 & question. & 25 & comments as we move on to the next panel. Go \\
\hline
\end{tabular}
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\hline & Page 41 & & Page 42 \\
\hline 1 & ahead. & 1 & before in anticipation of their county meeting \\
\hline 2 & Good question, Jimmy. & 2 & the threshold. \\
\hline 3 & MR. YOUNG: It's a great question. Just & 3 & So great question, great thing to keep in \\
\hline 4 & briefly, there's a formula that the census is in & 4 & mind. \\
\hline 5 & charge of applying. If a county has -- and & 5 & Just briefly, for my closing remarks I just \\
\hline 6 & I'm shortening this. If a county has 5 percent & 6 & want to say it's true that the -- Anne's right \\
\hline 7 & of its population that's primarily non-English & 7 & that the Voting Rights Act cases specifically \\
\hline 8 & speaking and it's literacy rate is under a & 8 & involve voting dilution which is not an issue in \\
\hline 9 & certain threshold, they are put in the category & 9 & this case. But there have been Voting Rights Act \\
\hline 10 & of counties that must provide ballots in that & 10 & challenges to voting machines, I think, in Ohio \\
\hline 11 & language. & 11 & in particular when you have systems that have \\
\hline 12 & Right now Gwinnett County is the only county & 12 & disparate impacts on lower income or communities \\
\hline 13 & in the state that has been certified as being & 13 & of color, and then there's a link somehow to \\
\hline 14 & required to provide Spanish-language ballots and & 14 & socioeconomic discrimination. That is a \\
\hline 15 & all voting materials. We would also certainly & 15 & violation of the Voting Rights Act. \\
\hline 16 & contend actually that US citizens from Puerto & 16 & Georgia now -- the good thing about Georgia \\
\hline 17 & Rico are also entitled to a Spanish-language & 17 & is that it has a uniform system throughout all \\
\hline 18 & ballot under a much lesser know provision of the & 18 & counties which not all states do. And that's \\
\hline 19 & Voting Rights Act, and so that's the brief answer & 19 & wonderful. I think everyone in this room, I \\
\hline 20 & to your question. & 20 & would just guess, agrees that that's a great \\
\hline 21 & But I know that counties that are & 21 & system. That already eliminates a lot of \\
\hline 22 & anticipating reaching that threshold soon are & 22 & problems of disparate counting and whatnot. But \\
\hline 23 & already making preparations. Hall County has & 23 & that still is something to keep in mind as you \\
\hline 24 & done a great job. They hired an elections & 24 & pick a machine and pick some kind of system that \\
\hline 25 & director that has done Spanish-language ballots & 25 & you want to make sure it doesn't have a \\
\hline & Page 43 & & Page 44 \\
\hline 1 & discriminatory impact. & 1 & all of which the technology is available as I \\
\hline 2 & REPRESENTATIVE FLEMING: Thank you, Sean. & 2 & understand it, to make that happen and preserve \\
\hline 3 & Elizabeth? & 3 & what's good about Georgia's system and move us \\
\hline 4 & MS. MCNAMARA: Well, again, thank you for & 4 & forward in the ways that we need to move forward. \\
\hline 5 & having us. And thank you for considering the & 5 & Keeping the voter in mind is always the most \\
\hline 6 & rights of voters. Obviously voting is about & 6 & important aspect of this. \\
\hline 7 & voters. From the beginning, the middle, and the & 7 & Representative fleming: Thank you. \\
\hline 8 & end, it's about our ability to cast ballots. We & 8 & Now, Anne? \\
\hline 9 & do a good job here in Georgia under the current & 9 & MS. LEWIS: Well, thank you very much for \\
\hline 10 & system. We need to replace that system and in & 10 & having us. And I'm just going to go back through \\
\hline 11 & doing that we take what is good about our system, & 11 & what I talked about in the beginning. I think \\
\hline 12 & it's uniformity, the resources. Of course all & 12 & that any new voting system has to contemplate, I \\
\hline 13 & election systems use more resources. & 13 & think, three parts of the system: Who's on the \\
\hline 14 & If there was ever a silver bullet out there & 14 & t, how does this person vote when he or she \\
\hline 15 & for creating a better election system, it's & 15 & shows up at the polls, and what do we have to \\
\hline 16 & making sure it's properly resourced, but it also & 16 & inform us if something goes wrong and there is a \\
\hline 17 & preserves early voting which may not increase & 17 & recount or a contest? What information do we \\
\hline 18 & overall voter turnout, but it's very popular with & 18 & have to inform us about what happened and what \\
\hline 19 & voters and does provide a huge convenience. & 19 & the results should be? \\
\hline 20 & That's going to be a consideration with all of & 20 & I think a lot of times people are surprised \\
\hline 21 & those ballots as well, taking into account the & 21 & that in an election contest the result if you win \\
\hline 22 & folks that have disabilities where a & 22 & is not that you win the election, you just get a \\
\hline 23 & pen-and-paper ballot would be problem, it could & 23 & new election. And so we don't want to have a \\
\hline 24 & actually impair their secret vote. And the & 24 & system that gives us a new election because we \\
\hline 25 & language accessibility issues that are coming up, & 25 & still want to know what the problem is. \\
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1 & I think that it is correct that we have not \\
2 & had a capital VR voting-rights issue with our \\
3 & machines, and I agree with Sean that a lot of it \\
4 & is due to the fact that we have a systemwide \\
5 & "system," for lack of a better word, and I think \\
6 & it is -- \\
7 & REPRESENTATIVE FLEMING: Continuity. \\
8 & MS. LEWIS: Continuity in the system, that's \\
9 & right. And so I'm not expecting there to be \\
10 & capital voting-rights issues related to the new \\
11 & machines. I mean, I think that, again, what \\
12 & we're looking for -- not for the legal business \\
13 & but good for the voting business, it's \\
14 & collaboration and not litigation because \\
15 & ultimately what we want is for people to have \\
16 & faith in the system. \\
17 & Unfortunately, I get up on my soapbox a lot \\
18 & about the fact that we say: oh, we had great \\
19 & turnout. We had 15 percent of the voters turn \\
20 & out. That's a terrible turnout. It may be great \\
21 & compared to last year when it was 12 percent, but \\
22 & it's not great. And so we want people to know: \\
23 & When show up, I want to be welcomed, they're \\
24 & going my name on the list, I'm going to
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I think that it is correct that we have not had a capital VR voting-rights issue with our machines, and I agree with Sean that a lot of it is due to the fact that we have a systemwide "system," for lack of a better word, and I think

REPRESENTATIVE FLEMING: Continuity.
MS. LEWIS: Continuity in the system, that's right. And so I'm not expecting there to be capital voting-rights issues related to the new machines. I mean, I think that, again, what we're looking for -- not for the legal business but good for the voting business, it's collaboration and not litigation because ultimately what we want is for people to have faith in the system.

Unfortunately, I get up on my soapbox a lot about the fact that we say: Oh, we had great turnout. We had 15 percent of the voters turn out. That's a terrible turnout. It may be great compared to last year when it was 12 percent, but s not great. And so we want people to know: going to find my name on the list, I'm going to be able to vote, and I'm not going to hear two

\section*{Page 47}
vote, comes in and votes a different way from somebody that votes twice. So this idea that when we protect people's voting rights, we're also supposed to remember that means getting it right and not allowing votes not eligible to vote to come in there because it cancels out somebody's else vote who did the proper thing and registered and was the right place and didn't vote but once.

So that will conclude.
Amy, I think you're the moderator of the next panel; is that correct? No? Oh. I believe -- you are? Okay. I didn't mean to scare you there.

Will the next panel come on up.
And I just want to make sure you're on your toes, Amy. See, I knew all along you weren't and I just wanted to make sure you knew that.

And we'll move to our next panel.
SECRETARY KEMP: Mr. Chairman?
REPRESENTATIVE FLEMING: Yes, sir?
SECRETARY KEMP: I just wanted to say we'd like to thank our panelists for being here this morning.
(Applause)
days later that everybody in this particular precinct's vote didn't count.

And last but not least, I just have to say, repeat, that we want the best system we can have, but we can't necessarily always afford everything that we want. So we have to decide what we have to have to avoid problems in litigation and what we can afford.

REPRESENTATIVE FLEMING: I want to thank our three panelists today for the fine job.

As we get ready for our next panel, I want to mention one housekeeping measure. I think all of you kind of know who you are, but I'm not sure everybody else does. Would you flip your name tag around so that everybody sitting up here can see who you are and they want to call on you and everything. If you forget your name, you can turn it back around and look at it for a second.

The closing thought that I would have for you as we move to the next panel is what we call the poll book. You know, there's a lot to be said about the right to vote but one thing about the right to vote is that when I go vote, somebody else doesn't get to not count my vote or steal my vote or somebody who is not eligible to

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DR. LEE: Good morning. Welcome to security voting panel. So my name is Wenke Lee. So let me briefly tell you how we're going to structure this panel. So we'll first go around with a very brief introduction and then we're going to go through the questions.

So the questions will be mostly in three parts. The first part is about what we think are the most important vulnerabilities to our voting and election system. And the second part is what can we do about it, in particular what are the roles of the private sectors, including companies and academia and systems groups. And the third part will be what do we think that the federal government can help us.

And I hope that we're going to have some time at the end for questions from the commission and the audience.

So let me start with myself. My name is Wenke Lee. I'm a professor of computer science at Georgia Tech. I'm also one of the two co-executive directors for our institute for Information Security and Privacy. I've been now at Georgia Tech since 2001. I teach information security annually to about 2,500 students. We do

1 have large online student body. And I've been

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have large online student body. And I've been
doing cyber-security research for 25 years. I specialize in system software security. That means, you know, I go to malware and see the kind of intrusions and network. I look at activities on machines to see what damage has the malware done to your system and I also have started a company with that malware, focusing on botnet detection and attribution, and the company was acquired by Core Security here in Georgia.

And it is obviously my pleasure and honor to be here. But the work here is in my own opinion only and I rely on my training in the principle of cyber security for this work. I also (indiscernible) from my professional colleagues who work on voting system security.

So let's move on to the panelists. First up, Mike.

DR. GARCIA: Good morning. Thank you for having me. My name is Mike Garcia. I am here representing the Center for Internet Security, a nonprofit based in Albany, New York.

A little bit on my background. I'm a PhD economist by training but I've been working in cyber security for about a decade. I've served

I know you have a substantial number of them. The count was zero on March 6th and it is now well over 1,000. I'd also like to say Georgia, as a state, and several of its counties are members of that organization. I strongly encourage and recommend that all counties become members of the EIISAC.

At worst, you'll receive timely information on threats and mitigations. At best, we operate a \(24 / 7\) security operation center. So should there ever be an incident, they have true cyber security experts at the ready at all times for it.

We are funded, in part, by the US Department of Homeland Security. Our sole mission in EIISAC is to support the elections community on cyber security and best practices and risk mediation. There is no cost for governments to receive these services and so there's very little to lose by signing up. It's a two-minute registration process.

I'll also highlight that the state of Georgia operates what we call an Albert sensor. It is similar to the Einstein sensors that are used in the federal government for cyber security
in a number of positions, including senior cyber security strategist at the Department of Homeland Security. I led a trusted identities group through the National Institute of Standards and Technology as part of the Department of Commerce.

So I've had a wide variety of cyber security initiatives that I've worked on over time and been mostly focused on election security over the course of the last year.

So the Center for Internet Security is home to both Multistate Information Sharing Analysis Center and the Elections Infrastructure Sharing -- Information Sharing Analysis Center. These entities focus like all CIS -- excuse me, on developing consensus-based best practices in cyber security and empowering organizations to implement those best practices.

Over the last year and a half, CIS has put additional emphasis on elections, including creating the EIISAC, the Elections Infrastructure Information Sharing Analysis Center, which for obvious reasons and time limitations I will be acronyming, and now has more than 1,000 members. Those members entirely consist of state elections directors and localities elections directors.

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intrusion, detection, and prevention. It is an intrusion detection system that looks for known vulnerabilities and threat information, conducts an analysis of what we call "netflow data" which is basically anything crossing through a network. And we appreciate that partnership with Georgia. We're proud of it and we look forward to a continuing partnership on the cyber security conference.

In February of this year, the Center for Internet Security published a handbook called the Handbook for Elections Infrastructure Security. We worked very closely with many state and local elections directors and officials on this project as well as some national associations and the Department of Homeland Security and other federal agencies.

This handbook highlights 88 best practices that election officials should take to secure their networks from cyber security attack. This sounds like a lot of best practices, but let me tell you that cyber security is very detailed work and when you miss the detail, only one needs to be exploited for an adversary to take
advantage of it. So it's indeed important that
\begin{tabular}{|cl}
\hline & Page 53 \\
1 & as much as we look at policy recommendations that \\
2 & are offered in all a small number, five to six \\
3 & policy recommendations that are critical and \\
4 & should be followed, it is really important from a \\
5 & cyber-security perspective to do the very \\
6 & detailed work that comes along a broader set of \\
7 & best practices. \\
8 & I strongly encourage you to use this \\
9 & handbook in your deliberations. It's available \\
10 & for download from our website. I am more than \\
11 & happy to provide hard copies for free to \\
12 & absolutely anyone in the elections infrastructure \\
13 & in Georgia who would like to have it, \\
14 & commissioners of course included. \\
15 & The best practices in this handbook are \\
16 & prioritized. They include additional data points \\
17 & such as estimated up-front costs of \\
18 & implementation, ongoing maintenance costs which \\
19 & could be very useful in making decisions in a \\
20 & constrained resource environment. It can be \\
21 & downloaded from our website, as I mentioned, and \\
22 & we believe that it's a critical aspect of \\
24 & security systems across the country and security \\
25 & in democracy.
\end{tabular}

Page 55
\begin{tabular}{ll}
1 & towards mediating those risks. \\
2 & Let me say unequivocably that the threats \\
3 & against our elections and democracy as a whole \\
4 & are absolutely, positively real. And in this \\
5 & business, exposure of weaknesses tends to only \\
6 & bring along additional attackers. \\
7 & The first question we have to ask ourselves \\
8 & is about the motivation of potential attackers. \\
9 & Perhaps it's a chain focus. Perhaps it is simply \\
10 & to undermine democracy more broadly. In some \\
11 & cases, it's solely for self-branding and the \\
12 & matter of proving that it can be done. From this \\
13 & perspective -- and we have to consider all of \\
14 & these potential motivations -- confidence and \\
15 & security is as important as the security itself. \\
16 & This underscores the importance of transparency \\
17 & and communication of your approach as well as \\
18 & developing and exercising incident response \\
19 & plans. \\
20 & fact that elections are not static, and so \\
21 & they're not solely about choosing a correct \\
22 & approach to executing on elections but \\
23 & considering the operational aspects of those \\
24 & efforts and ongoing work. This includes a role \\
25 & fary encourage you to consider the
\end{tabular}
distributed over 5,000 of these across the country, solely to election officials. So it has some attraction. It is in some ways becoming the standard benchmark for election security from a cyber-security perspective.

We believe that there is no right way to execute on elections. There are many factors involved. Even from a cyber-security perspective, there is no single way, but there are many wrong ways and avoiding those wrong ways is important. The key is to assess the risks, to prioritize those risks, and to mediate those risks. You can do things right by taking a number of different approaches. It is important that you do that work in assessing risk regularly and mitigating those risks completely.

And even when you eliminate them after you prioritize the risk, you cannot eliminate all risks. That's simply not the business that we're in. It just doesn't work like that. That said, we can be smart about it. And if we're smart about it, we can do a pretty darn good job then. And so that really needs to be the focus:
Identifying what are the priority risks that need to be mediated and putting those resources

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for exercising response plans, for expecting that something will go wrong, and for expecting the need that the threat will evolve as it always does and always has.

In general, we find that aspects of elections' infrastructure that have a network connection are the riskiest from a cyber-security perspective. This especially includes voter registration and election-night reporting but can include things like the poll books, election management systems, in some cases tabulation as well, and in some cases, depending on the configuration of them, voting machines.

It should come as no surprise, but please do not underestimate the importance of this point. Focusing solely on one aspect of elections is a trap. I can assure you that our adversaries are not doing so. They seek weaknesses wherever easiest and cheapest to exploit. When we analyze our security risks, we must do so focused on the whole of the ecosystem from the first steps of voter registration and the filing through the last certification results.

I encourage the commission to consider the broad range of systems that are involved in
\begin{tabular}{|cc}
\hline & Page 57 \\
1 & elections and to strengthen security within each \\
2 & of those components. It most certainly is easier \\
4 & to think conceptually at the system level, \\
5 & replacing poll books, replacing voting machines, \\
6 & et cetera, but this is not how those who wish to \\
7 & undermine democracy think about it, so it is \\
8 & incumbent upon us to not think about it in that \\
9 & manner, all right? \\
10 & Thank you. \\
11 & the panelists that we're going to do at first \\
12 & very brief introductions. Then we'll go to the \\
13 & questions and have plenty of time for the \\
14 & questions, okay? \\
15 & So next we have Mark Lindeman from Verified. \\
16 & MR. LINDEMAN: Good morning. My name is \\
17 & Mark Lindeman, and I'm a senior science and \\
18 & technology policy officer at Verified Voting. \\
19 & We're a national organization, not a chapter \\
20 & organization by the way. We're nonprofit, \\
21 & nonpartisan, founded by computer scientists and \\
22 & razor-focused on the challenge of securing \\
23 & American democracy in the digital age. \\
24 & A little bit about me. I have a PhD in
\end{tabular}

\section*{Page 59}
do have some central criteria, and this comes back to two related core principles: verification and resilience. So last week, Homeland Security Secretary Kirstjen Nielsen stated this nicely. She called on election officials to make certain that by the 2020 presidential election, every American votes a verifiable and auditable ballot. She said our systems must be resilient. We must be able to demonstrate that the votes count and that they are counted correctly. And that's what we've been saying since we were founded.

So it's a very exciting and also in some ways a terrifying time for verified voting as it is for many throughout the country. But in order to verify that votes have been counted correctly, in our analysis, our voting systems must use paper ballots that all voters have had the opportunity to verify. And we must routinely check the marks on some of those ballots.

So that routine check is what's called post-selection tabulation audit. And I want you to know, don't be terrified of the votes, they can be done very efficiently and in a variety of ways that are adaptable to the voting systems we use.

American politics, public policy, quantitative analysis, political behavior, and I happen to be an expert on design of risk-limiting audits. It was nice to hear the League of Women Voters give a shout-out, but I'm not going to talk about those here. It's just too much. It'll be important. That will be an ongoing discussion I certainly hope for Georgia.

As Mike just said, elections have many parts and perhaps the greatest threat would be to suppose that we could find a silver-bullet solution that would solve the problem of election security once and for all.

Election security is like national defense. I suppose it's a form of national defense. It requires ongoing attention, collaboration, and investment on many different fronts.

So I'm very honored to be part of this ongoing discussion. It's a terrific testimony to the work that Georgia is doing.

> Now, verified voters, I think these
particular comments, I will indeed focus on voting systems very briefly. I'll be as short as I possibly can. Verified Voting does not recommend particular vendors or systems, but we

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However, that said, it's important the audit officials must examine voter marks on the actual ballots, not just barcodes or digital images that voters didn't have the chance to verify. Because what we're trying to do, again, is demonstrate the votes are counted correctly. Auditors have to be looking at what voters could look at or otherwise verify through other means.

So ideally and usually, the audit confirms that the original count was highly accurate. That's how most audits turn out. There's at least one counter example that comes to mind where a routine audit actually led to a recount that changed the results in several local elections. So that's something that happens. Paper ballots, where maybe it will happen more, maybe it will happen less, but either way, paper ballots provide resilience. If there are any lingering questions about the accuracy of the count of paper ballots, remove the doubt because they're available for recounts.

I also wanted to point to another way that paper ballots provide resilience. Under consideration for the state of Georgia is to have all in-person voters use ballot-marking devices.
\begin{tabular}{|c|c|}
\hline & Page 61 \\
\hline 1 & Either it could apply just to election-day voters \\
\hline 2 & or could apply to both election day and early \\
\hline 3 & voters. So verified voting has real concerns \\
\hline 4 & about this approach and I wanted to explain why. \\
\hline 5 & In a system that relies on ballot-marking \\
\hline 6 & devices, the number of voters who can mark their \\
\hline 7 & ballots depends on the number of machines that \\
\hline 8 & are available. So when machines fail or even get \\
\hline 9 & turnout that's higher than expected, chaos can \\
\hline 10 & ensue. \\
\hline 11 & And you've probably heard the stories from \\
\hline 12 & around the country before. In fact, in Johnson \\
\hline 13 & County, Kansas, which deployed a system that \\
\hline 14 & relied entirely on ballot-marking devices, they \\
\hline 15 & just had the primary and they experienced long \\
\hline 16 & lines for reasons they still don't entirely \\
\hline 17 & understand, they're not sure about, but it had to \\
\hline 18 & do with a flaw in the underlying software they \\
\hline 19 & were using. So it's inherently fragile, and \\
\hline 20 & indeed that fragility provides an attractive \\
\hline 21 & target for determined adversaries. \\
\hline 22 & So the advantage of a system in which most \\
\hline 23 & voters are able to use hand-marked paper ballots \\
\hline 24 & is that the number of voters who can mark their \\
\hline 25 & ballot at once is limited only by the number of \\
\hline
\end{tabular}

Page 63
Either it could apply just to election-day voters or could apply to both election day and early voters. So verified voting has real concerns about this approach and I wanted to explain why.

In a system that relies on ballot-marking devices, the number of voters who can mark their ballots depends on the number of machines that are available. So when machines fail or even get turnout that's higher than expected, chaos can

And you've probably heard the stories from around the country before. In fact, in Johnson County, Kansas, which deployed a system that relied entirely on ballot-marking devices, they just had the primary and they experienced long lines for reasons they still don't entirely understand, they're not sure about, but it had to do with a flaw in the underlying software they were using. So it's inherently fragile, and indeed that fragility provides an attractive target for determined adversaries.

So the advantage of a system in which most voters are able to use hand-marked paper ballots ballot at once is limited only by the number of
important, just as I said before, to have a standard to reject those ballots so that the voter has a chance to correct them. But that ends up being a very, very small fraction of all ballots.

Something you do have to worry about is inadvertent undervotes. It's absolutely true that some people choose not to vote in a contest, perhaps many contests, because they just didn't want to. That's not a problem. We wouldn't want to automatically reject such ballots.

However, there have been elections in which voters on particular systems in particular counties somewhat mysteriously undervoted at double-digit rates that were not true of voters on other systems or in other counties. No one is quite sure why this is. We believe it probably has something to do with the way that the digital ballot was displayed on the screen.

Paper ballots can also be designed so that -- can either be designed well or poorly so that people do or do not see contests. One of the scary things about ballot-marking devices potentially is in the presence of cyber attack we may not be able to determine after the fact
available tables and privacy booths and those rarely ever fail. So in some sense ballot-marking devices are still a crucial part of the system because they provide accessibility which is a core principle of the commission and should be a core principle of everyone.

But the worst that there -- they're a less appealing target because if the ballot-marking device fails and if it's scanner fails, most voters still are able to mark their ballots by hand and deposit them in the secure ballot boxes underneath the standers. So we see that as a very valuable property that we should probably not abandon.

I heard concern in the first panel about overvotes and also some discussion of undervotes. I want you to note that, okay, it's true that ballot-marking devices can make overvotes impossible, and I agree that that's an advantage. Experience has shown that ballot design, the way that a paper ballot is laid out and instructions that are given, can have a very large effect on the amount of overvotes that are cast in the first place. So we can really help voters to avoid mismarking their ballots and then it is
whether the contest was even displayed, whether it was even presented or not. The ability to check the selections on the ballot that's produced may address that problem, but that's how well voters are able to use that. It's using an untested hypothesis whereas over half of the registered votes are using a system in which --in-person voters, I should specify, are using a system in which most people are voting successfully on hand-marked paper ballots. So don't overlook those advantages. Thank you.

DR. LEE: Okay. So in the interest of time, I'm just going to move on. So as I ask the panelists remaining to introduce themselves, I'm also going to ask a question that \(I\) think it will be best for you to answer.

So sitting next to me is Klint Walker. He's from the Department of Homeland Security. So I want him to introduce himself. I'll also ask him a question about what is in the role of federal agencies to help the states secure the election and working systems.

MR. WALKER: Thank you. My name is Klint Walker and I'm the cyber security advisor for Region 4 for the Department of Homeland Security.
\begin{tabular}{|c|c|c|c|}
\hline & Page 65 & & Page 66 \\
\hline 1 & That means that I cover North Carolina, South & 1 & consultants. \\
\hline 2 & Carolina, Florida, Georgia, Mississippi, Alabama, & 2 & SENATOR THOMPSON: Thank you. What an honor \\
\hline 3 & Kentucky, and Tennessee. Just a small area. & 3 & it is to be able to be here and be a part of \\
\hline 4 & So I'm -- I always like to use the term that & 4 & this, so thank you, Secretary of State. \\
\hline 5 & I'm from the federal government and I'm here to & 5 & My name is Bruce Thompson. I serve in the \\
\hline 6 & help, so ... it's a good icebreaker. & 6 & senate and I'm the chair of science and \\
\hline 7 & Because elections security is a national & 7 & technology. I have a background in PII and \\
\hline 8 & security issue, our role, as we see it, is to add & 8 & software as well. Anyone that's been around \\
\hline 9 & support. You know, just like FEMA does in the & 9 & knows my passion for cyber security and \\
\hline 10 & event of an emergency, you know, the Department & 10 & quasi-elections over the last three years. \\
\hline 11 & of Homeland Security is not going to take over. & 11 & Your question as well, that's what it says, \\
\hline 12 & We are not here, you know, to do things without & 12 & what do you think with the private sector \\
\hline 13 & permission. We're here to support. And we are & 13 & involvement. I think we have to engage the \\
\hline 14 & here to support with information sharing, we're & 14 & private sector. As a private sector \\
\hline 15 & here to support with technical assistance and & 15 & businessperson, that's where a lot of this \\
\hline 16 & maturing partnerships, getting the right people & 16 & expertise comes from. \\
\hline 17 & in touch with the right services that they need. & 17 & You can't just rely on the government. The \\
\hline 18 & That is our role and that is what we're here to & 18 & government's not here. Although they may be here \\
\hline 19 & perform. & 19 & to help, they're not going to solve the problem \\
\hline 20 & DR. LEE: Great. Thank you. & 20 & that's brought in. The private sector is full of \\
\hline 21 & And we have Senator Bruce Thompson. And & 21 & experts and professionals that are the front \\
\hline 22 & then the question I want to ask you is that what & 22 & lines day in and day out \\
\hline 23 & do you think about the roles of private sectors & 23 & The challenge I think we have is being \\
\hline 24 & in helping in the interest of security. That & 24 & allowed -- safe and sound is when we have \\
\hline 25 & would include a private security company's & 25 & corporations that can collaborate the innovation \\
\hline & Page 67 & & Page 68 \\
\hline 1 & and experience they have without creating & 1 & So how do you reconcile those conflicts? \\
\hline 2 & vulnerability to their stockholders or those that & 2 & Representative setzler: Thank you for the \\
\hline 3 & have equity within those institutions. And I & 3 & question. \\
\hline 4 & think that's the challenge we have set before us. & 4 & I want to say once again thank you for the \\
\hline 5 & How do you provide that mechanism in place where & 5 & invitation to be here to the secretary and the \\
\hline 6 & the MBA and so on would be able to not & 6 & co-chairman. \\
\hline 7 & effectively harm their corporations but & 7 & And I think to frame this question, I'd like \\
\hline 8 & collaborate together for the best election & 8 & to start by saying that the key for us is to fund \\
\hline 9 & process and/or security for the people of the & 9 & the right technology for the right task. When we \\
\hline 10 & state of Georgia. & 10 & talk about technology, everyone, I think, today \\
\hline 11 & DR. LEE: Great. Thank you. And last but & 11 & is biased with what is emerging leading-edge \\
\hline 12 & not least Representative Ed Setzler, and the & 12 & technology used to solve our problems. \\
\hline 13 & question I want to ask you is related to the & 13 & If I can remind us, if you think back to the \\
\hline 14 & previous question that I asked Senator Thompson & 14 & first century A.D., there was a cutting-edge \\
\hline 15 & which is a lot of operations now, they use plan & 15 & technology that was developed -- developed in \\
\hline 16 & to encourage -- including why hackers & 16 & China. Didn't make its way to the western world \\
\hline 17 & (indiscernible) many of the systems, and on the & 17 & until about the 12th or 13 th century, and it's \\
\hline 18 & other hand you also have the desire to -- from a & 18 & called pulp paper. And paper is something that \\
\hline 19 & citizen's group that, you know, they demand to & 19 & we've been able to use for about 800 years. It's \\
\hline 20 & know about the abilities of our working systems. & 20 & something that's very good for recording a vote \\
\hline 21 & On the flip side of that is, you know, that & 21 & and recounting it. You know, the idea that if \\
\hline 22 & may develop -- let's say overconfidence. Also & 22 & it's not leading-edge technology, it's not really \\
\hline 23 & there's concerns about all the vendors and & 23 & technology, but all of the things we use, that \\
\hline 24 & government agencies to keep certain operations & 24 & we're talking about in voting context is \\
\hline 25 & and the details out of the purview of the public. & 25 & technology. \\
\hline
\end{tabular}
\begin{tabular}{|c|c|}
\hline & Page 69 \\
\hline 1 & The question is what is the right interplay \\
\hline 2 & between an array of technologies to solve the \\
\hline 3 & various problems and challenges we have in a \\
\hline 4 & fair, open, and secure election system. And as \\
\hline 5 & we do that, I just want to remind us, you know, \\
\hline 6 & the gist is that this paper technology is \\
\hline 7 & recountable. There's also vectors of threat with \\
\hline 8 & which it can be fraudulently used. And then we \\
\hline 9 & hear the stories of the 1948 election for the \\
\hline 10 & United States Senate where Ballot Box 13 was - \\
\hline 11 & came in with 201 votes for one candidate and 3 \\
\hline 12 & votes for the other candidate in a race statewide \\
\hline 13 & in Texas that was decided by a total statewide \\
\hline 14 & differential 87 votes, and the rest is history as \\
\hline 15 & it were. \\
\hline 16 & So whereas the technology is tremendously \\
\hline 17 & useful in a recounting setting, it by itself, \\
\hline 18 & when left into itself, has its own \\
\hline 19 & vulnerabilities. \\
\hline 20 & Likewise, if you look at more modern \\
\hline 21 & technology, an electronic voting system is very \\
\hline 22 & easy to use. They're really -- they're a \\
\hline 23 & breakthrough for us in terms of ADA and handicap \\
\hline 24 & accessibility. They allow us to rapidly \\
\hline 25 & tabulate. They also allows us to rapidly recount \\
\hline
\end{tabular}

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if it wasn't invented in the last ten years, it's not really technology and it's not relevant to this discussion.

Thank you very much. Yes.
To the professor's question, I want to make sure I'm drawing the fine point to your question. What component of that would you like me to speak to directly? I'm not sure I really understood your question --

DR. LEE: So I think one question you can answer is the tension between citizens' right to know. So basically I think one security principle is that you should not secure your system through obscurity. You know, you should let, you know, people look at system and there's advocacy for open design, open source so people can actually look at the (indiscernible) because (indiscernible). So by many people looking at the system, giving the system a chance, that we can help everybody.

But on the flip side, you know, vendors, including some of the secret government agency operations, they want maybe, you know, to keep it away from enemy hands. So there's always this tension, so I just wanted to see what's your
votes. And it takes quite a high level of sophistication to defraud and fraudulently inject votes into -- for elections, but we also know that no machine is unbeatable and is accurate.

So how do we -- I think as we face this challenge, we have to ask ourselves what is the proper complementary use of the various technologies we have, from paper to electronic technologies to taking care of ADA accessibilities, taking care of ease of voting, rapid recounting, but also the verifiability of a recounting component that we think paper provides for us. How do we fold those together in a complementary system that is really best in class, that we know we've got a recountable voting system?

I think this discussion sort of leads us to see that we have the best-in-class technology if we not just put our election system on the Internet because it invites hacking. And we have a process again that's a complementary process that insures we're doing our best to secure the vote.

I think those are the challenges we face in technology. Let's not be stuck in 2018 thinking

Page 72 opinion on this.

REPRESENTATIVE SETZLER: I would tell you it's to face the tension between the open source and closed source system. You know, if we're in a circumstance where votes were all publicly cast and publicly known and the content of it was known, it would be easy to move to decide if complete open source, complete transparency to all parts of it as it were.

I think part of what we face in this is this mandate to maintain confidentiality of the ballot, that Senator Bruce Thompson when he goes down to his polling place in Bartow County, that vote, although your vote is considered public, your vote as a private citizen at the ballot box is private.

So the idea that everything can be made open, and -- of course, that'll never be part of our system. The idea to preserve the confidentiality of the individual's ballot presents some challenges to being completely open source. So that's all parts of the approach.

So we've got the tension between open source and sort of proprietary with respect to open source. Obviously, it allows for people to look

1 in and confirm. It also opens the door for a

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1 our current environment. Thank you.

DR. LINDEMAN: May I speak briefly to that? So just to be clear, it's not that Colorado worked for nine years on implementing risk-limiting audits. For most of that time, Colorado was working on deploying the entire new voting system. It's absolutely true that if Georgia tried to emulate Colorado in 2020, I can't imagine that working. They are too many differences.

So what I want you to know is that there are many ways of implementing tabulation audits that are risk limiting. There are many ways of implementing tabulation audits that may not be risk limiting but nonetheless are valuable and provide justifiable confidence in results. And I can tell you that Verified Voting and I personally am very passionately committed to working with Georgia to find solutions that actually work. Because an audit that election officials cannot do is not a successful audit. So we're completely on board with that.

SENATOR THOMPSON: I think it's real important, first of all, to understand what the initiative is before us, and that is to make sure

DR. LEE: Great. Thank you. So I think at this point, I think we should open to the commission members and audience to ask questions. So I think it's my -- this panel is only open to the questions from the commission members, so I apologize.

MS. BAILEY: Good morning. Lynn Bailey, local election official from Richmond County. I have had concerns all along about the implementation of risk-limiting audit in an environment such as Georgia's where we are precinct counting ballots. Now granted, I'm sure that I don't have a complete understanding of how those audits work, but I do know that in the state of Colorado, as an example, it took them probably nine years or so to perfect a system, if it is in fact perfected at this point, of risk-limiting audits, conducting those audits.

They are an all mail jurisdiction and are mostly central count which I think differs greatly from Georgia's set up. So I -- we ask that, you know, we proceed cautiously with that and make sure we have some type of post-auditing effort in place, no doubt, but that we're careful that we don't bite off more than we can chew with
we have a bipartisan approach in what we're trying to do. And ultimately the ingredients we're looking for is exactly what I think we have in the state of Georgia in our government. That is transparency and accountability.

\section*{Keeping that in mind, the one thing the} chairman sitting to my left here and I worked on this last year, in hearing after hearing after hearing we kept saying let's not let perfection be the enemy of greatness. We keep thinking that it has to be perfect from day one, so therefore, for some reason, do not go forward. And ultimately when you do that in business, you find yourself a failure. And at that point, we have a huge problem. We know it's before us. What I would encourage our state is, again, come together, let's not let the perfection, what we're shooting for out there, be the enemy of greatness.

REPRESENTATIVE SETZLER: Taking off from what Senator Thompson said, the director -examiner's question, that was the concern about risk-limiting audits in the debate this last legislative session, was I think there's a recognition across the board. I'm admitting that
\begin{tabular}{|cl}
\hline & Page 77 \\
1 & risk-limiting audits are an important part of \\
2 & that complementary regime that I was referring to \\
3 & earlier in my remarks. \\
4 & I would ask local election officials to not \\
5 & take a stance against risk-limiting audits \\
6 & because of what it could do if they're \\
7 & implemented in 2018 and 2020. I think we're \\
8 & where we need to be as we need to move towards \\
9 & phasing in a new system. We need to phase in a \\
10 & more rigorous risk-limiting audit regime as we \\
11 & can do it with confidence. \\
12 & phat we were very careful to not do this \\
13 & statute that created a statutory set of handcuffs \\
14 & for us that cascaded unlimited consequences that \\
15 & would throw an entire election into chaos. I \\
16 & think the -- so with that, we step back \\
17 & full state-wide thing year one, or do we put \\
18 & legislatively from a -- the most rigorous \\
19 & risk-limiting audit regime we could mandate, but \\
20 & at the same time, I think we can validate the \\
21 & value of risk-limiting audits as an important \\
22 & part moving forward with any program. \\
25 & The question is do we mandate a statute, a
\end{tabular}

Page 79
\begin{tabular}{ll}
1 & seeing out there that's working? Anything we \\
2 & should be concerned about? Any advice? \\
3 & I think it's been a great panel. \\
4 & MR. WALKER: So we've been pretty much boots \\
5 & on the ground, you know, for the last year for \\
6 & the election systems in the Department of \\
7 & Homeland Security performing assessments across \\
8 & counties' and states' election systems. \\
9 & And one of the things I think comes out in \\
10 & every system is, you know, people. It's \\
11 & eventually that everything always comes back to \\
12 & your layers, how you value risk, how you accept \\
13 & risk, how you mitigate risk, and then how that \\
14 & trickles down to the people, having the right \\
15 & people in the right place. \\
16 & You know, I always like to use this analogy. \\
17 & You know, that imagine you had a football team \\
18 & and you have a head coach and he never shows up \\
19 & until the first day, you know, the first game, \\
20 & throws the players the playbook and says: Head \\
21 & out on the field, win the game for me. They've \\
22 & never practiced, they've never been trained, they \\
23 & don't know what they're doing, but they're \\
24 & supposed to go out and win the game. \\
25 & And how a lot of organizations treat cyber
\end{tabular}
\begin{tabular}{|c|c|}
\hline & Page 81 \\
\hline 1 & double-up any. \\
\hline 2 & So, you know, there are times to throw that \\
\hline 3 & Hail Mary, but you always continue making \\
\hline 4 & incremental improvements. So if something is not \\
\hline 5 & viable to implement now, it does not mean you \\
\hline 6 & don't continue mitigating risk and make \\
\hline 7 & improvements. Find ways to do that and when you \\
\hline 8 & design something where you are trying to make a \\
\hline 9 & large overhaul of a system, be sure that it is \\
\hline 10 & built for evolution as well because these threats \\
\hline 11 & will continue to evolve. \\
\hline 12 & And that's really -- you know, if there is a \\
\hline 13 & takeaway about what the threat environment looks \\
\hline 14 & like, it's different today than yesterday. How \\
\hline 15 & dramatically? Well, that depends on the day. \\
\hline 16 & But these things continue to change and that's \\
\hline 17 & okay. Our responses continue to change. We \\
\hline 18 & continue to get smarter and more capable and more \\
\hline 19 & capable, but we have to be thinking about risk in \\
\hline 20 & that perspective, that, yes, you mitigate \\
\hline 21 & something, you move on to the thing, you have to \\
\hline 22 & come back and assess that. You have to \\
\hline 23 & continually assess where you are and what you're \\
\hline 24 & doing. You have to understand your approaches, \\
\hline 25 & how effective they were yesterday is nice, but \\
\hline
\end{tabular}

Page 83
\begin{tabular}{|c|c|}
\hline 1 & those layers together and saying where are our \\
\hline 2 & threats and where are we going to actually put \\
\hline 3 & our resources and our time and attention to. So \\
\hline 4 & making sure that you're looking at resiliency as \\
\hline 5 & was said, you know, looking for tomorrow's \\
\hline 6 & threats and saying is our system going to be \\
\hline 7 & agile in development and resilient during the \\
\hline 8 & time of crisis and need. That's key. \\
\hline 9 & SENATOR THOMPSON: Real quick because I know \\
\hline 10 & we're trying to wrap up. One of the things we're \\
\hline 11 & talking about is systems to be put in place, but \\
\hline 12 & in business, especially on a software business, \\
\hline 13 & it's important that not only we put something in \\
\hline 14 & place, but we as a state are committed to that \\
\hline 15 & because if we aren't committed to this, we can't \\
\hline 16 & go ahead and spend whatever the amount of \\
\hline 17 & resources are to be able to put an election \\
\hline 18 & system and so on in place, but we're going to \\
\hline 19 & need the resources to be able to be committed and \\
\hline 20 & be able to support that. Because as the people \\
\hline 21 & on my right have just said and to my left, this \\
\hline 22 & is an ongoing challenge. It changes on a daily \\
\hline 23 & basis. It's going to take financial capital, \\
\hline 24 & it's going to take emotional intellect and it's \\
\hline 25 & going to take physical capital. \\
\hline
\end{tabular}
how effective they'll be tomorrow is far more important.

MR. WALKER: Let me add on to that as well. As you've probably heard the term several times, you'll probably hear it a lot more: resiliency. Resiliency is the key. I mean, it's no longer a matter of, you know, if you're going to get an attack, it's when. And having resiliency built into your system -- and a lot of people think that resiliency is something that you can buy.

And we like to use this analogy as well, it's that you can't go out and buy health. I mean, we all want to be healthy, right? But health isn't something you go out and buy. You can't go to the store and say I'd like one box of health and you go home and you get healthy. Health is a way that you are, it's practice. It's putting into practice the things that you need to be healthy: Eating right, exercise.

Cyber resiliency is not different than that. It's building a program that looks at the different risks and it says what do we need to do, everything from configuration control, owner building, management training, situational awareness, asset management. It's putting all of Page 84
In the software business, you do pin tests on a regular basis to see where the vulnerabilities are. Unfortunately, we deal with elections as if it's -- when it goes live, that's when we find out if we have a vulnerability, so we're going to have to handle this animal a little bit differently, but the main thing we've got to do is we've got to be committed to this, all in from the top down to the bottom or the bottom or the top, wherever that is, that weakest link, that's where we're going to find our vulnerability. Unfortunately that vulnerability then mitigates any risk that we put in place.

DR. LEE: Any last word? Okay.
So I would like to thank all the panelists.
I mean, I think that's very informative, helpful. So let's wrap up and move on to the next panel on voting accessibility.

\section*{(Applause)}

MS. HOWELL: Good morning. My name is Amy Howell, and I'm thankful for the opportunity to moderate this panel around access for individuals with disabilities in the voting process.

Before I introduce our panelists, I wanted to just give a little bit of the legal context
\begin{tabular}{|c|c|}
\hline & Page 85 \\
\hline 1 & parameters that guide the state in relationship \\
\hline 2 & to our obligations around access. There are a \\
\hline 3 & number of federal laws, and the one primarily is \\
\hline 4 & the Americans with Disabilities and \\
\hline 5 & Rehabilitation Act, federal law, that provides \\
\hline 6 & protections for people with disabilities to \\
\hline 7 & ensure their equal access to activities that are \\
\hline 8 & operated by public entities and ensuring that \\
\hline 9 & equal access and prohibiting any exclusion from. \\
\hline 10 & It imposes requirements to the state and local \\
\hline 11 & governments to ensure that individuals have that \\
\hline 12 & equal opportunity. \\
\hline 13 & There are a number of -- as has been \\
\hline 14 & mentioned by a number of our panelists before, \\
\hline 15 & federal laws also govern the voting process that \\
\hline 16 & also contain provisions explicitly making \\
\hline 17 & reference to equal access for individuals with \\
\hline 18 & disabilities, including the Voting Rights Act. \\
\hline 19 & HAVA was mentioned earlier and also the Voting \\
\hline 20 & Accessibility for the Elderly and Handicapped \\
\hline 21 & Act. \\
\hline 22 & So I won't go into the specifics of those \\
\hline 23 & provisions, I know our panelists will mention \\
\hline 24 & them, but I wanted to just offer that framework \\
\hline 25 & to indicate how the state has worked to be in \\
\hline
\end{tabular}
parameters that guide the state in relationship number of federal laws, and the one primarily is the Americans with Disabilities and
Rehabilitation Act, federal law, that provides protections for people with disabilities to ensure their equal access to activities that are operated by public entities and ensuring that equal access and prohibiting any exclusion from. It imposes requirements to the state and local governments to ensure that individuals have that

There are a number of -- as has been mentioned by a number of our panelists before, federal laws also govern the voting process that also contain provisions explicitly making reference to equal access for individuals with disabilities, including the Voting Rights Act. HAVA was mentioned earlier and also the Voting Accessibility for the Elderly and Handicapped Act. provisions, I know our panelists will mention to indicate how the state has worked to be in environmental engineer for a number of consulting firms in the Baltimore and Washington area. She holds a BS in environmental engineering and a JD.

To my right -- excuse me, to my left, my other right, is Anne Kuhns. She is a staff attorney with the Georgia Advocacy Office which is a non-profit, federally-mandated entity that advocate on behalf of individuals with disabilities.

She graduated from Georgia State College of Law and after several years of practice in a big law firm, she left the corporate litigation team to join GAO. She advocates on behalf of individuals with all types of disabilities, living with physical, mental, and developmental disabilities.

And then we also have Ms. Elizabeth Jones. She is the director and COO -- executive director, excuse me, and COO of Shiloh Community Center, an agency that provides health and wellness services to senior citizens and persons with disabilities and other community-based services.

Ms. Jones is a certified Tai Chi instructor
compliance with those federal laws and how they guide the work ahead.

So now I'm going to introduce our panelists, and I'll ask as we engage in this discussion or if there are any questions from commission members to make sure that you pull the microphone close so everyone who's here can hear you really well.

So, first, let me introduce to my right, Lou Ann Blake. She is the deputy director of the National Federation of the Blind and Jernigan Institute where she's worked since 2005. For eight years Ms. Blake has served as the manager of the National Federation of the Blind or NFB's HAVA training and Technical Assistance Grant for the United States Department of Health and Human Services and has been responsible for working with election technology, developers, voting rights advocates, elections officials to ensure that the voting process is accessible to blind voters.

She's also published a number of scholarly articles and works with institutions of higher education to help them make their digital campuses accessible.
and a licensed -- deri-fit (pronouncing)?
MS. JONES: Geri-Fit.
MS. HOWELL: -- Geri-Fit instructor. She has a master's degree in psychosocial rehabilitation, and she's also a former director of mental health and developmental disabilities in a fourteen-county area.

I want to thank our panelists for joining us. And I have a few questions for them to help sort of engage our conversation.

So if you could, tell us what are the key areas of interest for people with disabilities in relationship to their access to voting.

Elizabeth, do you want to start us off?
MS. JONES: Yes. One of the major problems when talking with seniors in the fourteen-county area is a lack of access to polling sites. When we look at Richmond and Columbia counties, there are more polling sites. There is more access to transportation to get to those polling sites, whereas when you go out to the rural counties, there are not as many polling sites and there are -- there's a lack of transportation.

And a lack of transportation in the rural counties has been an ongoing problem for many,
\begin{tabular}{|c|c|}
\hline & Page 89 \\
\hline 1 & many years. And the polling sites, some of them \\
\hline 2 & they lack the type of accessibility to enter and \\
\hline 3 & exit for people with disabilities, older adults, \\
\hline 4 & and so there is a problem. \\
\hline 5 & And I know that a lot of the places where \\
\hline 6 & those sites are being located, they sort of \\
\hline 7 & volunteered their sites for that, but we do need \\
\hline 8 & to look at whether that site really is accessible \\
\hline 9 & for a person with disabilities or an older adult. \\
\hline 10 & Standing in lines, long lines, whether or not \\
\hline 11 & that person is actually capable of waiting in a \\
\hline 12 & line for their time to come in, and the -- and \\
\hline 13 & bathrooms. \\
\hline 14 & Some people might think that's not a big \\
\hline 15 & issue for an older adult, but being able to -- if \\
\hline 16 & you're going to be at a site for a very long \\
\hline 17 & period of time, then they need access to \\
\hline 18 & bathrooms. \\
\hline 19 & And so when we look at and we talk about \\
\hline 20 & accessibility, we need to remember that we have a \\
\hline 21 & lot of people with disabilities who might feel \\
\hline 22 & like they lost their citizenship because they are \\
\hline 23 & not able to vote. Older, frail adults who feel \\
\hline 24 & the very same way. It bothers me when I talk to \\
\hline 25 & a senior citizen and they say: You know, I \\
\hline
\end{tabular}
1 ballots, when there's a recount and those ballots
are taken out of that ballot box, it's very obvious which ballots were marked by the ballot-marking device. And if those machines are only being used by voters with disabilities, then you know that that ballot was cast by a voter with a disability.

So it's very important that the processes be in place to ensure that other voters, voters without disabilities, are using those machines as well. So that's sort of the poll-based issue that's really faced by voters with disabilities or print disabilities.

Another issue that we're facing is absentee-ballot voting. Typically, an absentee ballot is a paper ballot which is not accessible to a blind or a disabled voter. So we're not able to mark that ballot privately and independently. So there are systems such as electric ballot delivery that will enable us to mark that ballot. So those are the real key issues that were facing right now.

MS. HOWELL: Ms. Blake surfaced two important principles around privacy and independence. So, Anne, as you talk about access

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\section*{Page 91}
didn't get to vote in the last election because I didn't have a way to get to the poll. Or: I got to the poll and I didn't -- started not feeling well and I just said I'm just going to leave.

MS. HOWELL: Lou Ann?
MS. BLAKE: Sure. So I am going to speak primarily about blind, vision, and other print disabilities. So for a blind voter, access to the ballot, being able to mark your ballot privately and independently, and then having a secret ballot once you mark that ballot are the real key issues. And this has been particularly true with the movement from DREs to paper ballots.

Many states, for the lack of federal funding to purchase new machines, are having the majority of their voters handwrite their ballots and they're only purchasing enough accessible ballot-marking devices to serve as the, quote, ADA machine. But many of these second-generation machines create or generator ballots and it's different in size and content from a hand-marked ballot. So even though those ballots may be tabulated, so they're using the same tabulator and of the same ballot box as hand-marked

Page 92
to voting, will you also sort of give us some information around the importance around independence?

MS. KUHNS: So, yeah. So the thing about voters with disabilities is they span across all race, gender, economic, party lines. So it's not a partisan issue. I mean, everybody wants the same thing. They want to go to the polls, they want to have their vote count, they want it to be private and accurate.

And so the law requires that people with disabilities have the same opportunity to access and participation, but obviously throughout history people with disabilities have been historically marginalized and continue to be so. At this time through systems or failure -failure of people at the polling station to understand the systems, failure of training to make sure that people understand the systems, and to make sure beforehand that the systems in place actually work.

MS. HOWELL: You raised a good point about new systems, Anne, and that's a lot of what we're going to talk about.

Anne, are there some features that could be
2 accessibility for people with disabilities. I know you talked about some of the challenges, but what might be some of the features that would be an enhancement and it would help? MS. KUHNS: Well, all of the accessible ballot-marking devices have an audio-ballot component, so that's clearly critical for a blind voter or a low-vision voter.

Now, unfortunately there is no current poll basis on those accessible to a deaf-blind voter. You know, someone who's profoundly deaf, you know, cannot hear the audio ballot, and he's blind so they can't, you know, read the touchscreen.

You know, refreshable braille slates, you know, would solve the problem, however, for a number of technical or security reasons that doesn't exist. So, you know, of course, you know, having the large print, touchscreen for low vision is also really, really critical. And then, you know, for other disabilities, you know, the switch pack -- the tone switches and things like that, of that nature are also very important to the public.
found in a new system that would enhance accessibility for people with disabilities. I

Page 95 
be some features of a new technology that would enhance accessibility.

MS. KUHNS: Well, of course you're allowed to have a person of your choosing besides your union leader or employer come help you at the polls. And one big problem is, at the polls, people don't under -- the poll workers don't understand, one, that you're allowed to have somebody help you, or, two, that you're allowed to vote at all.

So having somebody there to assist you is definitely the biggest issue, and I think the stigma attached to mental health issues and developmental disabilities is what holds that back more than the ability of people to vote because you may not agree with why somebody is voting for who they are voting for but -- I don't agree with the reasons why people vote for somebody, so just, again, as a policy, the procedures are in place, the people at the poll know that you can have somebody assist you as long as you have been not legally adjudicated incapable to do so.

MS. HOWELL: Ms. Jones, are there other features that would help with the aging

MS. HOWELL: I think that I read that for a number of people who may be visually impaired and especially low ability to see and especially on an aging population that braille may not be their -- may not be -- they may not be familiar with braille, so are there other options that you mentioned that would be important?

MS. BLAKE: Yeah. So, you know, the user interface or control panel that a blind voter would use to get through the ballot to select their choices of candidates, you know, those -you know, typically you'll have different buttons and shapes on the panel or on the control panel, like an "X" or an up arrow or a down arrow, right arrow, left arrow. So those are the ways that a blind voter can use those systems. Typically they are labeled in braille. The NFB encourages braille, the use of braille, so that is a key factor that needs to be included.

So the different shapes, they typically are color-coded as well for voters who can see color. So that typically is how those controls are made or are designed.

MS. HOWELL: Ms. Kuhns, for individuals who have physical or mental disabilities, what would
population?
MS. JONES: I'm not going to speak to the actual system as to the wording on some of the ballots. If there is an amendment or you're voting for some type -- say 1 percent sales tax or something like that -- I have a lot of younger friends on social media. And in one election, previous election, they made a big joke out of it, and it just went around and around: What did I just vote for? Because they really didn't understand the language of the ballot so some of them said they voted yes, some voted no, but they really didn't know what they had voted for.

So if we've got 20 -somethings and 30 -somethings not sure of how and what they should've voted for, can you imagine an 80-year-old person going in and reading an amendment that's a half page long and not understanding what they should vote for.

So it's a part of the process of how -- of what we're looking at. I would encourage the people here who have some control over our voting system to -- regardless of what type of system you go to, that it remain simple and accessible for people with disabilities and older adults.
\begin{tabular}{|c|c|}
\hline & Page 97 \\
\hline 1 & MS. KUHNS: So another accessibility issue \\
\hline 2 & is you wouldn't actually think that people with \\
\hline 3 & hearing impairments might have a problem at the \\
\hline 4 & poll, but what a lot of people don't know is our \\
\hline 5 & American Sign Language is not the same as \\
\hline 6 & English. You can't just write somebody a note \\
\hline 7 & that speaks ASL. It's not the same, doesn't \\
\hline 8 & translate the same. \\
\hline 9 & So there needs to be a contingency in place \\
\hline 10 & for somebody who shows up who needs an ASL \\
\hline 11 & interpreter. And you can do that through \\
\hline 12 & telecommunications relay service which is \\
\hline 13 & relatively affordable. But a person who ASL is \\
\hline 14 & their primary language is not going to be able to \\
\hline 15 & understand what is in that ballot. \\
\hline 16 & MS. JONES: And language barrier, well, \\
\hline 17 & we've talked about, you know, the Hispanic \\
\hline 18 & community having ballots that are, you know, \\
\hline 19 & Spanish for Spanish-speaking populations, but I \\
\hline 20 & do encourage you also to not forget that we have \\
\hline 21 & a lot of citizens who are not -- were not born \\
\hline 22 & and raised in an English-speaking nation. And so \\
\hline 23 & having some type of support in place for people \\
\hline 24 & whose English might a barrier. \\
\hline 25 & I just talked about that long amendment. \\
\hline
\end{tabular}

Page 99 is you wouldn't actually think that people with hearing impairments might have a problem at the poll, but what a lot of people don't know is our American Sign Language is not the same as English. You can't just write somebody a note that speaks ASL. It's not the same, doesn't translate the same.

So there needs to be a contingency in place interpreter. And you can do that through telecommunications relay service which is relatively affordable. But a person who ASL is their primary language is not going to be able to understand what is in that ballot.

MS. JONES: And language barrier, well, we've talked about, you know, the Hispanic community having ballots that are, you know, Spanish for Spanish-speaking populations, but I do encourage you also to not forget that we have a lot of citizens who are not -- were not born and raised in an English-speaking nation. And so having some type of support in place for people

I just talked about that long amendment.

And then the Americans with Disabilities Act, Title II requires that a voter with a disability could be provided the same opportunity to vote privately and independently as is provided to voters without disabilities.

So what that means is that when I show up at the polling place, there needs to be a way or there needs to be a system in place that enables me to mark my ballot privately and independently and verify that I marked that ballot the way I wanted to mark it, privately and independently, as is, you know, available to voters without disabilities.

So with that, that is what Title II means in terms of voting, so that I have the same opportunity as everybody else, or any other voter with a disability has the same opportunity.

MS. HOWELL: And so in relationship to the issues raised about whether an individual understands the provisions of the ballot, that it might not cover that in any particularity, it's more around making sure that there is access to the process of the ballot, correct?

MS. BLAKE: Yeah. That you have an opportunity to the same benefit or service that's

Now, if you weren't born and raised as an English-speaking person, you will get something like that, or you have a process that you're not familiar with, you're not going to vote the way you probably would like to vote. So not just looking at Spanish-speaking populations, but let's look at our entire population and say is this a system or a process that someone who was not born and raised in an English-speaking nation, can they navigate the system also.

MS. HOWELL: So I know I started by providing a little overview of the law that -well, I mean, tell us a little bit about what the law requires of voting rights or otherwise around equal access. So in relationship to the issues raised around being able to understand anyone, and then when we talk about equal access, what does that really translate into in the voting process for people disabilities?

MS. BLAKE: Yeah. So Title II of the -well, first we'll talk about HAVA. HAVA, you know, passed -- was passed after the 2000 election, and HAVA requires that there be at least one accessible voting machine in every polling place for all federal elections.

\section*{Page 100}
provided by a government entity, yeah.
MS. HOWELL: I know that we've talked a little bit about the features of the system, and Georgia's comprised of a hundred and fifty-nine counties and we have officials from many of them, and then we've talked about that we have one system, that when we talk about replacing it for a new system will we look at other states. Are there challenges for a new system that might be unique to Georgia in terms of our disabled population?

MS. KUHNS: Well, you know, we talked about this earlier, and I just think it's -- I don't know that it's -- it's not particular to Georgia. We have centralized populations, and people with disabilities -- and I know this is in any state, but in rural areas, people with disabilities can't get transportation to get to doctor's appointments. They can't get transportation to get their groceries.

So getting transportation to get to the voting station so far as I can tell is not covered in any government benefit. So some system that actually finds transportation to the poll -- I don't have the framework for that, but

1 there should be a system that gets people to the polls, or -- or I believe the future of voting is going to be web-based. You know, when we start -- the system that we have now, 16 years ago was before the iPad and there was a pilot program in West Virginia that they started in two counties for military families to vote via -- it was Android or Apple phone. And I don't know if the answers are out about how successful that was, but apparently they're going to run the pilot into 50 counties I believe. It'll be general election this year, so that would improve accessibility for a lot of people. And I don't know -- I know there's security concerns, but it seems an absentee ballot has much more security concerns than watching technology which I can about, but ...

MS. HOWELL: I can too, but I'll let our security experts speak to that.

Ms. Jones, are there unique needs for our aging population in Georgia?

MS. JONES: I keep hearing that we're going to web-based voting, and the only concerns that I have with that is in rural counties, whether we like to admit it or not, we have a large group of important when you change systems. So I would encourage you to reach out to the disability community here in Georgia, the National Federation of the Blind who I'm affiliated here in Georgia, National Federation of the Blind of Georgia. There are little chapters that I'm affiliated, they have a state convention every year.

So all of the local elections officials, I encourage you to reach out to those little chapters and the state affiliate. Take the new voting machine to a chapter meeting so they can try it out before elections. Take it to the state convention. I'm sure there are other organizations of disabled people here in Georgia that, you know, also have local chapters, affiliates, and, you know, those are all great opportunities for y'all to reach out to them, provide them opportunities to practice voting on the new machine. It would make the first election go much, much more smoothly when we do the change.

MS. HOWELL: Ms. Blake, you pilot a -- what sounds like a best practice around the state to
people who do not have the same educational background as people who come from larger communities who traditionally have had more access to education and technology. So if we're speaking about going to a totally electronic web-based type of voting, I think we need to make sure that the people in the rural counties actually know how to use those systems because if not, what you do is you disenfranchise a large population of people because they will not go to the polls if they feel that they don't know how to use the systems.

MS. KUHNS: So it is not my indication that mobile voting should ever be a surrogate for going to the polling place. Americans love to go to the polling place. We're entitled to go to a polling place. Don't think we need to eliminate it, but I think that it could help with a lot of accommodation issues to have that as an opportunity.

MS. HOWELL: Ms. Blake, did you want to add something?

MS. BLAKE: Yeah, I was going to say -- so regardless of what system you end up selecting, whenever you change voting systems, it's always a
help improve familiarity with the voting systems.
You've worked with other states, have you seen other best practices in other states that have more promising practices, that enhance accessibility for individuals with disabilities?

MS. BLAKE: Yeah. Poll worker training is really key. You know, I think that's probably the biggest complaint that I get from our members when they show up at the polls. Poll workers haven't set up the machine because they don't know how to set up the machine.

So training poll workers is really key and, you know, again, engage, you know, the local community, the local disability community in that training. Be sure that the training takes place on an actual machine. It's not just a PowerPoint that they're watching. Reach out to the disability community just to serve as poll workers. You know, what better person to have monitoring that machine and setting up that machine and making sure that it works than the person with disabilities, someone who has a vested interest in that machine actually working.

So those are some of the best practices that I would suggest and encourage.
\begin{tabular}{|ll}
\hline 1 & \multicolumn{1}{c}{ Page 105} \\
2 & MS. HOWELL: Ms. Kuhns, I know you \\
3 & highlighted some of the challenges. Are there \\
4 & should be aware of or you would like to \\
5 & recommend? \\
6 & MS. KUHNS: Well, a couple things that I \\
7 & read about is that -- so being able to register \\
8 & as permanently disabled for the purposes of \\
9 & voting, Missouri did that, and so not having \\
10 & every year to fill out an application, have it \\
11 & come to you. We don't if you're -- you might not \\
12 & vote in every election because, again, \\
13 & transportation's hard and you have a disability, \\
14 & you might be in the hospital. And you have to \\
15 & vote every three years in order to stay on the \\
16 & rolls. Make it as easy as possible to vote for \\
17 & people who experience difficulty getting to the \\
18 & polls. So just have a permanent registration if \\
19 & I have to vote from afar. \\
20 & sure which one it was because, again, people with \\
21 & where you can use -- you can have a stamp, you \\
22 & physical disabilities a lot of times have trouble
\end{tabular}

Page 107 highlighted some of the challenges. Are there also best practices that you think that a person should be aware of or you would like to recommend?

MS. KUHNS: Well, a couple things that I read about is that -- so being able to register as permanently disabled for the purposes of voting, Missouri did that, and so not having every year to fill out an application, have it come to you. We don't if you're -- you might not vote in every election because, again, transportation's hard and you have a disability, you might be in the hospital. And you have to vote every three years in order to stay on the rolls. Make it as easy as possible to vote for people who experience difficulty getting to the polls. So just have a permanent registration if

Also, there was another statement. I'm not sure which one it was because, again, people with physical disabilities a lot of times have trouble help you do it, but you're -- once they allow where you can use -- you can have a stamp, you
light-colored font or a print, and it's very difficult to be able to see it to read it, and the more your vision is compromised, the more difficult it is for you to read.

So looking at all of those things, whether you're looking at shaping a system, making sure that people who have very low vision are able to read and access the voting ballot.

MS. HOWELL: For any of our panelists, are there any of the current features in our current system or in our current practices that we need to make sure that we retain, that really are helping Georgians access voting?

MS. BLAKE: Well, you know, I mean, I think what you have now is a universal system which is -- which is the ideal. I mean, the ideal is a system -- everybody uses the same system. So, you know, if it's possible to maintain that, I would strongly encourage you to do that. I know the financial realities being what they are these days that is not the case. I come from a state where we used to use the same machines we use now. Everybody used the same machine. You know, it just make things so much easier in so many ways, you know, from the administration of the
can sign your name with a stamp because some people just physically cannot sign their name, but they can vote. They have a right to vote. They have opinions about who they want elected and the policies they want them making. So those are just a couple of things.

MS. HOWELL: Ms. Jones, are the things that you've heard from your group, the aging population that they say have -- are policies and practices that have helped them have access?

MS. JONES: I think that most of the older adults that are very active in the electoral process appreciate that the print, you know, is large, and so that helps. The lighting has improved at a lot of polling sites, so that has been very helpful to a lot of older adults voting. I think that if you're looking at changing the technology that we use to vote to remember to use the larger print, of course, and also the type of print, you know, the font, you know, making sure that it's, you know, user-friendly for anyone to be able to read and also the background of the screen being -- having a lot of contrast to the print because if you're using a dark screen and you've got, you know, a

Page 108
elections, to poll worker training, to, you know, just so many things. You know, everybody's ballot, you know, is the same. You know, and if it's possible, you know, to maintain that here, I would really strongly encourage you to do that, you know, so, you know -- and, you know, looking at the -- after looking at by mail that's another option, rather than the traditional poll-based. That is another option. Of course then you have to have an accessible way for a disabled voter to access that, access that ballot privately and independently, marking that ballot privately and independently.

And, again, electronic ballot delivery is an option there, so universal voting systems are so -- yeah, yeah.

MS. HOWELL: I'm mindful of our time so if there is for our panelists -- I know certainly Ms. Kuhns, if there is one thing you want to make sure that the commission takes away from our discussion today, what would that be?

MS. KUHNS: So even if you have all of the perfect systems in place, the best technology for the most impaired for the most accessible, there is no accessibility without availability, so if1

1 the policies aren't in place that poll workers
know what the technology is, what the rights of people that there are, and that it's checked the day of, that these systems are in place, that people know how to use them, and that there are contingencies because every person with a disability is not the same, every person with the same disability experiences things differently. So even if you have all of the right things in place, you've got to have contingencies and there should be a place where we can report this, where it's publicly -- it's publicly available, not to the individual but the problem encountered at the polling place, and also a record of how that individual problem was solved.

MS. HOWELL: Ms. Jones?
MS. JONES: The take away, to keep the system as simple as you possibly can so that it remains accessible to all voters, and that's all I have to say.

MS. HOWELL: Lou Ann? Ms. Blake?
MS. BLAKE: Well, I think -- I think it's important for commissioners to keep in mind that the right to vote for a voter with a disability is no different than the right of a voter without

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prior to their voting to understand what those amendments mean. And also, I know you are aware, but I want to make sure everybody is aware that there is a provision currently in Georgia law for the disabled voters who were not able to have transportation or for whatever reason to get to the polls and they are provided a ballot for every election in the election year by making just one application and indicating that they're either disabled or elderly. And that is the big advantage that we need to promote to the disabled.

MS. HOWELL: Thank you.
JUDGE MCCOY: Thank you.
MS. HOWELL: Yes?
MS. BOREN: Yes. I'm Nancy Boren. I'm from Muscogee County, Georgia, and I have a question for Ms. Blake.

When you discussed the electronic ballot delivery for blind voters, once you receive that e-mail, how will you handle that electronic ballot delivery? Because as we currently do it for our military, they receive an e-mail, but then they have to put it onto a piece of paper and then mail it to us. How would you suggest
a disability.
And then our right to be able to mark our ballot privately and independently, to be able to cast a ballot that's going to be a secret ballot is the same as that for everybody else. And I think that's really the bottom line. And whatever system will guarantee that, I think that would be the one that would be -- meet your needs the best, meet the needs of all of the voters.

MS. HOWELL: I just wonder if there are any commission members that have questions. Yes?

JUDGE MCCOY: I just have a couple of comments. I'm Darin McCoy, probate court judge and election superintendent from Evans County, Claxton, Georgia.

So just to make sure everybody understands, first of all, about the referendums and the amendments. They definitely can be confusing. There is a summary that is provided by the state of those amendments in very plain lay terms. It is available in each county election office prior to the general election, and I believe that is also available online from the secretary of state's office, and that is a very helpful tool that I promote in my county for people to prepare

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handling that EBD, which is what election officials call it?

MS. BLAKE: Yeah. So I have used the Maryland electronic ballot voting system, what they call an online marking tool since it's been available. And so what happens with that system is I get an e-mail, it has a link to a website where you \(\log\) in and you access the ballot on that website and mark the ballot, the ballot is very accessible.

Now, to be accessible the systems have to use websites or an HTML ballot, has to be compliant with the web content accessibility guidelines, \(2.1(0)(a)\), and that covers all disabilities, so, you know, it's not just -- it doesn't make it accessibility to somebody who uses a screen reader or screen application. It covers, you know, other disabilities as well.

So I, you know -- and you see my own access technology, my screen reader, my screen magnification software. I'm able to mark that ballot privately and independently and I'm just using my keyboard. So once I finish -- once I mark the ballot, I then print it out and mail it just like anybody else.

1 And, you know, there's a number of systems that are available that are similar to the Maryland system. A number of different -- you know, Dominion, Five Cedars, Prime Three. There's a number of them out there.

MS. HOWELL: Yes?
MR. MCDONALD: I wanted to piggyback on Mr. McCoy to make one clarification. The language on those referendums and those amendments, those are determined by the legislative process at the capitol. So when they're drafting it or writing it out, a bunch of lawyers like me -- I once told a civics teacher that came to the capitol it was my job to write things as complicated and ununderstandable as possible to make sure lawyers had jobs.

So we don't write these things so -- it's out of the hands of the process once it gets out of there, and I think that really needs to be clarified because I think the election officials do the best job they can in order to make that communicated, but the way it's written is part of the process.

MS. KUHNS: And I think it's confusing for all of us.
could be a challenge for someone. I think you said something about a stamp or some type of easily functional (indiscernible). Is that something that's mandated by federal law or is it codified anywhere? Or is that -- is that something that would be helpful if it's codified saying that this must be accepted?

MS. KUHNS: It would be helpful if it was codified because the process of -- literally, if I don't have any hands, how do I sign my -- and there are processes by which you can learn to make your mark, but something that's consistent so that it can be verified at other places. Because if somebody's stuck with a provisional ballot, and I guess I said somebody needs to -- I don't know if I said that but if somebody has to do a provisional ballot, somebody better follow up on that in the next three days or else somebody with a disability is disenfranchised. But if it's thrown out because a signature doesn't match or something, then again, disenfranchised.

MS. HOWELL: Thank you all for your questions and contributions, and thank you to our

MR. MCDONALD: Yeah. It was my job to write those.

REPRESENTATIVE FLEMING: Amy, just one comment if I could about that. It's humorous to say that it's written as complicated as possible, but the courts will actually overturn the election results if they determined that the question legally was not written properly to ask the right question.

So that is a constant balancing act when the legislature is trying to ask the public through a voter referendum a question or a change to our constitution. Are we going to set aside what the courts are going to demand because it legally did ask the right question versus putting it in plain enough language?

So it's a constant battle that we have to try to get to a happy medium between those two and actually give the voters something, number one, they can understand, but, number two, giving what the full election contemplates because it was properly written.

MR. MCDONALD: One thing that you said in passing I found interesting was, you know, a big point of verifying who someone is is a signature

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panelists for your participation today.
(Applause)
REPRESENTATIVE FLEMING: Next we have our panel that Nancy Boren, Muscogee County elections and registration director, is going to moderate for us dealing with intergovernmental coordination. I think we're going to get into a little bit about the state and the locals and the board of elections all work together and how this new system may go forward.

MS. BOREN: All right, good morning. I think we've heard what everyone wants to see in the new voting system, and now I think this group is going to tell you how to get -- we're going to kind of talk about the nuts and bolts of the funding, whether it's state funding, whether it's county funding, city funding, how we're actually going to accomplish getting a new system in the state of Georgia.

As you know, the burden of the expense is probably going to fall on the state as well as many of the counties and some of the cities. So we're going to talk about that. I've written down some of the quotes as I listened to the other panels and it's been a great opportunity.

1 Let's not let perfection be an enemy of 2 greatness. I love that. Senator Thompson said 3 that for us. And we heard from the three panels all the things that they would like to see.

And so I think this group talks about from the state perspective, the city perspective, and then the county perspective how we attain the funding and the ability to get what the state of Georgia and the people in the state of Georgia want.

So as we listen to Ms. Young -- or Mr. Young and Ms. Lewis, they said the object is collaboration because everyone is paying for it. And that's true for everyone in the room. Representative Setzler said: We must fund the right technology for the right purpose.

And so I think this group can provide some information as far as funding. I'll introduce myself and then I'll ask each person on the committee to introduce themselves and give a little bit of information.

My name is Nancy Boren. I'm the director of elections and voter registration in Muscogee County, Georgia. I have held that position for 23 years and I have been in city government for of discretionary agency, so we have to fight and claw a little bit to make sure our agencies receive all the help they need. But part of my job in the everyday work is to provide independent analysis associated with any recommendations that our agencies may provide.

I previously worked with the Georgia Department of Labor as a statistical analyst and previously worked with the executive budget office in South Carolina.

MS. BOREN: Thank you.
To my right, I have Pam Helton. She
represents the Georgia Municipal Association, and that's kind of the city perspective. Counties and cities often are different, so she will give you maybe a city perspective of funding and the approach that cities may take.

MS. HELTON: Thank you.
I am Pam Helton with the Georgia Municipal Association, but I've been in city government for 26 years before I started with GMA. So I did serve as an election superintendent before I left. I think we were the only city in Georgia that had a tie on a liquor referendum, so ...

32 years. My position immediately before elections was the affirmative action officer for our county.

But, again, I've been in elections for 23 years and I've had the privilege of implementing optical scan in Muscogee County in 1996 so I'm very familiar with the aspects of optical scan voting.

Of course, technology has changed quite a bit since 1996, but I do understand the unique challenges that are posed through optical scan voting. We now have, of course, the touchscreen voting, and I'm interested in moving forward to see what the state of Georgia will have.

To my right I have Chris Wells with the Governors Office of Planning and Budgeting.

If you would like to take a moment and introduce yourself.

MR. WELLS: Good morning. My name is Chris Wells. I've been with the governor's office now for the last five years and I've had the opportunity to work as an analyst coordinator and currently as a division director. We noticed back in our division that after public safety, after health care, as well as health-care

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As you may know, in Georgia there are 538 cities, so we have a lot of needs. The branches of our municipals range from anywhere from Atlanta from almost 500,000 to the city of Edge Hill which has a 24 population. So you can see we're very unique. In that population, 70 percent of those are under 5,000 population, so -- and even 44 percent of those are less than a thousand population.

So you can see that we have to look out for our smallest to our largest cities. So there will be some concerns with the funding, what we're going to be required to do, how is it going to affect them, is there going to be some kind of legislative requirements asked of them and also is there going to be the availability of education and training that will be needed? So I think there's a lot of questions that some of our cities have as you go through this process to try to address.

MS. BOREN: And next if we could hear from Todd Edwards. Todd represents the county perspective. He is with the Association of County Commissioners of Georgia.

MR. EDWARDS: Thank you very much.
\begin{tabular}{|c|c|}
\hline & Page 121 \\
\hline 1 & And I'm Todd Edwards. I'm the deputy \\
\hline 2 & legislative director with the Association of \\
\hline 3 & County Commissioners. We represent all hundred \\
\hline 4 & and fifty-nine counties. Elections are a big \\
\hline 5 & part of what we do. I won't go into all of it, \\
\hline 6 & but we certainly -- Pam from the Municipal \\
\hline 7 & Association, cost is a primary factor to Georgia \\
\hline 8 & governments, to county taxpayers not only \\
\hline 9 & up-front but the purchase of the machines, for \\
\hline 10 & the subsequent training, the replacement of those \\
\hline 11 & machines, et cetera. That certainly weighs in in \\
\hline 12 & any factor. \\
\hline 13 & What I do with ACCG, I've been speaking on \\
\hline 14 & intergovernmental coordinator. I'm a lobbyist on \\
\hline 15 & the advocacy side. So I work with the general \\
\hline 16 & assembly on the front end when they're \\
\hline 17 & considering legislation such as over, I think, \\
\hline 18 & five or six bills last session dealing with the \\
\hline 19 & replacement voting machines. We work closely \\
\hline 20 & with the secretary of state's office, and I know \\
\hline 21 & the office works closely with our local election \\
\hline 22 & superintendents. \\
\hline 23 & And right up front, I just wanted to speak \\
\hline 24 & on that same note about intergovernmental \\
\hline 25 & coordination. With all those bills last year, \\
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\end{tabular}

Page 123
1 transition from the paper ballots back in 2000, legislative director with the Association of County Commissioners. We represent all hundred and fifty-nine counties. Elections are a big part of what we do. I won't go into all of it, but we certainly -- Pam from the Municipal Association, cost is a primary factor to Georgia governments, to county taxpayers not only up-front but the purchase of the machines, for the subsequent training, the replacement of those machines, et cetera. That certainly weighs in in

What I do with ACCG, I've been speaking on intergovernmental coordinator. I'm a lobbyist on the advocacy side. So I work with the general assembly on the front end when they're considering legislation such as over, I think, five or six bills last session dealing with the replacement voting machines. We work closely with the secretary of state's office, and I know the office works closely with our local election

And right up front, I just wanted to speak coordination. With all those bills last year, 2002 and the DREs, so ... it was fun. It was entertaining and the public really -- I thought they received it well. So going in to this new transition should be exciting. We do have two cities in Columbia County that are kind of different in size. Harlem is maybe 2,000 registered voters and Burke County is right at a thousand. So it should be interesting to move forward with this.

MS. BOREN: Mr. Wells, if you could provide for us, coming from the governor's office, the process of obtaining funding for a statewide issue like this.

MR. WELLS: So this is actually a perfect time. Usually September 1, by law, agencies have to submit their agency recommendations as well as their budget. This year because we have the holiday it will be September 4th, but during that time, agencies will be able to submit their requests.

The office of the secretary of state is actually within our division and so we've been working with them throughout the summer to establish some guidelines and some goals related
until the end, the big concern was over cost of replacement. I think the last versions of the bill had it. I was hopeful that that did not pass but I will commend this commission for getting together. It's a perfect example of working with your local governments. I know there's at least four local election folks on the commission. Getting their input, it's very important. They are our experts. I rely on them as well. But this is a key example of coordinating among our government in Georgia to try to get this right.

\section*{Thank you.}

MS. BOREN: Last but certainly not least is my co-election official Nancy Gay from Columbia County who is hosting this wonderful meeting today.

MS. GAY: Thank you. Thank you for everyone joining us in Columbia County. I am Nancy Gay, the executive director. I'm kind of a newbie here. I've been the director for five years so I'm still kind of learning the way. I've been with the county for 18 years. Served the first 13 as the registrar for the county. So I do have a little bit of experience. I went through the

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to how to submit a request of this nature in the system. Currently, just based on the rules and regulations, we have a certain amount of capital bonds that agencies are allowed to request. And so we're -- we disseminate that particular amount across most of our agencies.

In this particular year, we provided the office of the secretary of state about 25 -million in a bond planning amount. And so by that process, we're able to evaluate for the next six months of what is the total cost, look at this panel, look at what the recommendations are, work with the general assembly when the governor submits his recommendation in January, make a determination of what will that ultimate number be.

So right now we're under the process of just evaluating; knowing that the current administration as well as the next administration and general assembly would have a say in terms of what that ultimate number will be. And so because we're working closely with our agencies and their counterparts, we'll know in January what that initial number will be. We'll know throughout the legislative process what the
\begin{tabular}{|ll}
\hline & \\
1 & counterparts in the House and Senate may 125 \\
2 & recommend. And usually around May, the governor \\
3 & has an opportunity to sign the budget, and from \\
4 & that point, whatever number is settled on between \\
5 & the general assembly and the governor's office, \\
6 & it may be a bond. And if it's a bond, we usually \\
7 & sell bonds in July of each year. And so we would \\
8 & probably see a lot of movement, again, in May \\
9 & when the governor signs the budget, in July when \\
10 & those bonds come up for sale, and potentially \\
11 & provide the office of the secretary of state the \\
12 & opportunity to enter into any type of RFI to be \\
13 & to secure whatever recommendations that come with \\
14 & this panel, the general assembly, and the next \\
15 & governor.
\end{tabular}

MS. BOREN: So kind of May is the deadline or the focus point for budgetary items?

MR. WELLS: Ultimately, an opportunity to see what the appropriations process and what the general assembly may request also during that time. So usually around January, I'm assuming that this will probably be one of the topics that will be of discussion and so as you see the appropriations bill pass through the House and the Senate, through conference you'll probably

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1 their elections for them. So they like having

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their elections for them. So they like having that option to go do that, and I think that's important.

MS. BOREN: Okay, and you can tell us about county input that you get as far as: We don't have enough money or, you know, our county needs to buy a fire truck and we don't have enough money for extra voting equipment.

MR. EDWARDS: Well, because I usually tell most folks about what I do for living or how to explain everything most people deal with, it's going to be about money one way or another. I did call several of our members, including our elections folks, prior to coming down here.

Our overall thoughts, if we do agree that it's time to replace Georgia's voting equipment, I think that's pretty clear obviously security is an issue: tampering, hacking, all of that. We do also believe uniform systems across the state will work.

We appreciate the state putting up the funding in advance last time, the state and federal government. We hope to work together with them this year again in that regard. I think some of the concerns with the old equipment
start seeing a lot of the recommendations related to funding that come about, and so that is usually where we see a little bit of movement, and again in May, you'll be able to see what the governor may sign and prepare. The decisions will be made in terms of bond allocation, what's being sold, based on those particular recommendations.

MS. BOREN: And I do believe I'm correct, with the implementation system that we have now, the state expended \(\$ 54\) million if that is correct, I believe, in 2001, to implement the system that we have now. That does not include funding that each of the counties and cities chose on their own to purchase additional equipment.

So from the city perspective, cities have the option currently, under current law, to use the touchscreen voting that we have or they can use other technology. If you could speak to that just a little bit.

MS. HELTON: Actually cities like being able to have that choice, to be able to use a paper ballot or the old sheet machine or optical scan or even to contract with the counties to hold

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is when you -- well, even though the state initially paid for it, replacing it over the years is not always easy. You have to buy some used. A lot of times it comes with technical difficulties, so I think there's a wide acceptance of replacing it, and then when they do get them, they're not in good shape.

So we're on board. We look forward to working with you, but I think it's -- again, as I stated earlier, this is the time and we hope to get it right.

MS. BOREN: And, Nancy, I -- Nancy and Nancy. I do believe that in the county -obviously, I don't know what priority elections are as far as your county expenditures, but often we see that it's fire trucks and public safety and salary adjustments. How would you say that your county would be receptive to expending lots of money to change your voting system?

MS. GAY: They wouldn't. Sorry. I mean, fortunately for Columbia County, the -- I might be going out on a limb here, where we might be better off financially -- not to say we're loaded or anything, but the cost is a factor and nobody wants to come out and come out of pocket for it.
\begin{tabular}{|c|c|c|c|}
\hline & Page 129 & & Page 130 \\
\hline 1 & So if the state can mirror what they did back in & 1 & affluent counties more than it will the larger. \\
\hline 2 & 2002, I think that would be beneficial to all of & 2 & I mean, obviously, it's going to be a larger \\
\hline 3 & the counties and the municipalities in the state. & 3 & expense with all of the additional equipment for \\
\hline 4 & I know for our two cities, they would have a hard & 4 & the larger counties, and you're going to find \\
\hline 5 & time funding anything, and so they depend on us & 5 & that they may be able to have a little bit more \\
\hline 6 & to conduct the elections. And we do have a & 6 & leeway. And I can't speak for all of them, \\
\hline 7 & contract so I try to keep their expenses as low & 7 & certainly, in this disregard, but it's going to \\
\hline 8 & as possible. But for the county as a whole, I'm & 8 & have a disproportionate impact on Georgia's rural \\
\hline 9 & going to go to my county commission and ask them & 9 & and smaller counties right at a time when they \\
\hline 10 & for additional money to buy additional equipment & 10 & can least afford it. \\
\hline 11 & because I like to be overly prepared. & 11 & MS. HELTON: May I? \\
\hline 12 & MS. BOREN: Mr. Edwards, do you see & 12 & MS. BOREN: Sure. Please. \\
\hline 13 & different concerns from counties that are more & 13 & MS. HELTON: We've probably got about half \\
\hline 14 & rural? Say economic issues? Do they have & 14 & of our cities that still do their own elections, \\
\hline 15 & greater concerns? & 15 & that do not contract with the counties to hold \\
\hline 16 & MR. EDWARDS: Certainly, and that's usually & 16 & their elections. So we really have to think \\
\hline 17 & the case in most issues that we deal with across & 17 & about those cities too as we move forward with \\
\hline 18 & the state. A panelist mentioned earlier the & 18 & this process. \\
\hline 19 & difference between the size of the cities in the & 19 & Representative fleming: Nancy, I have a \\
\hline 20 & state. The counties are the same, we have & 20 & question if I may -- \\
\hline 21 & several right around or below the 2,000 & 21 & MS. BOREN: Yes. \\
\hline 22 & population, and, obviously, four or five in the & 22 & REPRESENTATIVE FLEMING: -- that I think \\
\hline 23 & metro area that are right around or above & 23 & blends well with this portion of the program. \\
\hline 24 & 1 million. Any decision like this will & 24 & We're here to discuss getting a new voting system \\
\hline 25 & definitely impact the smaller, rural, less & 25 & for the whole state of Georgia. Some people are \\
\hline & Page 131 & & Page 132 \\
\hline 1 & throwing around the figure \$100 million, plus or & 1 & had had a problem and you had to replace them. \\
\hline 2 & minus depending on what kind of system we get. & 2 & So talk about the status of our current \\
\hline 3 & Many of us remember back in 2002 how big a change & 3 & machines and why we're here talking about \\
\hline 4 & that was for some people to learn how to touch & 4 & spending all this money on new equipment. \\
\hline 5 & these fancy computer things and have their vote & 5 & MS. GAY: Well, I can only speak for \\
\hline 6 & recorded. And we tend to forget the trepidations & 6 & Columbia County, and currently we do have 94,000 \\
\hline 7 & that some people had for a system. It worked out & 7 & active registered voters. If you combine the \\
\hline 8 & pretty well and served us well & 8 & inactive, that's a hundred and thirty thousand. \\
\hline 9 & So I got a question the other day from one & 9 & In our inventory we have just over 500 total \\
\hline 10 & of my constituents that said: Hey, why do you & 10 & voting units. Some of them, the bulk of it, I \\
\hline 11 & want to change? What's wrong? I have learned & 11 & think 360 of them, are the original 2002 R6 \\
\hline 12 & how to do this thing now. Why do we want to get & 12 & models. Out of those 40, maybe 50, of them no \\
\hline 13 & new machines? & 13 & longer work. We do -- we have been very creative \\
\hline 14 & And, Nancy, I asked that question maybe to & 14 & in making them last this long. Some of them \\
\hline 15 & you or anybody else. I remember when you came to & 15 & might have some duct tape on them, but, you know, \\
\hline 16 & the capitol and testified before the committee & 16 & they still work. \\
\hline 17 & that I was chairing about this issue. You talked & 17 & The actual voting unit itself is great. The \\
\hline 18 & about the fact that when we first started in & 18 & life of it has done very well. In 2016, I think \\
\hline 19 & 2002, Columbia County had less maybe than a & 19 & it was, I purchased -- or it might've been last \\
\hline 20 & hundred thousand people. Now, it has close to & 20 & year, I purchased a hundred and twenty newer \\
\hline 21 & maybe a hundred and sixty thousand. You've had & 21 & machines from California because they don't make \\
\hline 22 & to go out and get new machines because, number & 22 & these units any more, so, you know, as a growing \\
\hline 23 & one -- and you commented on this -- you didn't & 23 & county, I am -- I'm really stuck. \\
\hline 24 & have enough, and, number two, some of the ones & 24 & So I hope we don't grow too much more right \\
\hline 25 & you had had -- like any other piece of equipment & 25 & now because I'm at my limit. I don't have any \\
\hline
\end{tabular}

1 more units to put out. So if they break, then 2 that means longer voting time for the voters.

Page 135
of this commission about Virginia doing it in such a short time frame.

When Virginia did it, it already had legislation passed the previous year that set out a two- or three-year time frame to replace all of them. They were in the middle of the process and when they got the -- I guess it was a recertification of the DRE systems, at that time -- and I wrote down some numbers -- there were only 13 localities in the state that had to make that change. Or I think there were about 20 total. Seven of those are already in the process. We're dealing with only a couple thousand -- let's see, about a hundred and ninety thousand voters out of 5 million. That pales in comparison to the task we would have in front of us today here in Georgia.

We do have concerns. Again, you're going to have to weigh the benefits of us sticking with the current machinery and paper ballots, but I believe it would be quite challenging for counties and voters in the state to pull it off.

MS. GAY: (speaking out of the range of the microphone) I'm sorry. For me, from my standpoint, this is going to sound crazy, I'm not
from starting or less now.
Todd, do you have any perspective on behalf of the counties as to how that could work?

MR. EDWARDS: Well, obviously we're aware of --

Do you want it?
MS. GAY: No.
MR. EDWARDS: Okay. We're aware of the concerns with the current machines with the issues. They're being looked at. But also are greatly concerned with the impact this would have on such a quick turnaround prior to the November election.

I don't think there's one magic bullet that's going to solve all of this, but I -you've got to balance with what are the potential risks, what sort of complications would switching in a short time frame be. You're going to have to require -- you know, require the light inventory.

I talked to some of our folks. Train local officials and folks on how to vote on whatever ballot you put out there. I think there is going to be confusion. I think one thing we heard earlier, at -- I believe it was the last meeting
worried about the staffing or the poll worker. I would be more concerned with the confusion for the voter if you try and make that kind of change in such a short time frame because it's just unfair to them, having to try learn something on short notice. And the confusion of it, they don't need that, but that's not what this is about, so ...

MR. EDWARDS: If I -- and real quick, one of the questions -- I did follow the Virginia Association of Counties. One of the big issues they had was making sure if they're going to do something like that, the rule was in place of what is a vote, what counts as a vote. We talked about overvoting and mismarking a ballot. You're going to have to have those rules in place to make sure that the voters and the poll workers understand them beforehand and I'm not sure we do.

MS. BOREN: And just a little perspective from me. Again, I implemented the optical scan voting in Muscogee County in 1996, and at that time, we did not have a vote review panel to determine voter intent. And so many of the ballots that were voted --
\begin{tabular}{|c|c|}
\hline & Page 137 \\
\hline 1 & I went back and looked at the 2000 \\
\hline 2 & presidential election. As we were converting to \\
\hline 3 & the DRE voting, many of the choices were clear, \\
\hline 4 & who the voter wanted to vote for but because of \\
\hline 5 & current legislation, we could not reject that \\
\hline 6 & ballot. It was rejected as an overvote even \\
\hline 7 & though they had voted for a candidate and then \\
\hline 8 & had marked or bubbled-in the write-in line and \\
\hline 9 & written the same candidate's name in. Voter \\
\hline 10 & intent was extremely clear, but it was an \\
\hline 11 & overvote because the law wouldn't provide us to \\
\hline 12 & send it back or to give it to that voter for them \\
\hline 13 & to fix. \\
\hline 14 & So there are a lot of issues that you have \\
\hline 15 & to think about in paper balloting. \\
\hline 16 & Ms. Bailey, I believe you had a question. \\
\hline 17 & MS. BAILEY: Yes, I do. This is Lynn Bailey \\
\hline 18 & from -- local election official from Richmond \\
\hline 19 & County. It's a question going to -- going back \\
\hline 20 & to cost. I know when we made the transition in \\
\hline 21 & 2002, the counties were able to write it on the \\
\hline 22 & contract to purchase additional equipment. \\
\hline 23 & And I don't know if you've heard from any of \\
\hline 24 & your constituents, Mr. Edwards, from a county's \\
\hline 25 & perspective if that's desirable, but I would \\
\hline
\end{tabular}

Page 139
1 about. It's certainly an option. I mean, we've
had that option with other systems that we have. I think that also is up to the vendor community and what they're willing to do and then also what the legislature would be comfortable with. You go through the appropriations process to decide what's the most cost-effective way to do that. So I think that's certainly something that will remain on the table in my opinion.

REPRESENTATIVE FLEMING: I agree.
MS. BOREN: And my one fear with that would be, again, voter confusion. You have one set up voting for a couple of years and then you change it again. And there's that upward education, that you have to educate voters. We have 6 million voters in Georgia. That would be a difficult process to change paperwork and procedures over a short span or period just because you think you have a better technology. I think we want to move slowly on that leasing of equipment to use for a short period of time.

Again, that's my opinion, and I don't know how you want to respond to that.

MR. WELLS: Again, from a technical side, like I said, funding, sometimes once you to fund
imagine it would be, and I would hope that we could consider putting that into the contract moving forward.

MR. EDWARDS: I think our voters would be most pleased with that, ma'am.

DR. LEE: Thank you. So this may be a crazy question, and if so, forgive my ignorance. So it seems if we spend all of the money up-front, we kind of tend to stick with it for a long time. So from a cyber security point of view, we may establish too short (indiscernible), right, to meet with the degrees of threats.

So why can't we lease the systems? Suppose we keep the templates the same so we don't have to cause voter confusions. So can we do anything like that?

MS. BOREN: So the possibility of leasing new equipment to use it through an intergovernmental lease through a company, is that your question? That's definitely a legal question, and I'm sure that somehow we would be able to do that.

SECRETARY KEMP: Well, I would say I think that's a very good question. I think that is something that certainly this commission can talk

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certain things which -- for example, in using bond funds, there are certain requirements, like the state has the only asset and certain things of that nature. So I think the secretary made a perfect point in terms of it'll be a collaboration effort from the governor's office with the general assembly to determine what's the best approach.

And I think that once the approach is agreed upon, I think, the governor's office and the office of planning and budget would definitely work very hard to make sure that the money is available and that it's -- basically, it can execute being able to get the money to our partners at the local level.

MR. MCDONALD: Follow up?
MS. BOREN: Yes.
MR. MCDONALD: This might be a question for him (indicating) from a technology standpoint, but when we talk about the technology, we have machines that actually process the process. But the cyber security, is there any way of segregating those two things in the sense that we have the same process for the voter utilizing pushing the buttons, but as technology evolves,

1 the cyber security in there is something that 2 might be being leased and actually evolving with 3 the same system so that what we're not doing is changing whole system every time we have a cyber-security issue. Rather the system is the same but we're treating the security for that system different. I just don't know if that's even technically possible or is it a one -- is it a package deal?

DR. LEE: It's possible.
REPRESENTATIVE FLEMING: This is just along those lines if I may, Nancy.

The secretary and I were just mentioning that when we began with the current system, the machines we had in 2002, the back-room process or the behind-the-scenes of how all that is counted and tabulated has changed with different software and different changes, although the voter interaction has changed very little. All the upgrades behind the scenes have occurred and with significant expenditures sometimes to keep the system rolling, so ...

MS. WELCH: Cynthia Welch with Rockdale County, election supervisor. I think it needs to be clear that any system that we consider for the

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It produces a disk which is picked up by, ultimately, the secretary of state's office and state patrol office -- or where they pick it up. Transmitting the official results to Atlanta is not by Internet. When it gets to Atlanta to the secretary of state's office, the system there that combines all of that data from 159 counties is not connected to the Internet.

And so that point is well-taken that our current -- you can't hack it through getting in through the Internet. You would have to physically be there just like you would with any other system if you tried something mischievous.

And may I add that there are paper-copy backups of our tabulations that are in three places: secretary of state's office, in the election superintendent's office, and we're required to file that third copy with the superior court clerk of that county. So there is a paper backup of the tabulation that matches that that goes to Atlanta.

MS. BOREN: All right. I think that ends our few moments on the panel unless anyone else has any questions.

Yes, secretary.
state of Georgia, that we continue as we have the system today. Our election system has no Internet accessibility. So when we talk about cyber security, it's more or less for our voter-registration side, our poll-book side when you talk about hacking. But when you talk about actually counting ballots, votes being cast on voting machines, there are no Internet connectivity whatsoever.

So we need to be clear about that when we talk about cyber security, that we're not talking about the vote that has been cast by the voter, again, the vote that are being counted, because that is not at risk because, again, there is no connectivity there.

REPRESENTATIVE FLEMING: Nancy, if I may once again, Cynthia is exactly right. I've made this point when I have received questions about what this panel is trying to do in the current system.

When you touch the screen to vote, that machine is not connected to the Internet. When those machines are gathered together by Nancy and Nancy to tabulate them, the computer that tabulates them is not connected to the Internet.

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SECRETARY KEMP: If y'all don't mind, I just want to make a quick announcement before we go to break. First of all -- well, let me just say that we're -- for the commission itself, we have lunch next door. This is a commission member-only lunch where going to have kind of a lunch-and-learn luncheon with the commission. We'll try to be back -- if everyone in the audience would be back at 12:55, we'll try to get started right at 1:00 with the demonstrations. And please help me thank our last panel of the morning. Thank you very much.

\section*{(Break for lunch)}

REPRESENTATIVE FLEMING: We are going to begin the portion of our meeting with vendor demonstrations. We have set aside approximately 30 minutes for each one of our vendors and maybe about 25 minutes for the demonstration and about five minutes for questions. Of course, I understand we're starting to a tad late. We're not going to penalize anybody for that. I'm keeping time.

We will begin the demonstration portion with Clear Ballot.

And you've got a mic there so I'm going to

1 allow you to introduce yourself and I'll allow
you to take off.
MR. MURPHY: Thank you very much,
Mr. Chairman.
REPRESENTATIVE FLEMING: Yes.
MR. MURPHY: First of all, I want to thank the SAFE Commission and the secretary of state's office for the opportunity to come in here and introduce us.

My name is Bill Murphy. I'm the director of sales for Clear Ballot. I would also like to thank American Audio Visual Services for helping me navigate at another conference \(A / V\) setup. It's always fun and exciting.

My goal today is to introduce you to Clear Ballot. We are the newest voting system to be certified through the TAC and I think that our system aligns very much to a lot of the things that you guys have been discussing today.

And it's my goal today to show you, through a few videos and a demonstration of our product and any questions that you guys might have, what Clear Ballot is all about and how we can potentially help the state of Georgia to accomplish the objectives that you guys have got

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current customers talking about the system and what it's brought to their organization.
(Recording played)
MR. MURPHY: The architecture of our system is very simple. We designed it that way. It starts with our ballot design tool. A lot of the questions that people had mentioned or a lot of the comments that people mentioned about accessibility, large-print ballots, UOCAVA ballots, in our system, none of those ballots would need to be proofed in a secondary way or remade manually which is one of the limitations of a lot of the things that are out there now. They have to remake the ballots in order to tabulate.

Our system allows you to maintain the actual voter record as it was cast by the voter without any interpretation by an election official or by the technology in the middle of that process.

So design caption creates those ballots. It creates the media that's populated to both our accessible touchscreen voting system and our ClearCast tabulator.

And then the results from the ClearCast tabulator are then aggregated through our central
set out in front of you, so ...
Clear Ballot was founded in 2009, and we were founded as an audit system. Our core technology is principally an audit system. So transparency, auditability, and resilience is built into our DNA. And those are the things that I have heard over and over today as being critical to what you guys are looking for in moving forward.

We are currently certified in seven states from around the country operating as a voting system and audit system. We like to call ourselves a smart digital scan system as opposed to an optical scan system. And for some of the reasons that I'm going to talk about, hopefully that becomes clear.

But the whole objective of our company and the founding principles of our organization are to put as much control back into the hands of the jurisdictions to make smart decisions both from a financial perspective, have confidence in the results, and be able to prove that every vote was counted as cast.

And I'm going to show a quick video now from a few of the members of our team and a few of our

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tabulation system, ClearCount, which is what you saw a little bit of a preview there just now, and then I've got the actual system pulled up. So I'm going to jump into that after I get done with this quick presentation.

ClearDesign, one of the nice things about our system is that everything is built on a browser interface. The core system is offline. It's a closed system, but we're leveraging a browser interface with navigation and it allows us to do a lot of things with the usability of the product that -- it's harder in a hard-coded gooey interface. That's a little geeky. You know, the end result is it's easier to use and it's faster to do the things that people do on a regular basis.

Our largest client is Voting Systems King down in Washington which is Seattle, which has about 17,000 ballot styles. And in King County, through the -- when we first started talking to them, through the procurement process, I believe they said it took them over a week to generate their ballots. And with us, they were able to cut that down to just a couple of days, so a lot of exponential time savings and the cost savings
\begin{tabular}{|cc}
\hline 1 & involved. \\
2 & This is a quick video with regard to our \\
3 & precinct tabulator which is an optical scan \\
4 & ballot reader. And hopefully this will give you \\
5 & some idea how the voters in the precincts would \\
6 & cast their ballots. \\
7 & (Recording played) \\
8 & MR. MURPHY: Now, one of the things that's \\
9 & paramount of the ClearVote system is an identical \\
10 & paper ballot for every voter. The accessibility \\
11 & voting panel that was up here -- and one of the \\
12 & folks mentioned that, you know, having a ballot \\
13 & that distinguishes somebody that voted on a \\
14 & \begin{tabular}{l} 
separate system because it looks different, you \\
15
\end{tabular} \\
\begin{tabular}{l} 
know -- is an issue with voter anonymity, and I
\end{tabular} \\
16 & think that it stands in the way of disabled \\
17 & voters voting independently, and we believe that \\
18 & the identical paper ballot is key to auditability \\
19 & and key to making the system accessible for all \\
20 & without any reinterpretations. \\
21 & Every ballot that is produced through our \\
22 & accessible voting system would be submitted \\
23 & through our tabulator here. So there would be a ballot for every voter that could be
\end{tabular}

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1 transition should new hardware become available that offer significant value, so ...

We also leverage the anywhere ballot which is a EAC-funded voting wizard. There was some discussion about, you know, down the road, you know, if different voting channels open up for ballot-delivery-only voting, we don't do that now, but the Anywhere Ballot was designed to allow for voting on any platform.

So, you know, our whole system is built to allow you guys to stay ahead of curves so you don't have to rethink your entire voting system should things change. And if anybody thinks that, you know, elections is going to not change from this point into the next ten years, I think you probably would find a lot of people with a different opinion, so ...

And then really the engine and the -- what I feel is the most important part of our system is our tabulation-and-results presentation. And what we do is we take a high-quality image of that ballot and then we take every voting mark on that image and we organize it. So our system is in place to capture the ballot image, organize that data, and then present it to you guys as
when you talk about security, having an identical paper ballot for every voter that came into the polls is the best form of security that you can have because you've always had physical record of the election that you can go back to to check the results if there is any question.

We also have a version of this machine. Same machine, but in this picture here, you're seeing the larger ballot box which is also a secure part of the system; and for the larger jurisdictions, a better fit, so ...

Everything with the exception of the ClearCast tabulator that I just showed you is a commercial off-the-shelf piece of hardware. So I think we -- again, going back to the idea that we want to allow you guys to make, you know, smart decisions to maintain current hardware, if new hardware comes out, we believe that that's the best way.

So from a central tabulation perspective, we use commercial off-the-shelf scanners from the accessible ballot-marking device. We use commercial laptops, commercial printers which allow you guys to keep the costs down and also allows for a longer usable life and an easy

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election officials to show you how we interpreted those marks and present them to you so you can essentially validate what we have counted in a tabulation.

And that's going to lead me to -- the question that I think -- and this is a, you know, rhetorical question, you know. If transparency and auditability is important, I think that you should look at ClearBallot and consider us because I feel like we're giving you a picture and a window into the election that no one else can provide.

And I'm going to jump in -- I'm going to put down my microphone for a second and switch laptops.

What I'm showing you right now is the actual system that your election officials would be using on election night. After the polls have closed and results have come in, people are bringing back their thumb drives just like you guys do today. We aggregate them through the system.

And I'm going to show you a few examples of things that have been pointed out today. And how will we show you those examples and how we allow
\begin{tabular}{|c|c|c|c|}
\hline & Page 153 & & Page 154 \\
\hline 1 & you to manage them and really provide you with a & & anything in there that's worth note. And then if \\
\hline 2 & set of data that you've never had before. And I & 2 & I click on it, I can pull up the entire ballot, \\
\hline 3 & think that's going to be really important when & 3 & and it shows me in 200 dpi, you know, how each \\
\hline 4 & you're looking at the next voting system that you & 4 & one of the votes was cast. It's got a little \\
\hline 5 & guys are going to invest in. The data that & 5 & legend here. Green means that there was a vote \\
\hline 6 & you're about to see is going to allow you to do & 6 & counted. And we actually have an annotated \\
\hline 7 & so many things, from poll-worker training to, you & 7 & version of this, that if you click on this, it'll \\
\hline 8 & know, identifying trends in polling places to & 8 & show you almost a real-life audit of that ballot. \\
\hline 9 & identifying equipment that needs maintenance, and & 9 & So you can see the green is where we counted the \\
\hline 10 & that's really where I think we shine. & 10 & vote for that particular candidate. \\
\hline 11 & So what I've just done is I've clicked on & 11 & So you can visually audit any ballot on the \\
\hline 12 & our statement of votes cast and it shows me every & 12 & spot. But these are ballots that we counted as \\
\hline 13 & contest and because we're running a browser, & 13 & votes and we're not asking you guys to relitigate \\
\hline 14 & every one of these blue buttons is a live link & 14 & that, we're just presenting them to you so you \\
\hline 15 & that I can go into. So if I wanted to look at & 15 & can see them. \\
\hline 16 & the votes cast for George Smith, I can click on & 16 & But one of the things where it really does \\
\hline 17 & that and it's now going to pull up every vote & 17 & come into play is in the case of overvotes, okay. \\
\hline 18 & that was cast for this candidate in this contest. & 18 & Coming up as an audit system and working a lot of \\
\hline 19 & And it's going to organize them by our system's & 19 & vote-by-mail states, we see a lot of things that \\
\hline 20 & contents. & 20 & most precinct tabulators would catch and filter \\
\hline 21 & So this is 86 votes, this is our demo & 21 & out, but you can quickly go over these overvotes \\
\hline 22 & database. But if I scroll over any one of these & 22 & and see pretty clearly that these are all \\
\hline 23 & particular marks, it's going to pull up the & 23 & overvotes. But in a case like this, that might \\
\hline 24 & entire contents area. So I can look and see if & 24 & be something that in a close contest or depending \\
\hline 25 & there's anything in there that needs attention or & 25 & on how you guys handle overvotes in a regular \\
\hline & Page 155 & & Page 156 \\
\hline 1 & situation, you might want to look at that. And & 1 & Smith increased from 83 to 84. \\
\hline 2 & here, you know, you might want to present that to & 2 & w, I'll show you one more example and then \\
\hline 3 & your commissioners and say is that something & 3 & can take some questions. There was -- there \\
\hline 4 & where voter intent may be clear and is that & 4 & was a -- somebody had pointed out that \\
\hline 5 & something that we should change. And if you & 5 & undervotes, you know, are something that happen \\
\hline 6 & wanted to change this, our system gives the & 6 & and sometimes they are important, sometimes \\
\hline 7 & ability to modify our adjudication without ever & 7 & they're not, but this is an example that I wanted \\
\hline 8 & having to alter the physical ballot as cast by & 8 & to show you where an undervote may go -- an \\
\hline 9 & the voter which is important because & 9 & dervote may not be cast in the way the voter \\
\hline 10 & I had a conversation about this with an & 10 & intended. \\
\hline 11 & election official in New Orleans at Election & 11 & So with the ballot then what we do is we \\
\hline 12 & Center this week. And they said: Well, if you & 12 & pull up any events in the candidate area that \\
\hline 13 & don't change it, how are they going to know what & 13 & might be important for you guys to look at. In \\
\hline 14 & the voter's intent was. And I said: Pull that & 14 & this case they circled the candidate, which \\
\hline 15 & ballot up. Is there going to be any question & 15 & happens sometimes, but if click on that ballot, \\
\hline 16 & about why you changed that vote? And we log in & 16 & you can see that there are a few votes here where \\
\hline 17 & to -- if I go to this ballot, you'll see how this & 17 & it actually went through the candidate area. So \\
\hline 18 & works. I can just deselect Martin. It's going & 18 & this might -- it might've been caught as an \\
\hline 19 & to ask me if that's what I want to do and I can & 19 & undervote on one contest where the votes in \\
\hline 20 & save. And that's now going to change to a vote & 20 & contests where it passed through the oval. In \\
\hline 21 & for George Green, but it is logged that I am the & 21 & this case it didn't look like any of those \\
\hline 22 & user that has made that change and it will log & 22 & registered, but if it did, that ballot would pass \\
\hline 23 & the time that I've done it. And then, if I go & 23 & through the precinct scanner and it would -- it \\
\hline 24 & back to the statement of votes cast and refresh & 24 & wouldn't raise any red flags, it wouldn't be \\
\hline 25 & this, you'll see now that the total for George & 25 & caught as a -- I think it is flagged for an \\
\hline
\end{tabular}
\begin{tabular}{|ll}
\hline & Page 157 \\
1 & unmarked ballot. \\
2 & But with this, because those votes were -- \\
3 & there was a vote on the ballot, it's going to \\
4 & stand. It's going to count the other ones as \\
5 & undervotes, and voter intent would be missed. So \\
6 & we give you the visibility to ensure that voter \\
7 & intent is captured as cast and we show you the \\
8 & math behind every one of the numbers on our \\
9 & system, the tabulation that we've presented as \\
10 & the accurate tabulation of the election. And we \\
11 & organize it in a way that allows you guys to make \\
12 & decisions and proof that you guys have done \\
13 & everything the right way. \\
14 & so that's what I think ClearBallot brings to \\
15 & the table that makes us unique. And this was \\
16 & kind of quick. I'll take any questions that you \\
17 & guys have and I look forward to continuing the \\
18 & conversation with you guys and continue this \\
19 & journey.
\end{tabular}

REPRESENTATIVE FLEMING: Bill, we appreciate your presentation. It's Bill, right?

MR. MURPHY: Yes, sir.
REPRESENTATIVE FLEMING: Bill Murphy?
MR. MURPHY: Yes, sir.
REPRESENTATIVE FLEMING: Okay. One question

Page 159
1 another precinct tabulator to make sure that the
lines are moving basically.
Representative fleming: Bill, how long has your system been around? How long has someone been using this system?

MR. MURPHY: We were founded in 2009 and we've been working as a voting system since 2015.

REPRESENTATIVE FLEMING: And I think you said King County, Washington was your largest user at this point?

MR. MURPHY: They're our largest voting-system client and they purchased at the beginning of last year. We also work with Broward County, Florida, which is pending an audit, and the way that they use our system as an audit system is they do a secondary tabulation of every ballot.

So they want this -- it's almost like a ballot census. So they're using our system after the ballots go into their warehouse, then archive these digitally, then they put the paper away so they have to -- to do that.

REPRESENTATIVE FLEMING: I'll look around the table and I'll start taking questions from the panel, and I'll start over here with Jimmy.

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I might start off and you may not have the answer to this, but any idea how much it would cost Georgia to purchase your system for all hundred and fifty-nine counties we've got?

MR. MURPHY: I was told there would be no math.

REPRESENTATIVE FLEMING: I know it's a big question at this stage of the game so I understand if you wouldn't have those figures.

MR. MURPHY: I think that the figures that you guys have been throwing out are probably in the right ballpark. I think it's going to come down to when you guys put your RFP out, you know, what are the types of services that you want, you know, from the vendor to support you or what kind of ancillary systems will be integrated in with the system.

I can tell you as an optical scanning system or a digital scanning system, our footprint in the precinct is probably as small as you can get. We advocate, you know, a one-to-one set-up for our precincts to have the ability to have an accessible machine in precincts under 2,500 registered voters and then, you know, for every registered voter over that many we would add

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Go ahead.
MR. MCDONALD: I want to make sure I understand this right.

REPRESENTATIVE FLEMING: Jimmy, talk into your mic there real good.

MR. MCDONALD: Let me make sure I'm understanding this right. So you have machines that would be part of the processing system that scan and -- so does that mean that the jurisdictions would also have to maintain a paper system as well? Because it seemed like if there was a paper ballot that was being filled out and having to be scanned into the machine and the tabulation and the maintenance paper ballot system would be part of a -- so are there two separate costs here as far as administrating the election, as far as maintaining the machines and the purchase of the machines, still having to maintain paper ballots?

MR. MURPHY: Let me make sure I understand the question correctly. So the answer to your question is yes there's a paper ballot for every voter. And you guys would either print those paper ballots out in the precinct on demand so as the voter comes up you can print the ballot on

Page 163
demand for them or you would preprint those ballots.

MR. MCDONALD: There's a paper component to this.

MR. MURPHY: This is 100 percent paper.
There is an identical paper ballot for every voter that comes through the polling place, yes.

REPRESENTATIVE FLEMING: And sometimes is it necessary for a voter to use multiple pages of paper, I would assume?

MR. MURPHY: It depends on your election.
REPRESENTATIVE FLEMING: Right.
MR. MURPHY: We have worked with up to four-page -- four-card ballots.

REPRESENTATIVE FLEMING: Okay.
As I come around the room, questions? Looking around the room.

Amy, do you have one? Go ahead.
MS. HOWELL: So clarify for me as to the paper process when it comes to access for individuals with disabilities. It's computer-based or ...

MR. MURPHY: Yes. We have a cost-based touchscreen voting system which is based off the Anywhere Ballot, which is a VAC-funded voting
tabulator like they were showing in the video.
They just slide it through.
MS. ROSS: So the voter would slide it through themselves?

MR. MURPHY: Yes.
MS. ROSS: And how long does that take to scan a ballot?

MR. MURPHY: About three to four seconds.
MS. ROSS: Regardless of how long the ballot is?

MR. MURPHY: Yes.
REPRESENTATIVE FLEMING: Nancy?
MS. BOREN: (inaudible)
REPRESENTATIVE FLEMING: Turn your mic on.
MS. BOREN: At the end of the voting day,
would the election workers certify this contest or is that part of the post-election process? So before certification of an election, at what point do you look at the marks to determine undervotes, overvotes, votes that are on the ballot?

MR. MURPHY: It depends on the state's rules. You know, we've worked with jurisdictions that do it differently in different places. We can help you in the transition to figure out what
wizard. It produces an identical paper ballot so in the system you cannot distinguish the ballots that were printed off by the accessible system from the preprinted ballots.

And when they're in the system, they're identical. I think that's -- make sure I've -did that answer your question?

MS. HOWELL: You did. Thank you.
MR. MURPHY: Oh, the other thing I wanted to say too, there's no tabulation done on that accessible voting system. It is just a ballot-marking device.

REPRESENTATIVE FLEMING: You've got about five minutes left so I'm going to continue coming around the table.

Do you have a question right here? Sheila, did you have a question?

MS. ROSS: So when in the process would the ballot be scanned? Is it while the voter is still present or after or it's up to the individual precinct or how does that work?

MR. MURPHY: In the precinct, in the polling location, they would mark their ballot on -- in the voting booth, and then they would scan they would scan the ballot through the precinct
works best. Most people look at the overvotes, but depending on the law on how you decide it, some people -- I know specifically with RLAs (phonetic) it focuses on margin.

So if there are contests with close margins, you know, you could, you know, evaluate and look in the audits of those votes that were not counted or ballots that were not counted as votes to see if there was any uncaptured event.

But it's really more of a decision for the jurisdiction. You know, our job, I think, in this process is to present you guys with the tools to do whatever you need to do in the easiest way possible.

REPRESENTATIVE FLEMING: Continue around the table. Right here. Lynn?

MS. BAILEY: Thank you, Mr. Chair.
Can you tell us in a nutshell how your system works in terms of a recount and the ability to isolate one particular race for a deeper look.

MR. MURPHY: Yeah. Yeah. So that's a great question. I usually tell this example when we talk about recounts because it was a situation -we were working in Colorado. It was a first-time

2 they were using our system for the first time. So there was a lot of firsts in this election for him, and it was at the end of the night. There was about three contests at the local -- you know, small contests that were within a three- or four-vote difference.

And in Colorado, they adjudicated all of their overvotes during the election process, that they do their vote-by-mail and they do early-voting. So they had looked at all of the overvotes that our system pulled up to make sure that they applied to state law. And his first reaction at the end of the night, at two in the morning when he realized that there were these three -- three contests were less full, all of that -- all of those ballots I want to rescan to make sure that we counted everything correctly. I want to -- I was like: That may not be the best idea at two in the morning. Why don't we look at the dashboard first.

And we were able to go through each contest in about ten minutes and look at every vote that we counted, look at every vote that was counted as an overvote that they had adjudicated and

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1 whatever vendor you guys decide to go through

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whatever vendor you guys decide to go through from an infrastructure perspective that the jurisdictions will have to, you know, use to upfit their precinct voting, ballot booths, you know, little ballot booths or one of those things. There's a lot of options out there, but we've got a few that we think are good, both, you know, high cost and, you know, top of the line, and, you know, low-cost versions. So it depends on what you guys prefer.

MS. HOLDEN: Yes, I'm Deirdre Holden, Paulding County election supervisor in Dallas, Georgia. I have two questions. First question is when we were listening to our panels, there was a discussion of when that ballot is put through the tabulator if there is an overvote, does it kick that ballot back out and give that voter the opportunity to correct that?

MR. MURPHY: Yes, ma'am. Yep.
MS. HOLDEN: Second question: Currently with the system that we have in Paulding, I do have ballots -- I will tell you we print all of our ballots. I know that that would not be a reality to have one of those in all precincts for different counties. It wouldn't be for me
classified as an overvote, look at everything that they had changed, and look at every uncaptured ballot where there wasn't a vote for that particular candidate but to look to see if there was anything in there that could be interpreted as intent.

And in about ten minutes, he looked at all three contests and said: I'm going to bed. I'm fine. And when the candidates came in the next day, he showed them the dashboard and they shook hands and they said congratulations because he was able to show them the math behind the tabulation number, and they saw very quickly that there wasn't anything there that they were going to be able overturn with.

REPRESENTATIVE FLEMING: Judge, you look like you have a question.

JUDGE MCCOY: What about ballot-marking stations, booths for voters to actually privately mark these ballots? Is that something that comes with the package, or are we going to have to deal with that issue separately?

MR. MURPHY: No, that's part of the system that we would provide. I think there are probably going to be a lot of things from

\section*{Page 168}
because I know how much I paid for it. There is a setup fee that when we're done with our ballots that we have to pay, but there's also a cost per ballot.

Now, if we go all paper, I have a precinct that has over 15,000 voters. Now, I'm going to have to have 15,000 ballots there, but we know all 15,000 of those people are not going to show up. To me, that is going to be an extra cost burden on the counties to pay for ballots that we're basically going to put in the shredder. So that's a concern that I have. I am a metro county but I still have to think about my sisters and brothers around the state that don't have that extra money to just basically put into a shredder, you know, after the election's over with. That's one of my concerns.

And I don't, you know -- I know all the election people at the table have spoken but I do have concerns with that because my biggest concern, number one, is that that voter does get to walk away knowing that who they voted for counted and it's tabulated correctly, but I also have to look at it on our side of how much this is going to cost us on the county level. So that
\begin{tabular}{|c|c|}
\hline & Page 169 \\
\hline 1 & was one thing. \\
\hline 2 & I guess my question is is there an \\
\hline 3 & additional price per ballot with your company? \\
\hline 4 & Will we have to pay 39 cents per ballot or 45 \\
\hline 5 & cents if it's color? That's what I would like \\
\hline 6 & for you to answer for us. \\
\hline 7 & MR. MURPHY: Yeah. Yeah. That's not an \\
\hline 8 & uncommon concern with folks moving from a DRE to \\
\hline 9 & a paper system. We hear that all the time. Our \\
\hline 10 & ballot-on-demand system we have in, essentially, \\
\hline 11 & two flavors. We have one that would be in a \\
\hline 12 & check-in mode where you're printing off a ballot \\
\hline 13 & as the voter comes up to the registration desk \\
\hline 14 & and is checked in by a poll book that we \\
\hline 15 & integrate with, you know, your poll book of \\
\hline 16 & choice and to make sure that that ballot is of \\
\hline 17 & the correct style. \\
\hline 18 & We also have a more enterprise ballot \\
\hline 19 & management system that would print out Test X \\
\hline 20 & (phonetic), you could print ballots in bulk. So \\
\hline 21 & rather than printing out 15,000 ballots, you \\
\hline 22 & know, for a precinct that has 15,000 registered \\
\hline 23 & voters, you can print out half of that and then \\
\hline 24 & if it gets low you can print out more on demand \\
\hline 25 & for your central location and send it out to that \\
\hline
\end{tabular}

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1 scanner, what will voters see? An example being

George Smith, will it show the voter their vote was for George Smith?

MR. MURPHY: No, not in the precinct. In the precinct, we only notify the voter for overvotes. It's configured along the alerts. We can alert for overvotes. We can alert for undervotes. Most people don't do undervotes. But the accessible voting system would allow the voter on the touchscreen to preview their votes before they print the ballot and inspect the ballot after it's been printed. Once they've put it through the tabulator, it is cast as they've submitted it unless it's an overvote in which case it would kick back and then you could spoil that ballot or they could submit it if they choose to do so.

REPRESENTATIVE FLEMING: Bill, thank you so much.

MR. MURPHY: Thank you for everything.
REPRESENTATIVE FLEMING: Yes?
JUDGE MCCOY: One quick question.
REPRESENTATIVE FLEMING: Judge?
JUDGE MCCOY: Has anything ever been brought to your attention about the South Georgia
in plenty of time. We do not charge per ballot. We just charge a flat software fee for both of those systems and for the hardware, so ...

REPRESENTATIVE FLEMING: Good question. Bill, good presentation.
MR. MURPHY: Thank you, sir. I appreciate that.

MR. MONDS: I have a question.
REPRESENTATIVE FLEMING: Who's that? Oh, okay.

\section*{MR. MONDS: John Monds.}

What will the voter see once their ballot is scanned that shows them that they voted for exactly what shows up in the ballot?

MR. MURPHY: Yeah. So on the precinct --
REPRESENTATIVE FLEMING: Hold on.
John, I'm not sure I heard that question.
Can you repeat it as you understood it, Bill.

MR. MURPHY: Yeah. So you asked what do the voters see --

MR. MONDS: Once --
MR. MURPHY: -- as how our system has tabulated their ballot?

MR. MONDS: Right. Once it's on the
Page 172
humidity and moisture in a ballot and your scanners being able to scan those ballots in high-humidity situations?

MR. MURPHY: I live in Tampa, Florida and grew up in Charlotte, North Carolina so I'm familiar with what you're talking about. We grew up as an audit system in, you know, a kind of vote-by-mail environment. So our system is a lot more tolerant of ballots that may not be perfectly formed or may be a little bit bloated because of the summer weather. So we have not seen any instances of that being an issue.

I think paper -- the paper decision that you make -- you know, we like to tell people that we give you a lot more flexibility on the types of paper you can use in an election, but paper is one of the things that contribute to a factor like that.

So we would work with you guys to make sure that through the testing process, you know, that we're coming up with the best stock that works for your client because we know that it is sometimes challenging.

REPRESENTATIVE FLEMING: Bill, thank you so much. We're going to move on to our next --
\begin{tabular}{|c|c|}
\hline & Page 173 \\
\hline 1 & MR. MURPHY: Thank you very much for the \\
\hline 2 & time. Thank you. \\
\hline 3 & REPRESENTATIVE FLEMING: Thank you. \\
\hline 4 & Unisyn, we're going to give you all time to \\
\hline 5 & get set up, and we'll start the clock when you're \\
\hline 6 & ready to go. \\
\hline 7 & (Pause) \\
\hline 8 & REPRESENTATIVE FLEMING: All right. We're \\
\hline 9 & going to get started now with our next \\
\hline 10 & presentation. This is Unisyn Voting System. Did \\
\hline 11 & I pronounce that right? \\
\hline 12 & MR. WAGNER: Yes, sir. \\
\hline 13 & REPRESENTATIVE FLEMING: I'm going to turn \\
\hline 14 & it over to you and let you introduce yourself. \\
\hline 15 & MR. WAGNER: Very good. Thank you all for \\
\hline 16 & giving us the opportunity to come and visit with \\
\hline 17 & you a little bit today. One of the things that \\
\hline 18 & we want to emphasize is poll-worker setup and how \\
\hline 19 & easy it is for poll workers to use our system. \\
\hline 20 & You saw us wheel in the ballot box, on top of it \\
\hline 21 & our digital scanner. The poll worker is simply \\
\hline 22 & going to plug it in and turn it on. \\
\hline 23 & I am going to do the introductions in a \\
\hline 24 & second, but I want to start with that because, \\
\hline 25 & again, your poll workers are probably like my \\
\hline
\end{tabular}

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the thing I want you to know about that is the components, the tablet, the printer, those are commercial off-the-shelf, what we call COTS. In the event that a voter or poll worker breaks the tablet -- I have not seen that happen, but if they would, we would simply replace the tablet. You don't incur the cost of replacing the entire unit.

Also, because it is tablet technology, we are offering the benefit to your voters with disabilities, with visual disabilities, the screen-reader functionality. What we have found is that braille is not enough, not any more. We're going to show that to you today.

It's just printing out the opening reports. Again, poll worker, they simply plug it in and turn it on, this is the opening report. It gives you the opportunity to print multiple copies. There's a place at the bottom for the poll workers to sign. I would recommend to you to have every poll worker at your precinct sign it. If you have six poll workers -- three Democrats, three Republicans -- everybody should just sign and attest that we're starting at zero. When we walk into the precinct and we're ready to go,

\section*{75}
poll workers. I used to be the director of elections in Jefferson County, Missouri. It's in St. Louis. And one of the things poll workers have always asked me during training, they said: Wes, don't skip any steps. So when I speak to you today, I am not skipping any steps. So when I say the poll worker simply plugs it in and turns it on, that's all they have to do.

Our touchscreen, we call it the FreedomVote. You'll see how it is deployed right now with the legs, a privacy shield. I'm going to have my coworker Mark, he's going to remove the shield so we can all get a look.

To turn this unit on, plug it in, turn it on. Mark, he's already done that. He simply lifted the tablet into its current position. The tablet does have four positions. The vertical position would be most beneficial to voters with disabilities that require a wheelchair, but you can lay the tablet completely flat. The FreedomVote takes approximately 15 seconds to set up. The ballot box is about three minutes because it is a computer.

Our digital scanners are on the Linux platform, 256-bit encryption. Our touchscreen, Page 176
you're looking at less than five minutes to set up.

Okay, so I have with me today -- this is Dustin Vanderburg. Dustin is the vice president of Adkins Election Services. Adkins is a Missouri company. We have customers all through the Midwest. Adkins has been in business for 75 years.

This is my coworker Mark Carter. Mark has just joined our team recently. Mark has had a long career with Democracy Live. So Mark has real expertise with voters with disabilities and UOCAVA voters.

And my name is Wes Wagner. I am the former director of the Washington County clerk from Jefferson County, Missouri. I held that position for 11 years. Prior to that, I served in the Missouri legislature for eight years as the ranking member on the elections committee.

Okay, so let's go a little bit out of order and I want to show you absentee ballots first.

REPRESENTATIVE FLEMING: Oh, hold on a second.

MR. WAGNER: Yes, sir.
REPRESENTATIVE FLEMING: You served in the

1 House or the Senate?

MR. WAGNER: I served in the House.
REPRESENTATIVE FLEMING: Oh, you're a good guy. Go ahead then.

MR. WAGNER: Threw me off track.
REPRESENTATIVE FLEMING: I'm sorry. I was having a timing issue. My bad.

MR. WAGNER: Okay, so what Mark is holding is a typical absentee ballot that you would send to someone who was going to be out of town on vacation. Our system can accommodate an 11-inch ballot, 14-inch, 17-inch, 19-inch, printed front and back. The voter is simply going to take a marker and color a bubble of his or her choice, send it back to the election office. We're going to adjudicate that outvote and make sure that all of the requirements have been met. And the election official in the office is simply going to feed the ballot into the scanner in any orientation. It doesn't matter faceup, facedown, backwards, forwards, doesn't matter. You just have to lay it flat like a dollar bill in a soda machine. And when I do poll-worker training, that's absolutely how I explain it because everyone seems to understand a dollar bill in "busy ballots." In Missouri, we have a lot of constitutional amendments on the ballot. It is the same time as our congressional members and governor and so on.

That little ticket will allow the voters to look immediately to determine where the mistake was made. If this happened at the precinct level, the voter would simply take that ballot, bring it back to the poll workers who would spoil it, put it in a spoiled-ballot envelope, issue the voter a second ballot and therefore get a second chance and comply with federal law. If that voter says: You know what, I really do like Donald Trump and Hillary Clinton, I want to vote for both of them, the whole screen will allow the voter to checkmark the box and accept the ballot. Now what will happen is the votes, the incorrect vote, the overvote will not be counted but the rest of the ballot will. So the voter will not be penalized for the correct selection.

Okay, Mark is holding in his hand the same scenario. This is an overvote and the voter wrote us a note on the ballot. Those of you who have dealt with paper have seen all kinds of

\section*{soda machine.}

You see how quickly Mark is sliding the ballot in. That one's backwards. There's a little green light. You may not be able to see little green light. You may not be able to see
it in the back of the room. The green light says it's ready to have ballots inserted. And it's just that quick.

Okay, then Mark is going to grab this ballot because the other voters sometimes don't follow the instructions, and we have voters that they liked Donald Trump and they liked Hillary Clinton so they voted for both of those candidates, right? And so they colored in the circle for both candidates.

So Mark is going to insert it into the digital scanner. It's going to be rejected and a digital scanner. It's going to be rejected and a
little slip of paper is printed off. That little slip of paper -- if you decide to use a paper ballot at the precinct level, that little piece of paper will indicate to the voter at the time of the casting of the ballot where the mistake is on the ballot. And so that one should say -overvote for sheriff is what that should say and that's what we're showing you.

The reason we think that is important is

\section*{Page 180}
notes I'm guessing. So why did the voter do that? Why did the voter scratch out that candidate and vote for somebody else? Well, because they only received one absentee ballot in the mail. Same process. The ballot's going to be rejected. You know, this scenario, what we would recommend that you to do, you go ahead and staple or paperclip that slip that indicates where the overvote has taken place. You would simply grab a new ballot out of the filing cabinet, if we're talking about in our office, and faithfully duplicate that ballot and slide it through the scanner.

Okay. I want to show you our electronic poll book. This is an iPad. We work with a company called Tenex, T-e-n-e-x, and Mark is going to -- we're going to do a little role-playing here. Okay. Let's show everybody the home screen first. Your poll workers are going to be on this particular screen all day -red, yellow, and green.

Mark, do you want to fold it?
MR. CARTER: Sure (demonstrating).
MR. WAGNER: Then just unfold it.
That's literally all your poll workers have

Page 183
\begin{tabular}{ll}
1 & there in the back, but here's the list of \\
2 & candidates. Mark's going to use his fingers to \\
3 & select the candidate. He didn't like his choice. \\
4 & He wants to vote for somebody else. Our \\
5 & touchscreen will not allow you to vote for \\
6 & someone else until you deselect and then \\
7 & \begin{tabular}{l} 
reselect. The reason I think that's important is \\
8
\end{tabular} \\
9 & because sometimes voters have a tendency to drag \\
10 & their hand down the front of the screen -- I've \\
11 & seen that numerous times -- and they accidentally \\
12 & change their vote as their hand drags to the \\
13 & bottom. \\
14 & couple of arrows that allow you to go forward or \\
15 & backwards. My mom and dad use the arrows at the \\
16 & bottom, but you can also use your finger because \\
17 & it is a tablet to navigate back and forth. \\
18 & Mark's going to go the next screen. He's \\
19 & going to choose someone for, I believe, attorney \\
20 & general. He likes his choice so he goes to the \\
21 & next screen. Either with his finger or with the \\
22 & arrows, he's going to continue to vote. If he \\
23 & doesn't like his choices, he may choose write-in. \\
24 & If you touch write-in, a keyboard comes up. \\
25 & \begin{tabular}{l} 
Mar to enter my name because I know he
\end{tabular} \\
\hline
\end{tabular}
to do. Mark is going to demonstrate that the tablet flips back and forth. There's a reason for that. Because I am a poll worker on this side of the table and when I check you in, we're going to ask for your signature. The screen is going to reorient itself. We're going to flip that iPad to voters on the other side of the table. That's what we're going to show you.

Okay. So Mark the voter, we've asked him for his identification. The poll worker selects the green driver's license scan. It activates the camera on the iPad and the iPad is going to scan the barcode on the driver's license. We, as poll workers, are going to ask that voter if their information is correct. If it is, we're going to get their signature.

Mark, do you want to show them that it's -(Adjusting iPad)
MR. WAGNER: Okay, perfect.
It was upside down for the voter. Now it's correct. The voter has signed and we're going to issue the ballot.

Now, on that particular screen, we're looking at name, address, party affiliation if you want that on there, date of birth or just the candidates. Mark's going to use his fingers to select the candidate. He didn't like his choice. He wants to vote for somebody else. Our touchscreen will not allow you to vote for someone else until you deselect and then reselect. The reason I think that's important is because sometimes voters have a tendency to drag their hand down the front of the screen -- I've seen that numerous times -- and they accidentally change their vote as their hand drags to the bottom.

At the very bottom of the screen, there's a couple of arrows that allow you to go forward or backwards. My mom and dad use the arrows at the bottom, but you can also use your finger because it is a tablet to navigate back and forth.

Mark's going to go the next screen. He's going to choose someone for, I believe, attorney general. He likes his choice so he goes to the next screen. Either with his finger or with the arrows, he's going to continue to vote. If he doesn't like his choices, he may choose write-in. Mark's going to enter my name because I know he
year of birth, voter ID number, all the information is customizable.

So Mark's going to complete the check-in process. And you may not be able to see but there's a little printer in there. The printer has printed out an authorization-to-vote slip that has a \(Q R\) code. That \(Q R\) code does not have your social security number, no birthdates, no name, no addresses. It's simply your ballot style. We are going to use this \(Q R\) code to turn on our touchscreen. This is how most voters in Georgia are going to vote.

So, Mark, do you want to hold it under the left corner just under the green light.

Now, that barcode that Mark had in his hand, that is no longer any good. I would recommend to you, as a former election official, keep all of those barcodes. You want to keep those for auditing and reconciliation purposes. But if for some reason you didn't keep that and a voter left and threw it on the sidewalk, that particular barcode is no longer usable.

Okay, on the first screen, Mark, press start.

Yeah, I know it's a little difficult to see
Page 184
wants to vote for me. No, he doesn't want to vote for me. He's continuing his -- okay.

This particular screen, here's an example of what happens if 30 people sign up for congress, not all of their names are going to fit on the screen. Our system that we are offering, even if you vote for the first -- this is a vote for three for city council. Even if you vote for the first three, our system will not allow you to navigate to the next race. Our system protects the voter and protects the candidates. Our system forces you to recognize that there were candidates to be seen at the bottom.

So, again, even if you've selected the candidate at the top, we don't want you to move on until you've seen everybody. I always use an example of a newspaper. You may not want to read the comics but we force you to pass through the comics to get to the sports section.

Okay. So Mark is happy with his selections. He is on a constitutional amendment. All we want you to recognize there is that there's more text and we want that voter to recognize that there's more text at the bottom of the screen. Once he's reached the end of his ballot, he's going to
\begin{tabular}{|cl}
\hline 1 & choose "done" at the bottom. Here is the review \\
2 & screen. He is reviewing all of his selections. \\
3 & If he's not happy with any of those at any time, \\
4 & he can touch any one of those races and he comes \\
5 & right back to that race, but he can change his \\
6 & mind. So you can change your mind a million \\
7 & times. Any change that you make is going to be \\
8 & in blue. So it's a way for a voter to keep track \\
9 & of any changes. \\
10 & Mark, will you do an undervote for me, \\
11 & MR. CARTER: Sure. \\
12 & anyone. Any time you see red, red is a courtesy \\
13 & to you, saying you didn't make a selection for \\
14 & sheriff. Obviously, our system does not require \\
15 & you to vote in every race. If you just want to \\
16 & come in and vote for governor or vote for \\
17 & president, that's fine. We've made you review \\
18 & "print" and here comes your review ballot right \\
19 & all of your choices and that's the sizzle to our \\
20 & steak, which is on the system that you have now, \\
21 & your voters are going to touch the word "cast," \\
22 & they get in the car, they drive home. Our \\
23 & system, we're going to have you touch the word
\end{tabular}

Page 187
\begin{tabular}{ll}
1 & Okay, Dustin, can I use you? \\
2 & One of the things our company is very proud \\
3 & of is our working relationship with the \\
4 & disability community. And so the voter -- let's \\
5 & say the voter comes in and it's obvious that the \\
6 & voter's going to need to use the screen-reader \\
7 & functionality. That ability can be given to the \\
8 & voter at the time of check-in with the electronic \\
9 & poll book. With that little slip that's printed \\
10 & from the electronic poll book what would happen \\
11 & is when you scan it, it will turn on a \\
12 & touchscreen. And right now we did not make the \\
13 & screen go black, but it will (demonstrating). \\
14 & \begin{tabular}{l} 
There we go. \\
15
\end{tabular}\(\quad\)\begin{tabular}{l} 
(Recording played) \\
16
\end{tabular} \\
17 & is how the voters with visual disabilities are \\
18 & using their iPads and their own lives. We \\
19 & incorporate that technology as part of our \\
20 & system. We are very proud of that. \\
21 & There is nothing to do on the FreedomVote. This \\
22 & day is over, and we're ready to close our \\
23 & equipment, we're ready to go home, I've been a \\
24 & poll worker for 15 hours, I'm going to go home. \\
25 & The election is over. Election
\end{tabular}

1 ballots in on election night? Do you want to 2 leave them in the box and have the election 3 commissioners break the seals? We're very flexible in what we're offering.

Okay, so election night, we reported -- or a hundred percent reported and now it's Wednesday, Thursday, and we're doing our post-election audits. I know you all dealt with a -- or are becoming comfortable with a term called "risk-limited audits." If y'all don't know what that means, please find out because it's so critical to what we're doing here.

I'm a voter who -- I put my ballot into the ballot box. How do I know this thing counted my vote correctly? I'm going to show you how. Dustin has a little mini scan on the table set up. Yes, we do offer a central scan for big counties like Fulton, but we offer a mini scan which may be a more economical choice for smaller counties. Lunch is over, the results are on a thumb drive.

Do you want to do that, Mark?
MR. CARTER: Sure.
MR. WAGNER: Mark is simply going to lift the screen out of the way. He's going to use a

Page 191
1 choose a city. Now, our software is asking you how many ballots do you want to look at from the city. You can look at them all. You can look at a small percentage. Dustin's going to choose 50 percent. He's going to select right there (demonstrating). Perfect.

Okay, so you'll notice in blue that word says "unprocessed," right there at the top. It says unprocessed. Dustin's going to choose the first one. On the left side of the screen is the ballot. On the right side of the screen is how our software interpreted your selections. They'd better match, right? So in this scenario, we voted for Dwight Eisenhower for president, right there (indicating), and at the very top, Eisenhower is reflected. That is your risk-limited audit.

Dustin, want to do another one? Another --
MR. VANDERBURG: Okay.
MR. WAGNER: -- next process. No
selections, look at that (indicating). No circles were colored in for any voters so no selections were reflected. You may see a yellow color that's reflecting a write-in vote. This is a way to quickly and accurately ensure that the
barrel key. There's a security seal that he's already broken. He will remove the lid. There's a thumb drive, 256-bit encryption. That thumb drive will come back to the office on election night where it's downloaded into a laptop not networked. The thumb drive itself takes approximately three seconds to download the results. You can't make a mistake and download the results twice, okay?

So now the election is over and we have all of the thumb drives in our office, all of the thumb drives have been downloaded to a laptop. The thumb drives contain digital images. Every time you put a ballot through the ballot box, a picture is taken of your ballot and we don't know it's yours. It's all anonymous, but a picture is taken.

In the post-election auditing process, we call an auditor -- so Dustin's going to be my -my driver. I would recommend to you, as a former election official, that you have a Democrat and a Republican sitting here in front of the monitor. Our software's going to ask you what precinct do you want. So Dustin and his bipartisan coworker are going to choose a precinct. He's going to

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voting system juju has integrity, that the results are fair and square.

If I can take five seconds and get on my soapbox, elections are not about winners.
Elections are about losers. They are. That's what makes our country the best country in the world because the losers always accept the results. It's not about the winners; it's about the losers.

Okay, Dustin's going to show you the adjudicator feature, something we're very proud of. I want to show you a couple of things. Let's talk about UOCAVA ballots. For the people in the audience, I'm talking about military, overseas citizens. When they send their ballots back to us, it's usually on copy paper. That's how we get it. We, as election officials, are forced to pull it out of the filing cabinet, get a marker and color in the circles.

What if I showed you a way that you can eliminate human intervention and do it all electronically? UOCAVA ballot comes back, we scan it through our scanner. Just like the process I showed you before, Dustin is going to open up this ballot. There's the ballot
\begin{tabular}{|c|c|c|c|}
\hline & Page 193 & & Page 194 \\
\hline 1 & (indicating). At the top in red -- I know you & 1 & is accurately reflected electronically. Those \\
\hline 2 & can't see it, but at the top it says: Can't & 2 & results are dumped into the system, a report -- a \\
\hline 3 & verify that this is a ballot. It doesn't know if & 3 & breadcrumb report is printed out that you can \\
\hline 4 & it's my kid's artwork from school, doesn't know & 4 & simply staple and attach to the original UOCAVA \\
\hline 5 & if it's a newspaper article. Just knows it's a & 5 & ballot for accounting purposes. That was just \\
\hline 6 & piece of paper. & 6 & used -- this process that I described was just \\
\hline 7 & So what we're offering to you is the ability & 7 & used in the Kansas gubernatorial primary two \\
\hline 8 & to recognize that's a UOCAVA ballot. Over on the & 8 & weeks ago. \\
\hline 9 & right our software asked you to pick a precinct. & 9 & Representative fleming: Wes, I know we've \\
\hline 10 & Dustin's going to do that. Then he's going to & 10 & got a little less than five minutes left for you \\
\hline 11 & choose what ballot style is appropriate for that & 11 & so I don't want to interrupt you, but I do want \\
\hline 12 & UOCAVA voter. And he's simply going to & 12 & to give you the option to save time for questions \\
\hline 13 & adjudicate this ballot with his bipartisan & 13 & if you like, okay? \\
\hline 14 & teammate, right? This person wanted to vote for & 14 & MR. WAGNER: And feel free to jump in. \\
\hline 15 & Abraham Lincoln for president. You'll see the & 15 & We're here for this, so \\
\hline 16 & dialogue box that comes up. He wanted to vote & 16 & Representative fleming: Let's do it at this \\
\hline 17 & for -- is that Senator Barry Fleming or Peggy & 17 & time -- \\
\hline 18 & Fleming for attorney general. I think it's & 18 & MR. WAGNER: Absolutely. \\
\hline 19 & Peggy. & 19 & REPRESENTATIVE FLEMING: -- if that's okay. \\
\hline 20 & REPRESENTATIVE FLEMING: You were doing good & 20 & Questions from members of the panel. I'll start \\
\hline 21 & there for a while. & 21 & with one and I asked the same one earlier. Do \\
\hline 22 & MR. WAGNER: (indiscernible) & 22 & you know -- and if you don't, I understand. Do \\
\hline 23 & Dustin adjudicated the vote for Peggy & 23 & you know how much it would cost the state of \\
\hline 24 & Fleming for attorney general. Now that voter's & 24 & Georgia to implement your system in all hundred \\
\hline 25 & right there in the corner. That voter's intent & 25 & and fifty-nine counties? Any estimate? \\
\hline & Page 195 & & Page 196 \\
\hline 1 & MR. WAGNER: I hate people that don't answer & 1 & polling places, small. \\
\hline 2 & questions. I mean, again, I think the first & 2 & Representative fleming: Small. And the \\
\hline 3 & presenter was accurate. It just depends on your & 3 & other one may be an absentee ballot? I don't \\
\hline 4 & RFP. & 4 & think I understood. \\
\hline 5 & Representative fleming: Okay. & 5 & MR. WAGNER: We just wanted to show you that \\
\hline 6 & MR. WAGNER: If you all decide that counties & 6 & the FreedomVote ballot and the absentee ballot \\
\hline 7 & in excess of a certain number of voters should & 7 & both can go through the same scanner. \\
\hline 8 & have a big central scan -- & 8 & Representative fleming: Same scanner, \\
\hline 9 & REPRESENTATIVE FLEMING: Right. & 9 & gotcha. \\
\hline 10 & MR. WAGNER: -- that may be a different & 10 & Questions as I go along. I'm going to start \\
\hline 11 & price point than if you say counties with, say, & 1 & on this side this time. \\
\hline 12 & less than 10,000 buy a smaller -- mini scan is & 12 & Sara, were you about to raise your hand? Go \\
\hline 13 & what we call it. & 13 & ahead, Sara. \\
\hline 14 & REPRESENTATIVE FLEMING: Sure. & 14 & MS. GHAzAL: So you showed us how the \\
\hline 15 & MR. WAGNER: You're going to decide what & 15 & absentee ballots are audited. Do you also have a \\
\hline 16 & kind of service you want from our company. Our & 16 & demonstration of how a live in-person vote would \\
\hline 17 & company prides itself on election-day support. & 17 & be audited? \\
\hline 18 & That's a big service we provide. & 18 & MR. WAGNER: Yeah. Maybe I wasn't clear \\
\hline 19 & REPRESENTATIVE FLEMING: One other quick & 19 & earlier on your question. If a ballot at the \\
\hline 20 & question. The machine printed out a small piece & 20 & precinct, at the time of insertion, if you wanted \\
\hline 21 & of paper. You also had a bigger piece of paper, & 21 & it to, on your screen it will show you your \\
\hline 22 & we could see that. Which is going to be the & 22 & ballot that's being inserted. It will hold your \\
\hline 23 & printout from the machine, bigger or smaller? & 23 & ballot in suspension until you say accept or \\
\hline 24 & MR. WAGNER: So the FreedomVote ballot is & 24 & reject. If you look at that screen and say: \\
\hline 25 & what your voters are going to experience at the & 25 & Boy, I really didn't want to vote for that \\
\hline
\end{tabular}

1 candidate, you could hit "reject," and the ballot will come out. Take it back to the poll worker and get a new opportunity.

MS. GHAZAL: But during the risk-limiting audit, how would that work?

MR. WAGNER: So during the risk-limiting audit the thing you have to remember, every ballot whether it's absentee, early, election day -- when I say every, I mean every -- every ballot is going to go through a digital scanner. Every ballot has a digital image captured. Every ballot can appear as part of the risk-limited audit, that process. You can visually inspect every ballot.

REPRESENTATIVE FLEMING: Judge, do you have a question?

JUDGE MCCOY: Obviously, we'll need more than one poll book in a precinct. How do they sync or how do you know that somebody's already voted? Somebody comes through and then goes and gets back in line to another poll worker and tries to vote again. How do those sync?

MR. WAGNER: That's a great question. So the iPads have what they call bluetooth. Bluetooth is about distance. They talk to each
per -- voting booth I'm calling that, I guess?
MR. WES: So every precinct is going to have one scanner, right? You could have a hundred of these, a thousand of these at a location. If you do what we call "full ballot review," that's what you're -- sure, you could have people standing there, you know, they're looking at their ballot. Sure, that could happen.

SENATOR STRICKLAND: So you don't have situations where you have to have more than one scanner per precinct?

MR. WAGNER: Only if you wanted more than one.

REPRESENTATIVE FLEMING: Nancy, did you have a question?

MS. BOREN: How would your iPad --
REPRESENTATIVE FLEMING: Turn your microphone on.

MS. BOREN: How is your iPad populated with the data?

MR. WAGNER: Through your VR system in your office.

MS. BOREN: But is it connected?
MR. WAGNER: It will be when we download the information initially.
other if they're close by. Obviously, you're going to have at least two, maybe three iPads in a polling location. The idea that a husband and wife come in to vote, wife can check-in with this one, I'm helping the husband. They are talking through a bluetooth. So that's not Internet. Just so we're clear, that is not the Internet, but they are talking through a bluetooth. When the husband checks in with me, his name will show up as checked in here.

Now, Missouri, our rules allow communication between this iPad and central office. So during my time, I could sit at my desk and the newspaper would call and I could tell them accurately how many people had voted in a particular
jurisdiction. I can see, you know, the husband and wife had checked in.

Representative fleming: Sara, did you have a quick follow-up? You don't? Okay.

Senator?
SENATOR STRICKLAND: How many scanners do you have per voting booth because it looks like it'd take -- it could take a little bit longer to scan and actually review your ballot at the time. How many of those scanners do you have to have

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MS. BOREN: Right, but on election day?
MR. WAGNER: Again, up to you. Missouri, we were allowed that connection. I'm not trying to twist your arm one way or the other. I found it beneficial for me to have inquiries and for trying to -- I'm sorry, go ahead. I'm just saying we're trying to really kind of prevent the potential voter fraud from somebody going from poll to poll if you want this frozen out. If they voted at the school, you don't want them showing up at the church and try to vote.

REPRESENTATIVE FLEMING: Dr. Lee?
DR. LEE: So this is more like a usability question. So the small printout that you print out from the tablet machine, have you done any user study to see how likely the user is bothering to actually verifying because they come to the section --

MR. WAGNER: You're asking me how long it would take a voter --

DR. LEE: No. Have you done a study to find out how likely a user is actually verifying and then scanning because it's very different from hand-marked where you have voters really carefully commit, whereas you're using digital

1 devices to make such an event and print it out,
devices to make such an event and print
how likely is a user actually verifying?
MR. WAGNER: I am from the "Show-Me" state.
DR. LEE: Yeah.
MR. WAGNER: Voters, they want to know that their vote is accurately reflected on the equipment. So, yes, I see them. Yeah, they stand there and they look at it. That's a good thing.

DR. LEE: No. No. I'm not asking -- I'm not asking what you believe. I'm asking whether you've done a user study.

MR. WAGNER: Oh, no, we have not.
DR. LEE: Thank you. And also, because you actually secure the ballots in, you know, the physical device, right --

MR. WAGNER: Right.
DR. LEE: And then if you want to have the option that supplies a digital image sometimes people say I don't want to be hampered, manually check their ballots. Again, so similarly user study, right? So these small pieces of paper, how easy do people find to go through those?

MR. WAGNER: Well, it may a little tangent but the part that I like is --
you're showing us today?
MR. WAGNER: Yeah, we have approximately A hundred and sixty accounts in Missouri and Kansas and Iowa.

REPRESENTATIVE FLEMING: Any statewide?
MR. WAGNER: We do not have statewide.
REPRESENTATIVE FLEMING: Okay.
Yes, Cynthia? Quick question?
MS. WELCH: I have two questions as it relates to the poll book. The first one is on direct -- we talked earlier about directing voters to the correct precinct and making sure that they're not disenfranchised. Will the poll book allow us to tell people which precinct they are to vote in?

MR. WAGNER: Yes.
MS. WELCH: Without it being connected to the Internet?

MR. WAGNER: Yes. So I am at the wrong place. I should be at the church, okay? So you scan my driver's license, wrong location. So it's going to direct me to the right location. In Missouri, where it's really nice, we get that redirect. If you do have an Internet connection, you have Google maps, you can text the driving

DR. LEE: Right.
MR. WAGNER: -- that we can security-seal the ballot, the ones that are cast on election day or early or absentee. No human being can get to those because they're security sealed. If we end up in a recount in front of a judge, we can honestly say when we raise our hand: Judge, no one's tampered with these ballots since election night.

I use this example all the time. It's like when you go to the doctor, the doctor might take an x-ray of your arm before he uses a scalpel to open you up. We're giving you an x-ray through our auditing software of what's inside that ballot box so a human being doesn't actually have to touch it. And I hope I answered it. I get your point.

REPRESENTATIVE FLEMING: Wes, what state is in your user system? What state is in your user system?

MR. WAGNER: All through the Midwest: Missouri, Iowa, Kansas. We have --

REPRESENTATIVE FLEMING: Several. Okay.
MR. WAGNER: Arizona.
REPRESENTATIVE FLEMING: This system that
directions over to the church. There's some bells and whistles in that, but I would encourage you baby steps first.

Representative fleming: you had one last follow-up, Cynthia?

MS. WELCH: Yes, and this is real quick.
Can -- on the ballot marker, is that the largest screen tablet that we could connect to that system, or ...

MR. WAGNER: Yes.
MS. WELCH: Okay, thank you.
MR. WAGNER: We could increase the font, just so you know that, on the screen.

REPRESENTATIVE FLEMING: Amy?
MS. HOWELL: Quick question on the printout for individuals. Does that -- is there a way to enlarge the font on those, the individual verification?

MR. VANDERBURG: Yes.
REPRESENTATIVE FLEMING: Wes, a good presentation. Thank you so much. I appreciate you being here.
(Applause)
MR. MONDS: Representative Fleming? I'm sorry.
1 successful.
\begin{tabular}{|c|c|}
\hline & Page 205 \\
\hline 1 & REPRESENTATIVE FLEMING: John, you're going \\
\hline 2 & to make me run over. You know I'm going to \\
\hline 3 & charge you for this, right? All right, quick \\
\hline 4 & question, John. \\
\hline 5 & MR. MONDS: We're in the process of saying \\
\hline 6 & that you're selected sometime in 2019 or \\
\hline 7 & whatever. How long would it take to implement \\
\hline 8 & the system throughout the state? \\
\hline 9 & MR. WAGNER: I suspect it's true for all of \\
\hline 10 & the vendors. We're already all making \\
\hline 11 & preparations now. \\
\hline 12 & REPRESENTATIVE FLEMING: Good question. \\
\hline 13 & Thank you, John. \\
\hline 14 & Wes, thank you very much. \\
\hline 15 & Our next presentation, as they pack up, will \\
\hline 16 & be Smartmatic. And we'll let these good folks \\
\hline 17 & break down and we'll get our next set up and get \\
\hline 18 & started. \\
\hline 19 & (pause) \\
\hline 20 & Representative fleming: All right. We're \\
\hline 21 & going to go ahead and get started with our next \\
\hline 22 & presentation. This is Smartmatic. \\
\hline 23 & And I'm going to turn it over to you and ask \\
\hline 24 & you to introduce yourself. \\
\hline 25 & MR. Shelly: Sure. Sure. My name is Kevin \\
\hline
\end{tabular}

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to make me run over. You know I'm going to charge you for this, right? All right, quick

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REPRESENTATIVE FLEMING: Good question.

Wes, thank you very much.
Our next presentation, as they pack up, will be Smartmatic. And we'll let these good folks break down and we'll get our next set up and get
(pause)
REPRESENTATIVE FLEMING: All right. We're going to go ahead and get started with our next presentation. This is Smartmatic.

And I'm going to turn it over to you and ask

MR. SHELLY: Sure. Sure. My name is Kevin

So this is just a sample of some of our clients. I mentioned LA County. This was awarded to us in June of this year. LA County has 5.5 million voters. It's larger than 40 of the states in our nation. It's a very, very big opportunity for us. In Belgium, we are in the midst of a 15-year contract to run their elections. In the Philippines, we have a history of supporting their elections, and I've got a video that I will show you that kind of depicts everything that we did to support our customer. And it's not to say that we'll face some of those challenges here in Georgia, but I think it does show what we do to support our clients in their requirements. And of course, we've got a legacy of supporting elections in the United States.

So let's go to the video.
(Technical difficulties)
MR. SHELLY: We can run elections but we can't run a video. It's right there. So it's not going to ...

All right. So we don't have sound so I'll ad lib.

Literally, we deploy voting equipment to

Shelly. I'm with Smartmatic. First off, I want to thank the state of Georgia, secretary of state's office, and the SAFE Commission for giving us this opportunity to meet with you today.

What I'm going to do is I'm going to tell you a little bit about the company Smartmatic, then I'll turn it over to my colleagues: Ed Smith who is our director of services and James Long. James is the project director for a recent contract with LA County which is the largest county in the United States.

So Smartmatic, we are a global company. I don't know if you can see it, but the light blue depicts where we have offices. The darker text is where we have supported elections. We have supported elections on five continents. We are the largest elections company in the world.

So to look at some of the numbers, clearly from all of the work we've done, we've supported 3.7 billion ballots cast. The elections that we have supported, 62,000 candidates have been elected. In of all this activity and this history, we have not ever been breached, no vote was ever changed, it's always been very
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7,000 islands. We use motorcycles to get the equipment over there, and I think in some of the slides from before, we actually used donkeys. But what we did for the customer was just --

REPRESENTATIVE FLEMING: Do you use elephants too?

MR. SHELLY: I don't know --
REPRESENTATIVE FLEMING: (indiscernible) --
MR. SHELLY: That's --
REPRESENTATIVE FLEMING: That was going to (indiscernible).

MR. SHELLY: That might be a best practice next time because they're probably more effective than donkeys. But, again, you know, I think there's 55 million voters, \(62,000--55,000\) candidates. So it was just an enormous undertaking and here are the numbers.
(Video image projected)
MR. SHELLY: Okay, at this point, I will turn it over to Ed Smith, the director of United States services.

MR. SMITH: Thank you, Kevin.
Once again my name is Ed Smith. I'm director of US global services. Today we're bringing to you a voting system that has four

1 pieces of hardware. We're starting with an 2 electronic poll book, the VIU-800 which serves as 3 a statewide electronic poll book. It also serves to activate voter cards in the polling place.

And once a voter is credentialed, you can scan their voter ID in an integrated scanner and make out this smart card with this encrypted information.

They'll walk that over to an A-4 series ballot-marking device. We have deployed 5,000 of these in Belgium. It's a tried-and-true ballot-marking device. As you can see, it's very self-contained. It's lightweight. And we'll offer it here in the state of Georgia with a cut-and-drop feed path on the right-hand side and, where needed, accessibility pieces on the left-hand side. And the voter will touch the screen, they will make their selections, review their selections, and then they can review and verify their selections on the voter-verified paper audit trail. We'll talk about that a little bit more in a moment.

If the state so chooses to go with paper ballots, we do offer both precinct scan and central count scan. This is our precinct

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population of your county and state websites.
To that we have added Election-360. And Election-360 offers both the opportunity to examine your election on election day in real time and understand things like polling-place wait times, if machines are down and in need of repair and provide help-desk support and in post-election audit and forensics. Lastly online ballot delivery provides a portal for the voter to \(\log\) in, get their ballots printed, and turn it back in via mail or by hand. The state rules allow they are a printed ballot.

So that is the system we are bringing to you today. As we advance, we'll look in a little bit more detail.

First off, let's talk about security because it's on everybody's minds, right? We have the only system that you're going to see here today that from its inception was built to comply with VVSG 1.1. You might ask: Well, what's VVSG 1.1? So there were the original voting system standards promulgated by the Federal Election Commission in 1990. Those were updated in 2002 and then when the EAC came along, also in 2002, they wrote VVSG 1.0 . And that was written in
 of 
11
scanner, the 1800 Plus. We have over 92,000 of these deployed in the Philippines, and as you saw with some of the competitive offerings, the voter will mark in private a paper ballot, put that in the slot, and use the screen to review the selections. And the nice, large, red and green buttons to either cast their ballot or bring it back to correct any errors.

All of this hardware is underlaying and supported by our election management platform. And the election management platform is comprised of five pieces that run seamlessly as one piece of software.

The first is the election configuration system and it's, along with the results management system, comprised of what you traditionally think of as an election management system where the election configuration system is doing ballot layouts, ballot proofing, and machine programming, and the results management system is doing the results aggregation and reporting. But we've added to that three additional components.

The first is election-night reporting which offers a finer grain reporting facility and also

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2005. Keep that in mind, 2005. They updated those to VVSG 1.1 which are the current operative standards in 2015.

Now, do you think that the threat environment to the voting system has changed since 2005? Yes, indeed, it has. And so there's a huge advantage to the state by selecting a system that has started its development against these newer standards with their higher requirements for security and their higher requirements for accessibility. And we're the only folks with that.

We recognize because of our worldwide deployments, as Mr. Shelly pointed out earlier, some very unusual threats here. We can only say the parties don't necessarily trust each other, political parties, but in other countries that's certainly taken to a different level. And threats like voter coercion and stuff exists that have forced us to take a deeper and more comprehensive look at security than perhaps other systems that you'll see.

And we recognize that it's a combination of people, processes, technology, communication, governmental policy, all of those things come

1 together to create security in addition to the 2 higher degree of inherent security in these devices.

So we're bringing forth today -- and it's a pleasure to coming before you -- in particular this A4 ballot-marking devices. So speaking today just briefly, it is a device -- once again, we've deployed 5,000 of these in Belgium. It is for in-person both early and election day.

I know on your request for information this would be Voting Method 2. And when you have ballot-marking devices as the sole option for people who are voting, you get a number of advantages. One is a uniform early and election-day voting experience. It's also a uniform poll worker experience so it will minimize your poll worker training. It also minimizes and aides your voter education and outreach.

If, for instance, different counties are voting on different technologies or you have different machines, when voters come from outside the Metropolitan Atlanta area, downtown Atlanta, to work, they see machines on billboards and it may not be the same machine they're trying to

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it from the human readable just as a person verified. We're not tabulating from barcodes.

So once again, the same as Georgia voters are doing now, they come and they get credentialed, they activate the unit and make their selections. Ultimately, they print the VPAT tape, review that, and cast their ballot. But it's a much better technology, a much better graphics, user experience, more modern, certainly more secure.

So with that, I'll turn it over to my colleague James Long.

MR. LONG: Again, I'm James Long. Some people may recognize me. I used to work here in Georgia quite some time ago. I've made it around the country and now I'm back here.

So what I want to talk to you about is our effort the past couple of years has been to basically bridge the gap between accessibility and security. You hear that a lot at the federal level. I spent a good amount of time at the federal level and it really was the conversation that we engaged in the most: when you have accessibility or you have security. And so what I've been working on for the past two years is
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verified. We're not tabulating from barcodes.
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accessibility or you have security. And so what
I've been working on for the past two years is
vote on back home and that creates confusion.
So uniform system, uniform machine allows for some serious education advantages. It also allows for uniform equipment maintenance, spare parts and supply chain that are all the same. All of your technicians across the state are trained to deal with one and only one of the same device. So there's certain advantages there as well.

You don't need ballot on demand. These units store all of the ballot styles for a given election. So as envisioned by the request for information, voters from any part of the county can go to any vote center and vote early regardless of if that vote center's across the county or their nearest vote center because all of the styles are contained inside the units.

We do not tabulate from barcodes. It's a sensitive subject. It's come up. I'm on Twitter. I see it every day. You probably do too. So we are taking the human and readable part of the VVPAT, the tape that comes down, and once a person accepts it, it's cut off and dropped in a bag. And we are doing optical character recognition on that tape and tabulating

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basically to bridge that gap and to bridge that gap with this solution.

So let's start first with the election management platform as mentioned. This is a centralized platform. By centralized, I don't want you to get the impression that this all networked and, you know, on the Internet. What we mean by centralizing, that each of these proponents, all five of them, were developed at the same time, using the same user interface and the same user experience.

So across the whole platform as you interact with these different systems, you'll get the same experience. Nothing is bolted onto the system or an add-on. It was all developed from the ground up to meet the growing security concerns and accessibility concerns of the community.

This is collaborative software as well, meaning that within the election configuration system this is where you put in your candidates and all of that information. You can have several client relationships over your larger counties where there's a lot about ballot-proofing or a lot of machines that you can create. You can have several clients to create
\begin{tabular}{|c|c|}
\hline & Page 217 \\
\hline 1 & these machines from an open format like \\
\hline 2 & ballot-proofing format. That's streamlining the \\
\hline 3 & process, making it quicker. \\
\hline 4 & So let me show you two things real quick on \\
\hline 5 & the election platform. First thing I want to \\
\hline 6 & show you -- this may be more of interest to, you \\
\hline 7 & know, the secretary of state's office -- we \\
\hline 8 & understand that you create all of your ballots \\
\hline 9 & centrally. These ballots are created, you know, \\
\hline 10 & at the secretary of state's office and \\
\hline 11 & distributed down to the election jurisdiction for \\
\hline 12 & deployment on the machines. \\
\hline 13 & So right now you currently use a system \\
\hline 14 & which requires you to create a database for each \\
\hline 15 & jurisdiction copy and you have to copy to the new \\
\hline 16 & jurisdiction or you have to -- so you have to \\
\hline 17 & copy for a new election or you have to put all of \\
\hline 18 & this information in again, and this can introduce \\
\hline 19 & state integrity issues, et cetera, et cetera. \\
\hline 20 & Our system allows you to add every \\
\hline 21 & jurisdiction to a single platform. You can \\
\hline 22 & manage those jurisdictions, you can share \\
\hline 23 & information between those jurisdictions, and \\
\hline 24 & centrally for contests, you just put the \\
\hline 25 & candidates in once from election to election. \\
\hline
\end{tabular} up for more design help or accepted. All that's locked over here.

So let's talk about what's in a precinct because this is what the voter receives. This is their interaction. As Ed indicated, we have this electronic poll book system. It's designed in a way to be extremely lightweight and it's arranged to have two different sides.

The first side is basically your poll-worker side, and then we call this the voter side. So this is configurable to whatever that jurisdiction needs. If they require signatures, a signature pad can be added here. If they require authorization to vote, like in Ohio, you can print out a receipt so that they can take that to the polling station to get their ballot and continue the process.

This is very modular so you can put whatever you want on the backside to meet your individual jurisdiction's needs. This one's configured to work with a card given to a voter so that is what this looks like. So this is the voter confirmation card. It goes inside so it works just like any other poll book. You select a

You don't have to insert the information again for your districts, you just create a new election. It loads all of the previous data, for your jurisdictions and precincts are laid out, all of that information. And you can modify the information of course from election to election, polling centers, et cetera. But this allows you to manage it more centrally.

So I mentioned ballot-proofing. The screen is a little whited-out here, but what you'll see here is an interactive view of the ballot. So what you can do here is you can check out some ballot styles because, as I said, this is collaborative. You can check out the ones you want for review.

You can perform that review by adding comments anywhere you want to on the ballot. It will also identify any errors that the machine itself has identified, saying there's probably one issue here, like this ballot where you have a contests rolling over different pages and into the margin. You can correct those issues right here (indicating). All of your actions that each user does -- each user has a log-in, so there's no one log-on for everyone. Their actions are

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candidate, you get your card, you give it to the voter.

So let's walk through a few screens here. So these are the kind of screens that you should be seeing right here. So you insert your card.

\section*{Move to the next slide.}

Here are some options that you can add.
These are configurable, what you want to be able to initialize for the voter before they get to the polling station. The idea here is to let the voter be as independent as they're capable of being.

So you can to go ahead and pass up these options to the machines. It's audio voting, but they need to connect their own sip-and-puff device. And the instructions will change on the screen based on these options as well. So the user is given a just generic list of instructions of how to interact with the machines. It's audio. All the instructions are on the different audio, et cetera, et cetera.

So once you've created the card, you'll give this card to the voter, and they'll come to this machine here. What you see is what we idealize here for George. This is a -- basically, it's a
\begin{tabular}{|cl}
\hline 1 & digital interface with a cut-and-drop, \\
2 & voter-verified, paper-ready, so what you'll see \\
3 & to the right. All the accessibility controls are \\
4 & on the left. \\
5 & And so the voter, just like they do right \\
6 & now, will insert the voter card. One difference \\
7 & here is that they can insert this card any \\
8 & direction they wish. It will activate the \\
9 & system. \\
10 & card. We his is the screen. We'll insert the offered many different languages. \\
11 & I believe that only Gwinnett County has an \\
12 & alternative language requirement here, which I \\
13 & believe is Spanish, so Spanish can be added in \\
14 & here. No problem. \\
15 & We go to the voting experience. One thing I \\
16 & want to point out is -- oh, here it is. I want \\
17 & to talk to you real quick about this voting \\
18 & experience. This is where we've vested a \\
19 & accessibility, should that be your disability, \\
20 & tremendous amount of time. So this is laid out \\
21 & intentionally into basically three zones. We \\
22 & have the top zone here (indicating) which is \\
23 & where all of your help, accessibility, and
\end{tabular}

Page 223
\begin{tabular}{|c|c|}
\hline 1 & we have included this feedback in this. \\
\hline 2 & So we've worked with disability experts \\
\hline 3 & across the country and Princeton University as \\
\hline 4 & well to find a better way to address the plain \\
\hline 5 & language requirement. So you'll see that term \\
\hline 6 & creep up in a lot of documentation, a lot of \\
\hline 7 & accessibility guidelines saying use plain \\
\hline 8 & language, and then you see this two-page \\
\hline 9 & definition of what plain language is. \\
\hline 10 & So in that effort, what you will not see in \\
\hline 11 & our system are technical terms that you normally \\
\hline 12 & see in an election of lingo like under- and \\
\hline 13 & overvote, vote for one. We try to guide the \\
\hline 14 & voter by talking to them in a voice that would \\
\hline 15 & normally converse. \\
\hline 16 & So here we have one option. So this says \\
\hline 17 & vote for one. So we said: Vote for one. You \\
\hline 18 & have one selection left, meaning that you haven't \\
\hline 19 & made any selections yet. And the contest is \\
\hline 20 & unvoted. So we present this in three different \\
\hline 21 & ways to help guide the voter through the process \\
\hline 22 & to ensure that they know at all times where they \\
\hline 23 & are in the voting process. \\
\hline 24 & So let's vote for someone real quick. \\
\hline 25 & REPRESENTATIVE FLEMING: James? \\
\hline
\end{tabular}
but you can change these throughout the experience.

So let's say you get into the experience, but you don't know what to expect. If you've never voted on this and you think that yeah, the text will be fine, I don't have to read it, and you get in there and you realize the text is a little small for me, so you can adjust it. I'll show you that in just a moment.

Language, again, you can, you know, be a pretty proficient English-speaker and decide when you get in there, maybe I want to see it in a different language. The help is contextual as well. It's not just a generic help. It's -- it tries to anticipate where you are in the process to provide you help. It's not just a generic, just something out of a PDF or something to count the vote.

The next thing you see here is the contest navigation. It tells you the number of contests, which contests are relevant, allows you to navigate back and forth through the contests. You have the contest name pretty large here. I want to draw your attention right here (indicating). These are the instructions. Here Page 224

\section*{MR. LONG: Sir?}

REPRESENTATIVE FLEMING: We're getting real close to the five-minute mark, so I just wanted to let you know.

MR. LONG: Thank you. I'm going to speed this up real quickly. So you see that it changed here. You have zero selections, contests fully voted.

So let's go to the next.
I print it out real quickly. Got some accessibility features. I just want to point out, we also offer small text as well. This ballot is -- the word's not going to come to me, but, anyway, it's kind of counterintuitive and, you know, large text would work better for some people so we could do that.

Let's go here to some of the usability features. We'll white this over. One thing I want to show you is in messaging. You have here -- this is a message, again, you won't see the word "undervote." This is where the undervote contest -- it tells you what happened and the consequences of you continuing.

Keep going.
We have the review screen. This lets you

1 modify your selections. You can go back to your contest and come back forward without having to navigate back and forth through the ballot.

This is the paper record that we'll print from the system. You'll see there is a QR code for more rapid auditing or processing. But, again, this here, the text is what is actually interpreted. This is what is read back to the voter using its accessible session, and this is also what is tabulated from when the voter accepts the ballot. It prints when it's accepted.

And this is not visible to the voter, but it ensures that you can do one-to-one ballot for risk-limiting audits. It will print a code on the ballot. The code has no associations to any voter or anything. The voter never sees it prior. It's the last thing it prints before it cuts the paper and drops it into a receptacle. I want to make sure that that's clear that this isn't reel-to-reel where you could potentially violate voter privacy. It actually cuts and drops into a large container that automatically shuffles.

I want to kind of just do this quick. If

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REPRESENTATIVE FLEMING: I've seen those.
MR. SHELLY: We can fit in there. Certainly it would depend on the density of the machines, the configuration of the machines. You know, it would depend on the requirements in the RFP, but without giving you a number, which is I know what you want, we would be very competitive in the RFP when it comes to technology, past performance, and price.

REPRESENTATIVE FLEMING: No, I understand the range and I appreciate that. That's the range I've heard people talk about.

I'm going to start on this side of the room. Doctor?
DR. LEE: Just so I understand, so paper-scanning-based technology, that would be \(\$ 30\) million range versus we go with the fancy tablet, it will be upwards of a hundred-and-fifty million dollars; is that right?

MR. SHELLY: Yes. I mean, so that's the low end to the high end. This piece of equipment would have a cut-and-drop printer, okay, so that would be additional. And this is the poll book.

DR. LEE: So you go into paper scanning solution. Do you have support for the ballot
the state does want to go a different direction than to go the paper route, we offer other options as well, which is the paper scanner. It -- you know, I could demonstrate it. You've already seen two of them. If you mark a paper ballot, it scans, it has a review screen. The voter can review the choices and accept the ballot.

Yeah, this is basically the end of the presentation. Just want to close and say, you know, we're, you know, a full-functioning elections company. We offer logistic support, manufacturing, training services.

So for further brevity here, we'll open it up for questions.

REPRESENTATIVE FLEMING: James or whoever, do you have any idea how much it would cost Georgia to implement one of these systems?

MR. LONG: I'm just a tech.
MR. SHELLY: So I anticipated that question.
So I think I have seen in the newspapers or articles that there was numbers as low as 30 million, which was primarily paper, and then I think there was an upper limit of a hundred and fifty million.
design as well?
MR. LONG: Yeah, so the same record that comes out of the computer that you would tabulate off of would be (indiscernible), so you wouldn't lose any accessibility features. The cost --

DR. LEE: I'm talking about the ballot design. Ballot design.

MR. LONG: Yeah. Yeah. You can load any ballot design the state requires. To show the cost differences, the amount of equipment, you need more of this than you need of that.

REPRESENTATIVE FLEMING: Coming on around, Sheila, do you have a question?

MS. ROSS: Out of curiosity, which way did Los Angeles go? Paper? Or did they use a machine? And how much did it cost Los Angeles County?

MR. LONG: So the technology in Los Angeles -- so the first thing that I would say, Los Angeles centrally tabulates so they went with the paper route. So it was a digital interface that prints on a thermal piece of paper that's eight and a half by eleven. So it prints the selections of the voter and the \(Q R\) here (indicating), and then it goes into a secure

1 receptacle in which they gather it electronically 2 and take it back to central to tabulate from the precinct tablet.

REPRESENTATIVE FLEMING: Estimation of the cost for Los Angeles you think as far as --

MS. ROSS: What would be estimated and how much did it cost to get them online?

MR. LONG: I think the total procurement, because there is design work here -- it's a custom solution, they don't have it -- it's not like we took it off the shelf and gave it to them -- was two --

MR. SHELLY: It was 200 and I think the initial --

MR. LONG: 280.
MR. SHELLY: Well, the 280 is -- that would include several years of maintenance and everything. But the base years of the contract, I think, are like 230, but it's a very different contract because we're actually doing the software development for them and the warehousing and cards and the maintenance. I mean, it's pretty much end to end.

MS. ROSS: Have you not had an election with them yet? You can embed a lot more data in that than you can in your typical barcode.

So this barcode is used several different ways. You can use this for quickly tabulating using a third-party auditing system, meaning like a system that doesn't tabulate the same way that we do. So unless you hire some independent auditing agency that wanted to, you know, scan it or do a recount for you, so you can use the QR code for that.

We use the \(Q R\) code, you know, predominantly just for those features and just for auditing features. Internally, before the ballot is cast, we take the content of the \(Q R\) code, we compare it to the OCR text and to what was contained in the machine buffer before it was printed. We compare all three of those together to ensure that the data and the \(Q R\) code matches what was printed on the tape.

REPRESENTATIVE FLEMING: Coming on around. This side of the table? One more pass. Amy?

MS. HOWELL: Point of clarification. So in the instance when a paper ballot is used, they are still for individuals with disabilities who

MR. SHELLY: No. We -- we were awarded this contract in June of this year.

MS. ROSS: So when will your first election be so we can watch it?

MR. SHELLY: So there's going to be some intermediate mock elections ...

MR. LONG: So the first time it will be voted is September of next year, '19. So that will just be a pilot. It will be used in the local election in November of next year, but its full-metal deployment will be for the 2020 March primary.

MS. ROSS: Thank you.
REPRESENTATIVE FLEMING: Over here on this side? Lynn?

MS. BAILEY: Thank you. Would you please explain to me then how the \(Q R\) code is used?

MR. LONG: Sure. The QR code --
REPRESENTATIVE FLEMING: Remind us what the QR code is, Lynn. You're too smart for some of us.

MR. LONG: Do you have the slide to the image. Keep going.

Here, that's a QR code.
REPRESENTATIVE FLEMING: Okay.
have access needs? You're still getting the touchscreen in addition?

MR. LONG: We don't necessarily recommend having the -- your -- you know, you're ultimately putting an additional barrier in front of someone that already has barriers to vote. Because they have come to this machine first to get their printed ballot or to get their marked ballot. Then you have to take that ballot to another machine.

Now, this one could tabulate for you as well, but then you have two machines that have to consolidate at the end of the night, which, you know, it might not be an issue for you as well, so ...

There's many way to arrange it, but if you did it in a traditional fashion and you treat this only as an accessible machine, you are going to introduce the issue of barriers.

MS. HOWELL: Okay. So your solution is they use a paper ballot. How do they provide access?

MR. LONG: So if they require consolidation, most of those jurisdictions, you know, will do exactly that. They have it print from here and have the voter take it to another machine. A

1 machine like this usually can't validate the 2 ballot in the same way that this can. It has no voters. So after it's been cast, they can't actually verify it. It's just something that the counties exempted, the jurisdictions exempted.

Now, we can tabulate it and we can treat it just like it is a ballot. And you can have this in addition to, but, you know, there's other procedural barriers.

MS. HOWELL: Thank you.
REPRESENTATIVE FLEMING: Okay. Gentleman, we appreciate it. We know you had to work through some technical difficulties. You had to integrate with a system that was already here. We understand that's difficult so we appreciate you working through that. Good presentation. Thank you very much.

All right, next up. Next we will have Election Systems and Software. And we're going to allow them to break down and allow Elections Systems and Software to set up. So we'll stand in recess for a moment.

> (Pause)

REPRESENTATIVE FLEMING: We have our next

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half south of here, in Swainsboro, Emanuel
County. I live in Cobb County now.
I'm going to turn it over to Mac and Mac's going to give you a little introduction to our company. We'll talk a little bit about what you see in front of you and then we would like to really focus our time on the equipment itself and how this solution would work for county election officials, for poll workers, and most importantly, for voters. Thank you.

MR. BEESON: All right. Thank you, Jeb.
So, again, my name is Mac Beeson, regional sales manager with Election Systems and Software. And briefly, a lot of you are very familiar with our company, but for you that are not, we'll talk a little bit about Election Systems and Software. We are a US-based company and we are focused entirely on US-based elections. We've been in business for around 40 years. We're headquartered in Omaha, Nebraska, have over 450 US employees. We are currently in 42 states. We have a lot of experience with statewide implementations, statewide roll-out voting systems. Currently we're the statewide vendor in 12 states, including several that are right
presentation of Election Systems and Software.
So I'm going to turn to you and ask you to dazzle us.

MR. CAMERON: Great.
REPRESENTATIVE FLEMING: All right.
MR. CAMERON: We will do our best.
REPRESENTATIVE FLEMING: Welcome. Welcome.
MR. CAMERON: Thank you, Representative Fleming and members of the commission. My name is Jeb Cameron with Election Systems and Software, and we brought today, in response to your RFI, a system that we think will be a great solution for the state of Georgia.

I've got a couple members of our team here and I'll briefly introduce them. We have Mac Beeson. Mac is a vice president of regional sales from North Carolina. And we have Miss Kathy Rogers, senior vice president of governmental relations from down on the coast, right outside of Savannah. I saw Kim Carlisle floating -- there she is. Kim Carlisle is one of our account managers from here in Columbia County.

Like I said, my name is Jeb Cameron. I am a
regional salesperson. I grew up an hour and a
\[
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\]
around Georgia here. We have Alabama, South Carolina, North Carolina, Arkansas, West Virginia, several customers in this area with statewide implementation.

But what we want to spend our time on today is talking about this voting system. We're so proud of this system that we're showing you today. We call it the power couple. Why is it the power couple? Because this is the system that's revolutionizing the election business today.

We've got our DS200 precinct scanner. I'm going to start talking about that in just a little bit here.

So this system was built entirely with the poll workers in mind. So what makes this so simple? Literally all a poll worker has to do in the morning is look at the screen. It'll automatically turn on, automatically print your zero tape, and you're ready to go. We have poll workers standing up and giving us ovations in training class because they did not realize a voting system could be so simple for them to get started.

The DS200 is a digital scanner that takes a

1 digital image of the ballots that are scanned. 2 Beyond the ease of use for the poll workers, 3 we've got a lot of things that are very
marks or if it's an overvoted ballot, it's going to be presented back to the voter and the voter then has an opportunity to correct that error, not election officials back at the end of the night trying to do that.

So, again, the DS200, very simple for the poll workers. Like I said, you literally lift a screen, print your zero tape, it's ready to go. Another feature of this system that we really like is that at the end of the night, you don't have poll workers getting on their hands and knees, having to get these paper ballots. All of the ballots go into a blue bin and at the end of the night, literally, the poll worker just has to shut the bin, pull the ballot box out, and then this has wheels and a handle so all the poll workers have to do is lock this box and bring it back to the elections office. Poll workers are never physically touching the ballots.

Also the media on the DS200 uses a USB thumb drive so it's an encrypted, secure thumb drive. There's no batteries for the components for poll workers to have to deal with. There's no rolls of paper or anything that's printing throughout
ballot. If they want to cast that ballot, they can actually do that as well. But it takes about two seconds to take a digital image of the ballot and so at the end of the night, after you close the polls, bring the results back to the elections office, not only do you have a paper ballot here with all of your selections, all of the voters' selections, you also have a digital image of every single ballot. And you also have the software, the image of the digital -- the digital image of the ballot, you have the vote cast record, and you have exactly how the system interpreted that ballot.

You've seen a lot of different -- you've already seen a lot of demonstrations of systems here. We're focusing on while the voter is in front of the machine, letting the voter make the decision that they overvoted. We want it to resolve right here in front of the voter. Let the voter make that change and rescan their ballot.

We don't want you back at the back end of the system having to go through a bunch of images and make changes. We want to provide the voter with as much information as possible. This

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the day that poll workers are going to have to change.

In this particular configuration, we use, like I said, full-size paper ballots and very simple set-up for the voters throughout the day. Very easy for the poll workers and this system is well-tested and well-used all over the US. Large jurisdictions like New York City. We have small counties in Nebraska with less than 200 registered voters. This system is proven and by far the largest, most widely-used precinct scanner in the US.

All right, now I'm going to turn it over to Jeb to talk a little about the ballot-marking universal device.

MR. CAMERON: Thanks.
We wanted to spend the time focusing on the DS200 first, and the reason I demonstrated that first is because across the configurations that we're talking about, and of course, in response to your RFI, we know that the state of Georgia is looking at a couple of different configurations: A straight paper system, ballot-marking devices for all voters, or sort of a hybrid system of the two where maybe early voters vote on the

1 ballot-marking device and on election day all voters would get a paper ballot.

So we want to focus on the DS200 first because this is where the tabulation happens across all three of those configurations. We'll talk next about our ballot-marking device which is the ExpressVote.

We call this a universal system, a ballot-marking device and ADA device for all of the voters. And that's important because what's unique about the ExpressVote is that it is designed as an ADA device. It creates ADA-accessible ballots, but it's also designed for all voters to use.

So we'll go through a demonstration of this in just a second, but, again, know that only the ExpressVote Voting System, every single ballot that is created and displayed is an ADA ballot. There is audio attached to every single ballot, and that's very important for voters with disabilities who don't want to be called out at the check-in process for having to receive a special ballot. They don't want to have to go to a different voting unit within the voting location to vote their ballot. They want to
a printer what we call an ExpressVote
voter-activation card, okay? This started out blank. Whenever I insert it into the printer, the information that it printed at the top is basically the ballot style that applies to me, okay?

So, again, the check-in process is the same for the voter, instead of receiving what we received today in the state of Georgia, that little yellow voter access card, this will replace the yellow voter access card. Same information that's on the yellow voter access card. Not showing personal information here, no social security number or blood type or anything else. It's simply the key that unlocks the unit and pulls up the ballot that is special to me, okay?

So the voter receives their activator, steps over to the ExpressVote. We're going to insert it here. And just like today where we insert our yellow voter access card, this is what's going to start our voting process. When we do that, it pulls up our ballot. First race appears on the screen. There are instructions as well.
vote, go through the check-in process, vote, and cast their ballot just like every other voter within the precinct.

In addition to the ExpressVote, we also have our ExpressPoll, our electronic poll book check-in system, okay?

So at this point, I'm going to go through sort of the voter experience. And I had talked about the DS200. I'm going to go through a check-in process. I'm going to go to our ballot-marking device and mark a ballot for us, and then I'm going to tabulate, okay?

So at the ExpressPoll, the check-in process happens just like it does today. If I'm a voter, I'm going to come in, I'm going to show my ID. A poll worker is going to validate that I am a voter in the state of Georgia, in the county where I am coming to vote. And they're going to look me up on the ExpressPoll and they're going to validate my information. And then they're going to give me something that will activate the ballot-marking device so that I can start the process of marking my ballot.

So we're going to do that here. We're going to look up a voter. We're going to validate that

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We're going to make selections simply by touching our choice for each race. Down here on the bottom of the screen, we do have the zoom option here. We have the high contrast that was mentioned earlier today. We're going to change the screen from color to straight black and white. And just like today, we go through the screen, we make our selections. We cannot overvote in any races, just like we heard earlier.

And at the end, we'll get to our review screen. And on the review screen, it shows each one of those races and each one of the selections that we made from the choices. And I know it's hard for you to see, but there is a race down here at the bottom of this letting us know that it needs our attention. And when I notice that I see that okay, this was a race where we could vote for two, but I only voted for one, okay? So I essentially undervoted in that race. And I could continue just as before and I could choose to make only one selection in that race. At any time I want to go back and change anything on the review screen, I can do so simply by touching that race, making an additional selection. And

1 when I touch that, it goes back to the review 2 screen and highlights the changes that were made,
25 made," okay? So at this point, the voter has a

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1 over to the DS200, any orientation, slide it in okay?

So at this review point, we can continue to make changes as long as we need to, okay? Once we are satisfied we've reviewed all of those selections, we press next. And here's where it's a little different than it is today in the state of Georgia. Typically, we go through and we make our selections, we review our selections, and we've reviewed, we're satisfied with what we've done, we usually touch the button that says "cast vote -- or "cast ballot," okay?

With the ExpressVote, instead of touching "cast ballot," we're going to touch "print card," okay? And when we do that, the ExpressVote is going to take that same activator that we inserted and it's going to give us a review of each one of the races and each one of the selections that we made. If we did not make a selection in the race that race will still appear, and there will be an indication on our written record -- if you want to pass that around -- that basically says, "No selection made," okay? So at this point, the voter has a
there to the top, scanning dial-up, please wait.
Thank you for voting. Your vote has been counted, okay?

As far as any additional information on the DS200 ExpressVote, ExpressPoll, we'll open it up to any questions y'all have.

MR. BEESON: Let me just add something real quick too. Our ExpressVote Universal Voting Device is running on battery right now. All of these systems -- both of these have internal backup batteries so if the power goes out, we can continue voting. So there's no additional components you have to buy. You're looking a system here, there's no UBS or no internal batteries or anything like that. You have them already in the system, so -- and, again, there's no printers. The paper we used here is thermal paper -- it's basically the half of a full-size ballot, thermal piece of paper so there's no waste in this particular scenario.

So I think somebody asked earlier about, well, I've got a lot of voters, when I go to a paper system, I'm going to get a 15 percent turnout. We're going to pre-print all of these
hard copy record of all the selections that we just made on the ExpressVote on our ballot-marking device, okay?

Now, at this point, we still haven't cast our ballot. We're still in the review process, okay? If we see something that may be inaccurate on that record or we feel like there was information that we didn't see or there was a mistake made or an undervote we made, because we haven't cast our ballot, we can still go through a process of creating a paper ballot, okay?

If we wanted to understand the content or have a selection read back to us by an audio ballot, we could simply reinsert this card -- and if you don't mind, I'm going to take that back from you. We can reinsert this card into the ExpressVote, and when we do, it will take us right back to that review screen and show us each one of those races and each one of the selections that we made, okay? And in addition to seeing it on the screen, we can also listen to it via headphones, okay?

But, again, if we're satisfied, we've reviewed all of our selections, then we're ready to cast our ballot. And when we do so, we step
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\]
paper ballots. With this blank card -- piece of paper, if you don't use them all on the election, you can use them the next election. There's no waste associated with that as well. And we're using a full flat piece of paper that's half of a ballot. There's no rolled up piece of paper or paper rolls that have to be changed by poll workers. There's no COTS printers that you have to put ink and toner and things like that that poll workers have to deal with. It is a thermal printer that's inside the ExpressVote. There's nothing the poll workers have to deal with or change.

And with that, we'll open it up with questions.

REPRESENTATIVE FLEMING: Mac, how much would it cost the state of Georgia to implement a system like this?

MR. BEESON: Well, we just responded to the RFI. It was three different options in there, and the range is somewhere between 20 million on the low end to right under a hundred million on the high end, depending on how many units.

REPRESENTATIVE FLEMING: You said Alabama, South Carolina, what else around us?
\begin{tabular}{|c|c|}
\hline & Page 249 \\
\hline 1 & MR. BEESON: North Carolina, Arkansas, West \\
\hline 2 & Virginia. \\
\hline 3 & REPRESENTATIVE FLEMING: And do y'all have \\
\hline 4 & statewide application in those areas where \\
\hline 5 & everybody uses the same machine? \\
\hline 6 & MR. BEESON: That is correct, yes. \\
\hline 7 & Representative fleming: Who's been using \\
\hline 8 & the equipment the longest of those? \\
\hline 9 & MR. BEESON: Most of these customers bought \\
\hline 10 & a new system around the same time Georgia did, \\
\hline 11 & but most of them around 2005 or 2006. They all \\
\hline 12 & implemented them about the same time. \\
\hline 13 & REPRESENTATIVE FLEMING: Who's the last one \\
\hline 14 & that implemented? \\
\hline 15 & MR. BEESON: We just won the Delaware so -- \\
\hline 16 & MS. ROGERS: Maryland. \\
\hline 17 & MR. BEESON: Okay, Maryland would be the \\
\hline 18 & statewide that we just rolled out, yes. \\
\hline 19 & REPRESENTATIVE FLEMING: Okay. As we go \\
\hline 20 & around the room here. Dr. Lee? \\
\hline 21 & DR. LEE: (inaudible) \\
\hline 22 & Representative fleming: Dr. Lee, turn your \\
\hline 23 & mic on. \\
\hline 24 & DR. LEE: Okay, yeah. Yeah, so couple \\
\hline 25 & questions. First one is I want to make sure that \\
\hline
\end{tabular}

\section*{Page 251}
cast it? Then in the audit process, what would we do?

MR. BEESON: So if that voter wants to cast an overvoted ballot, they're totally allowed to do that. That particular contest wouldn't be counted and in all of the other contests the ballot would be.

DR. LEE: Thank you.
MR. CAMERON: In reference to the audit there, I mean, I think the important thing to note also is that post-election when county election officials are going through a post-audit, there will be an audit of any of those votes that the voter overvoted. It does provide you an audit of that ballot. It shows you that that voter did actually intend to cast the ballot as it was even though they were given the choice to --

DR. LEE: (inaudible)
REPRESENTATIVE FLEMING: Dr. Lee, turn your mic on again.

DR. LEE: Sorry. I was unclear how you actually record the action that the voter actually chose to miscast it. So how is that captured?
your system that you're demonstrating is not the same as the one that Georgia is using currently, correct?

MR. CAMERON: Correct.
DR. LEE: Second question I want to clarify is that when you demonstrated the paper ballot, you scan the ballot, you said it's an error, it's overvote. The voter can -- just using the touchscreen to register the correct vote, right? You do that when you introduce some discrepancy between the virtual record versus the paper record, so how are you going to deal with this in the audit process?

MR. BEESON: Yeah. If I understand your question correctly, so what we provide on the screen is we notify the voter that it's an overvoted ballot. In terms of a ballot that's undervoted, if it's blank, it's a mismarked ballot. So then the voter has a choice to cast that ballot or to return it and go correct the situation. So if it's an overvoted ballot, you will need to spoil that one, get another piece of paper and mark it if they didn't intend to overvote.

DR. LEE: But suppose he chooses to just

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MS. ROGERS: You might be referring to the internal audit of systems today, how it logs that. It will show you every action that's captured. In post-election, we have election officials today who will use that audit-log data to determine how they can improve the election process of a certain poll. They can take that data and say we need more voter education in this particular area. A lot of voters overvoted on a particular ballot. So that capability exists now within our technology.

DR. LEE: Okay.
REPRESENTATIVE FLEMING: Okay. Going around the room here. Questions? As I move back to this side over here? Lynn?

MS. BAILEY: Thank you. So when processing absentee ballots on regular paper, there is a different type of device or is it the same device? And what's the scan speed for those ballots?

MR. CAMERON: That is a great question. Thank you for asking that, Lynn. In response to the RFI, in addition to the DS200 scanner that you see here, we also -- and this is something that at a personal level that I'm excited about
\begin{tabular}{|c|c|}
\hline & Page 253 \\
\hline 1 & for the state of Georgia. Having worked as a \\
\hline 2 & county election official in both a small county \\
\hline 3 & and a large county, I like that we are able to \\
\hline 4 & offer different types of scanners for different \\
\hline 5 & sizes of counties. We know that, you know, \\
\hline 6 & especially in a place like Georgia where you have \\
\hline 7 & all the way from Appling County to Fulton County, \\
\hline 8 & I'm excited that we're able to offer high-speed \\
\hline 9 & options from medium- to large-size counties. \\
\hline 10 & So in response to our bid, we did do the \\
\hline 11 & DS200 for, you know, the vast majority of the \\
\hline 12 & counties in the state that are considered small. \\
\hline 13 & So in this county, for example, Judge McCoy may \\
\hline 14 & have a couple hundred absentee ballots to count \\
\hline 15 & at the end of the election. You can use the \\
\hline 16 & DS200 in your office to scan those ballots. \\
\hline 17 & Lynn, you asked the question. In a place \\
\hline 18 & like Richmond County, in addition to the DS200, \\
\hline 19 & we also have our DS450 which is one of our \\
\hline 20 & high-speed scanners, and it counts anywhere \\
\hline 21 & between a hundred to two hundred ballots a \\
\hline 22 & minute, okay? \\
\hline 23 & We also have for the Fulton Counties in the \\
\hline 24 & world, Cobb Counties, Gwinnett Counties, DeKalb \\
\hline 25 & Counties, we have our DS850. And our DS850 \\
\hline
\end{tabular}

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So if I were to reinsert a ballot that's already been marked into the ExpressVote, I can't make any changes at that point. It's simply going to provide us a review of what has already been marked on a ballot.

So I do my record and I say no, I think I see a mistake. The state would use the same procedures that are in place today. For spoiling a provisional ballot, for example, you would create a spoiled ballot, you would go to the ExpressPoll, reissue a card, and that voter can begin their marking over.

JUDGE MCCOY: One other question. Are the votes embedded in a barcode? Is there a --

MR. CAMERON: The selections are represented on the ballot marked -- any votes that are cast, any ballots marked on the ExpressVote are represented by a barcode in addition to the hand-readable text that appears on the ballot as well.

REPRESENTATIVE FLEMING: Okay, any more questions? Deirdre?

MS. HOLDEN: I want to go off what Lynn was asking with the high-speed counters because I know that would be something that Paulding County
counts the hand-marked absentee ballots and ExpressVote components for that matter as well at a speed of close to 300 ballots.

Did that answer that question?
MS. BAILEY: Yeah, thank you.
MR. CAMERON: Great. Thank you.
REPRESENTATIVE FLEMING: Jeb, I have a very important question for you. Instead of it coming in red and gray, will it come in red and black?

MR. CAMERON: As a UGA graduate, we will color this however the state wants it.

REPRESENTATIVE FLEMING: I will be more apt to color it red and black than I would anything else.

All right, the judge has a serious question.
JUDGE MCCOY: Couple of questions. First of all, I'm not clear on the ballot marker, the receipt. The paper comes back out and the voter says this isn't right or I want to change that. I saw you reinsert it. If that voter makes a change, what happens to the paper?

MR. CAMERON: That's a great question.
That's a great clarifying question. Whenever I reinsert it to review, know that that is a marked ballot. It's already been printed as a record.

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would have to have because we have several thousand absentees, but does that counter take a digital image of those ballots --

MR. CAMERON: Yes.
MS. HOLDEN: -- for auditing purposes?
MR. CAMERON: Absolutely. So the DS200, DS450, and the DS850, all, as they are tabulating and scanning are taking a digital copy, front and back, of every ballot that's being scanned.

So back at election central, when y'all are doing post-election audits, you can look within the election management software itself. Every image of the ballot and a cast-vote record, side by side, to show you here's the image of the ballot, and then here is how the software itself interpreted that ballot.

But most importantly, in addition to the digital image and the cast record, you also have all of the hard copies of the ballots that could be audited postelection.

MS. HOLDEN: Next part of my question is with this system or any of the other systems that we've seen, is this going to help in the logic and accuracy testing? Is it going to be simplified more than what we have to do now?
1 Because, you know, it could take -- in Fulton 2 County, it would take them weeks. It takes us a couple weeks to do that. So will the process of the testing of the machines be simplified with these new systems?

MR. CAMERON: It will. And the important thing is you're going to continue to test the most important part of what happens on election day which is, of course, the tabulation itself.

You will test the ballot-marking devices to make sure when you talk about things like barcodes, that the barcodes are representing the correct selections that are being made in that ballot-marking device.

Let me put it in a nutshell and let me talk about election day real quick, opening and closing procedures to kind put in a nutshell how this kind of consolidates down based on what we do today.

So today let's say, Ms. Holden, in your largest precinct, how many touchscreens do you employ?

MS. HOLDEN: Thirty.
MR. CAMERON: Thirty? Okay. So let's take that precinct. In the morning, your poll workers that precinct, okay?

The opening process for the ballot-marking device, because it does not tabulate, is to simply open the security door and power it off. That's it. There's no printing zero tapes from here because there is no tabulation that's done here.

So you've consolidated down the opening process for 30 units to one single or two units at your precinct. Same goes for the closing process.

To power down the ExpressVote and close out the election on the ExpressVote, you simply reopen that security door and you turn it off. That's it. There's no tapes you have to get. There's no memory devices that need to come back to election central. Instead, here, with the DS200, you open the security door, there are two buttons for your poll workers. One says power. One says close poll. And when they touch "close poll," three copies of the results tape are automatically going to generate out of the DS200, okay? Then they bring, just like Mac showed you, that blue ballot bin, the memory device, the
go through an opening process on 30 units and part of that opening process is you are printing tapes, zero tapes on 30 units, and they are verified that each unit has a zero count at the beginning of the day. Throughout the day voters are voting on those 30 units. 7 p.m. rolls around, it's time to close down the precinct.

Your poll workers now are going to go through the process of closing down 30 units and they're going to end the election on 30 units. Then they're going to print three copies of the results tape on the 30 units, and then they're going to remove the memory device out of 30 units and they're going to bring those tapes, those memory cards back to your office. And then you're going to go through the process of uploading 30 cards to get the results for that precinct.

Let me tell you in a nutshell how this is a little different, okay? You may have -- let's say, you take that same precinct. You may have -- if you do a one-to-one ballot-marking device for the touchscreens that you have today, you'll have 30 touchscreens, ballot-marking devices for the precinct. You may have one, you

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tapes back to your office. Instead of uploading 30 memory cards, you're uploading one or two.
Does that give you kind of a high-level idea of what we're talking about when we're simplifying the process, not just for you but for your poll workers as well?

MS. HOLDEN: Thank you.
MR. CAMERON: Sure.
REPRESENTATIVE FLEMING: John?
MR. MONDS: I have a question about the digital scanners. Now, you said that possibly in the polling precinct you have one or two of those. And in your demonstration I believe you said that if a voter was unsure that they wanted to change their ballot, that they could do that, and my question would go to would that possibly cause any backups, you know, in a polling place if you have a voter that's standing there taking a long time, you know, making their decisions if you only have one or two of those? And is that your recommendation that there will only be one or two digital scanners in a polling place?

MR. CAMERON: Yes. Most precincts across the US have chosen a system that's one scanner in a polling place. We have a few in New York
\begin{tabular}{|c|c|c|c|}
\hline & Page 261 & & Page 262 \\
\hline 1 & City -- I have some locations that use two. & 1 & and, again, it's just -- you know, some states \\
\hline 2 & Fairfax, Virginia has 800,000 registered voters. & 2 & will do a phased-in approach, some states will go \\
\hline 3 & They use one in most of their polling places. & 3 & everyone at the same time. And we would work \\
\hline 4 & The digital scan technology in the system is so & 4 & with you all on what the best plan based on your \\
\hline 5 & good, you could scan the ballots -- it's about & 5 & timelines is, and we've got the team ready and \\
\hline 6 & two seconds to scan the ballot. & 6 & available to get it done in the time frame you \\
\hline 7 & And then it's really one options for -- or & 7 & need us to. \\
\hline 8 & two options for the voter if they overvoted a & 8 & Thank you. \\
\hline 9 & ballot. If they cast it or return it. So then & 9 & REPRESENTATIVE FLEMING: All right? All \\
\hline 10 & they would move away from the scanner and then go & 10 & right, Sheila has our last question. \\
\hline 11 & back to the check-in. & 11 & MS. ROSS: Thank you, Mr. Chairman. I'd \\
\hline 12 & MR. MONDS: And then my other question is & 12 & just like to piggyback on one of John's questions \\
\hline 13 & going back to deliverability on the scanner. On & 13 & which is in the 42 states that you have active \\
\hline 14 & the time frame of implementing and changing the & 14 & and rolled out already, what is the average \\
\hline 15 & whole system, what kind of time frame would we be & 15 & voting time for the voter? \\
\hline 16 & looking at? & 16 & MR. BEESON: We've done some studies on -- \\
\hline 17 & MR. CAMERON: Well -- and we have a lot of & 17 & especially we have a lot of experience with \\
\hline 18 & experience rolling these out statewide, and, you & 18 & customers moving from DREs to this type of \\
\hline 19 & know, different -- often we're given shorter time & 19 & system. And if we're talking usually going from \\
\hline 20 & frames than everyone would like, sometimes we & 20 & a DRE to ballot-marking, we're seeing the times \\
\hline 21 & have more time. I would say with us being the & 21 & all very similar to the time it takes to load it \\
\hline 22 & largest US manufacturer, we've got a great supply & 22 & on a DRE as the time it takes to load it on a \\
\hline 23 & chain. We're preparing for a really large number & 23 & ballot-marking device. So very similar to what \\
\hline 24 & of jurisdictions to buy new equipment next year, & 24 & you're used to today. \\
\hline 25 & and we're planning now for something like that, & 25 & MS. ROSS: Did you actually do studies on \\
\hline & Page 263 & & Page 264 \\
\hline 1 & that or is it just & 1 & (Pause) \\
\hline 2 & MS. ROGERS: First I want to say I have & 2 & REPRESENTATIVE FLEMING: All right. If \\
\hline 3 & tried to study that but it becomes difficult & 3 & everybody will come on back and find their place, \\
\hline 4 & because ballot size is different all across the & 4 & we will begin with Hart InterCivic. \\
\hline 5 & country. Georgia's done a pretty good job of & 5 & I'm going to turn it over to you. Please \\
\hline 6 & trying to reduce amendments and summary language & 6 & introduce yourself. Good to have you today. \\
\hline 7 & on their ballots. Not everyone is that good. & 7 & MR. BROXTON: Thank you, Mr. Chairman. My \\
\hline 8 & We just recently had an election in another & 8 & name is Dwayne Broxton with Hart InterCivic. \\
\hline 9 & state where there were, like, hundreds and & 9 & It's good to be here today. I've worked with \\
\hline 10 & hundreds of ballot decisions because of some & 10 & Hart beginning of this year, prior to that I \\
\hline 11 & precinct committee races. So it does depend on & 11 & worked with the state of Georgia (indiscernible) \\
\hline 12 & the ballot length as to how long it actually & 12 & election night reporting system. \\
\hline 13 & takes a voter to cast a ballot & 13 & So today, we're going to take some time and \\
\hline 14 & But Mac's right, if the ballot size is & 14 & talk about who we are as a company. I think that \\
\hline 15 & similar to today, then you wouldn't really see & 15 & Hart may be new for some of you. And we're also \\
\hline 16 & any degradation in time. & 16 & going to talk about the Verity Voting Platform. \\
\hline 17 & But I apologize. It is a hard question to & 17 & And we're going to talk about the paper ballot \\
\hline 18 & quantify because of ballot complexity across the & 18 & and also we'll walk you through a quick \\
\hline 19 & states. & 19 & demonstration of our software. \\
\hline 20 & Representative fleming: Gentlemen, Mac, & 20 & Unfortunately, Sean Phillips had to go back \\
\hline 21 & Kathy, thank you for a very good presentation. & 21 & to Texas because of a family emergency this \\
\hline 22 & Appreciate your being here today. Thank you. & 22 & morning. Again, my name is Dwayne Broxton. I'm \\
\hline 23 & Our next presenter will be Hart InterCivic. & 23 & the regional sales manager. \\
\hline 24 & And as they breakdown and Hart sets up, we will & 24 & So for those of you who have not heard of \\
\hline 25 & be in recess for a moment. & 25 & Hart, we have been in business since 1912, \\
\hline
\end{tabular}
\begin{tabular}{|cl}
\hline & Page 265 \\
1 & printing ballots. I don't think there's anyone \\
2 & else that we've seen today that can say that they \\
3 & have been around in the elections for that period \\
4 & of time. \\
5 & And as you notice as you look at the \\
6 & timeline, throughout all of that, we introduced \\
7 & the first DRE in 2000. We were the first digital \\
8 & ballot in 2002. In 2011 -- and why I point that \\
9 & out is because it's pretty important. We were \\
10 & the first company to actually have a survey. And \\
11 & we're going about what we got from the survey and \\
12 & why it was important. \\
13 & 2015, we came up with the Verity Voting \\
14 & that we've got a footprint all over the United \\
15 & States, and that's important. And Georgia is \\
16 & looking to pick their next voting hardware \\
17 & vendor. You definitely want to pick someone that \\
18 & has experience. \\
19 & in between, you'll notice that we're in those \\
20 & states. We have over 800 jurisdictions served \\
21 & and Texas is where we're headquartered, in \\
22 & Austin, Texas. We also manufacture our equipment \\
25 & in Texas as well.
\end{tabular}

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1 counties, large counties, small counties, and
everywhere in between, we services those counties.

So just to let you know, our VP of operations is not actually Pete Lichtenheld, it's Dr. Phil. And why I put that out there, it's pretty important because, you know, working with states and counties, Dr. Phil talks about communication and that's very important and we're going to get into why that's important. So our customers rate us 95 percent of overall customer service. The biggest number there is a hundred percent.

So there are roughly 4,000 jurisdictions nationwide. Out of those 4,000 jurisdictions, you know, as you can imagine, in the industry some people move from one vendor to the next. Those counties or jurisdictions that have chosen to moving to Hart have rated our services far superior to the vendor that they left.

So we talk about how we do that.
Communicate, we'd like to help. Our VP of operations spends about half of his year meeting with current clients, talking about what are their issues, what are they going through, what

Statewide implementation experience: Oklahoma and Hawaii. So let's talk a little bit about both of these states and why I think it's important for Georgia here today. The state of Hawaii, which we handled their elections, does everything except hire their election workers. From soup to nuts, we run the elections for the state of Hawaii.

Oklahoma's a little bit different. For Oklahoma, we support them as they need. They have regions similar to your regions that you have here. I think they have 11 as opposed to you have 13. We train their technicians to be able to actually do some of the repairs to their equipment. We don't -- and we'll talk about maintenance as we get into the presentation.

Why this is also very important, both of these two states are top-down states and they're paper states. So we have the experience with states that are top-down and use paper ballots. Again, proven experience: Our largest county, Harris County, Houston, Texas, 2.3 million voters. Our smallest county, Kenedy County, Texas has 208 registered voters.

So I say this essentially, the make up of
are their challenges. We've taken that feedback and put it into action.

The Verity Voting Platform which is why I'm here today. So every vendor that's been here in front of you, at some point in time had a decision to make around 2011, 2012. Ten years after Harvey, we had the experience of running the elections -- I'm sorry, I said Harvey. I live in Houston. It's on my mind. Ten years after HAVA, we realized that we got a lot of feedback and HAVA was a great starting point.

But in that ten years, from talking to our clients, we learned a tremendous amount about elections and how we can process better. So instead of bolting onto existing technology, we took a blank sheet of paper and we decided to come up with the Verity platform. Easy, modern, trusted.

So, again, we took that blank sheet of paper -- there we go, a blank sheet of paper, and we took feedback from our clients, came up with the Verity platform, and here's what makes it easy. As we walk through a demonstration, we're going to talk about the user interface. They're all similar, they're all the same.
states, 92 jurisdictions, 4,100 precincts. The

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So once you train the election worker on this piece of equipment, they're going to understand how to operate this piece of equipment as well as the scanner.

The compact design, as you'll notice, our ballot box on top here (indicating) at the very end. It's an ADA-accessible height. It's a collapsible ballot box, 17 pounds, breaks down to about 6 inches.

You'll also notice the hardware. All of the pieces that you see in front of you come in a suitcase with the tablets protected inside of the suitcase. You've got three different pieces in front of you. This is called the Verify controller. This is a full-working device. It allows the election worker to manage the polling place from your desk, from your setup.

This is the Verity Touch Duo. This is a ballot-marking device. This allows you to keep the DRE experience and add a paper trail.

And this of course, the last piece, is the scanner. And we're going to get into all of these a little bit more later.

So Verity by the numbers: We're in 11
allow you to convert this scanner into a DRE.
Let me say that again and why that's
important. Right now, we offer an initial
investment, you're going to try your best to make sure every county, every jurisdiction has the equipment that they need, the proper configuration. But sometimes populations change, voters move from one county to the next. You can't predict in 15 years down the road where you're going to be.

We're the only system that allow you to be able to do that, to convert one piece of hardware into other as a county needs at a fraction of the cost of actually going out and purchasing new equipment.

Let's talk paper. One thing that Hart is not going to tell the state of Georgia to do is exactly how you should spend your money. We're going to give you options. We support an entire voting platform, all forms of paper, whether we're talking preprinted ballots, which is essentially preprinting the ballots, and a scanner in a precinct along with an accessibility device. There's also the option to actually print out ballots in the precinct on demand.
biggest number there, 6.4 million people have voted on the Verity platform. And, again, that is a new platform, first implemented in 2016. So in that short period of time, we've been able to gather 6.4 million registered voters.

Common platform for adaptability. If there's one thing I want you to take away from this platform, it's common platform adaptability, what that means to Georgia.

I've talked to many people in this room and
I know that Georgia financially is in a very good position. You don't have to go out and buy the cheapest voting system just because it's the cheapest voting system. You've done a very good job and right now, 2018, you can afford to go out and maybe spend that a hundred million dollars, a hundred fifty, hundred seventy, whatever the price tag may be once you decide.

Where are you ten years from now?
Purportedly in 2019, 2020, your counties, some of your smaller counties have to go out and purchase equipment, okay? And even if that pendulum swings from where it is is right now where everyone's talking paper, we can go back to DREs in ten or fifteen years. This platform will

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That's exactly what it sounds. And when the voter is checked in, you're able to look up their ballot style and print their particular ballot there in the precinct, eliminating the waste of preprinted ballots. They take that ballot and then put it directly into a scanner.

Now, the option that you see in front of you today is what's considered in the industry a hybrid concept. Again, taking a ballot-marking device, adding a piece of paper to it, which is thermal, after they vote, they will be able to actually see. And here's where it's going to be a little different. I'm going to walk around so you all can see this. You'll notice a full-size ballot even though it's a contest and the candidates on the paper. You'll also see that QR code in the corner.

Let's talk about all of it. We read the contest in character off the paper. In this code, there is nothing that ties the contest or the candidate or the voter inside that code. This code strictly allows this piece of paper, the ballot, to be put into the scanner. There's nothing in here that, again, reveals the voter, the contest, or the candidate in that barcode.

1 So this is a bad picture of a screwdriver, I think about back in medieval times in a castle,

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\section*{One of the most important parts of this is} apologize, but this is to talk a little about our maintenance plan. We don't lock you into a maintenance plan. All you need is a
Phillips-head screwdriver to change the battery in the bag.

So there are two batteries. There's a hot-spot battery which powers the tablet itself, and also there's a battery for the motherboard. Now, having talked to people in Georgia, I understand that some counties have different resources. I think what we would do is work with the state of Georgia in 13 different regions to be able to actually train roaming technicians throughout the state of Georgia, closest to the models we have on loan.

Now, if the state of Georgia wants to spend the money for a maintenance contract, we'll do that, but I think the more responsible way fiscally is to actually train you all to be able to handle some of the light repairs. We can always send major repairs back to Hart.

We're going to talk a little bit about security. We call it defense in depth. If you actually people and procedures. All of your election administrators will tell you this. Hiring the right people, coming up with the right procedures. You're going to go from right now using DREs and paper. That's going to be a lot different than what most people in most elections have experience. So it's going to be important that Georgia sits down with a partner that has the experience and can bring best practice to the state on the people and procedures you need to have in place.

So we'll go through these very quickly. Threat modeling, walled-off security protocols, attack service reduction. This essentially is a custom Windows 7. It's industrial-strength Windows 7, not typical to what you would go on your computer at Best Buy and purchase. It's industrial strength, industrial grade. We basically only use the components of Windows that we need for our operating system.

When you start, this starts the kiosk system mode, you do not have the ability to have solitaire or any other applications you would like to.
you had different levels of security. You had an open field, you can see any intruder coming from miles around. You have a moat and you also have the drawbridge and the wall.

So the first thing in security is the physical access. Key locks, you'll notice on all of our hardware we have key locks, sometimes on a handle, tamper evidence seals. So inside here -you can't see it from where you are, I apologize -- we have what's called -- like everyone else, we have a removable flash drive. That's where the media and the vote's going to be stored. On actually, this piece that we see today, it's under a lock. It can also be a tamper evidence seal.

We also have what's port obfuscation. Now, what that means essentially is this. Our cable is not the standard wiring for our cables. As the data is transmitted from one piece of hardware to the next, it's actually so the wires are scrambled. So no one will be able to come and take it. The cable bought at Walmart, Radio Shack and that's just taken into the back assuming you'll be able to get information off of it.

Whitelisting. So essentially what we do, we don't blacklist. For those of you that are unfamiliar with the term, blacklist is essentially knowing what threats are out there and making sure that those threats can't get into the door. Well, as soon as you actually publish that, those are old threats.

So what we do, our system only allows you to use what's actually coded for it to use. You can't actually load anything onto these systems, again.

Secured boot. Again, they boot up. They boot in the kiosk mode. When they boot up, they're actually able to tell if they've been tampered with. One of the things that's out there -- and we'll talk about the hacking of election equipment. I think we all understand at this point that the system is air-gapped. There's actually no way to actually hack on to any of our equipment -- probably most of the vendors will say the same -- from the Internet. They just don't have the hardware, the internal hardware, to get online.

Well, also with the secure boot, if someone tried to actually sit down at the system and get

1 into the system, it would basically shut down the hardware.

Two-factor authentication. Something you have versus something you know. There's a security key and a password key, exportable hash files, and we'll get into the role-based access and control. So it's based on permission levels at the county level and the state level and credentials. You basically can control who has access to what -- that's essentially what we're saying -- at state level, even into the counties you have the ability to lock out people.

And also this: You can see who has accessed the data, just as important. If someone goes in with their password, you can know what functions they performed. Password management, again, will give you best practices on password management, system log-in auditing.

Permission levels, we've gone through that.
Human readable data, this is important. Our keys, our flash drives are basically encrypted. But if you stick that in, you've gotten access to it, you will actually be able to read the votes. What you will not be able to do is change them. If you do somehow figure out a way to change

Page 279
So right now, you'll notice -- this may be a little difficult for you to see -- these two pieces communicate right now to send the data. The reader is not -- so this piece of paper in here -- the voter has already voted. This is going to happen when you move to paper. Because of the DRE experience they experience now, it's probable the voter's going to walk away and leave their ballot sitting right here.

Now, what you'll see, after a couple of seconds, it will let an election worker know, okay, that this voting terminal is not ready to be used.

So, Bethany, if you want to vote.
What she's doing is actually creating a voter access code. That's a voter access code (indicating). That essentially makes sure that when a voter goes to the ballot-marking device, they vote the right ballot style. The election worker is going to hand the voter that voter access code and a piece of paper.

Punch in your access code. Go ahead and insert.

So you'll see here that the voter has correctly inserted the piece of paper that's

them, if it is, quote/unquote, hacked, as soon as you take that to the central count or the workstation, you'll know right away that that was -- that somehow that flash drive became corrupted. You will simply go back to the scanner, download the results again, and take it to your central count.

Now (indiscernible) encryption standards, data in motion, again, human readable, tamper evidence seals, I think we've got over that.

Let's talk about the ballots again. I think I mentioned this earlier. Again, that \(Q R\) code, nothing ties the voter to this piece of paper. You can't see the contest, you cannot see the candidates. Let's vote.

Bethany, if you would come up.
So, again, I'll walk through it quickly.
The hardware you have in front of you, this is what we call the Verity controller. Again, this allows the election worker to actually manage the precinct. I have it facing you right now, but in the precinct -- in the polling location, it would turn around, facing the election worker. This is a ballot-marking device and again that is the precinct scanner.

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creating a check mark, let's her know that it was accepted.

Go ahead and vote. Yeah.
So you can't see the screens from where you are but as she's voting, on the left-hand side of the screen, it gives the voters instructions to every single screen. So the voter always knows exactly what to do. If they have any questions, they will see it on the left-hand side of the screen. All of our screens, again, you can adjust the contrast and the font size.

For contests that have more than two choices, not until you mark both choices will it actually appear green. So once she's actually gone over her choices, she has the option to print. It's going to ask her twice if she actually wants to print the record.

This is her ballot, the same ballot I showed you earlier. And she'll walk over to the scanner, place her ballot on the scanner, she's voted. And similar to the other systems you've seen here today, if we were talking hand-marked paper ballots ...

Okay, perfect. So there's an error screen. The error screen says that you cannot scan -- it

1

1 let's the voter know right away what's going on. There's a paper jam. Contact your poll worker.

REPRESENTATIVE FLEMING: She forgot to vote for me. That's what the problem is.

MR. BROXTON: Could be exactly what it was.
REPRESENTATIVE FLEMING: Yeah, that's it.
MR. BROXTON: Unfortunately, that's a problem for the scanner. That was a poll-worker issue by the way. It could happen. It's probably exactly like that. The scanner wasn't placed on top of the ballot box. That never happens, right?

Lynn, that never happens? Probably not.
And she's voted.
Any questions?
REPRESENTATIVE FLEMING: So in that case, the machine, the scanner knew it wasn't in the right place?

MR. BROXTON: Correct. So the ballot box --
REPRESENTATIVE FLEMING: Ah, it lines up.
MR. BROXTON: It lines up. There's a locking mechanism right here that locks into place. So an election worker sets up. It's as simple as pulling this white cord to lock it into place.

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REPRESENTATIVE FLEMING: Dwayne, you've -- I think you began to touch on this. It's something that's been brought up today. I think Dr. Lee mentioned it a time or two, but what about the flexibility of the system as we move forward into the future. You know, as Georgia has different needs or the industry demands change, how about that?

MR. BROXTON: So I'm going to go over this again. Thanks for the question. Right now it's not just Georgia, it's all across the United States. Everyone's going to paper on some form, whether it's preprinting the ballot, printing the ballot at the poll location, or hybrid.

Ten years ago, no one saw going back to paper or very few people saw going back to paper. Where are we going to be ten years from now? No one can tell you. I can tell you probably this with some certainty, as you go back to paper, there will be some people that remember paper from before, and they may even say: You know what? Maybe we want to go back to the DRE. That -- those calls are going to be out there just like the calls for paper right now. What the Verity Voting Platform will allow you to do,

REPRESENTATIVE FLEMING: Okay.
MR. BROXTON: They may do what I did, it's quite possible, probable even. Once it locks into place, it lines up.

REPRESENTATIVE FLEMING: Dwayne, how much would it cost the state of Georgia, in y'all's estimate, to implement this all across a hundred and fifty counties? Any guestimates there?

MR. BROXTON: Absolutely. So if we're talking pure paper, you're talking roughly around \(\$ 40\) million for a pure paper-based system. If you're talking a hybrid, similar to what you've heard, around a hundred-million dollars. And printing the ballots at the poll location, somewhere in between.

What we would need, as probably every other vendor here, was the correct configuration of not just precincts but polling locations. And Fulton County precincts, the polling locations may be different than some of your smaller counties here. Your metro counties may have combined super precincts at a polling location, and in those places you may absolutely think about a second scanner, whether it's preprinted ballots or a hybrid system.

\section*{Page 284}
if you go back to a DRE and you no longer need a scanner or if you decide to go another version of paper just -- if you decide to go to preprinted ballots and you wouldn't need either one of these, you can convert those to scanners. Complete flexibility across the platform.

Fiscally, ten years from now, you also don't know where Georgia will be. I think Georgia will probably be in a pretty good place. I'm sure you all feel the same. What if you're not and you still have these concerns about your hardware and your platform?

REPRESENTATIVE FLEMING: I'll start over here on this side and work my way around the table. See if there's any questions.

Nancy?
MS. BOREN: The first step that you do --
MR. BROXTON: Yes.
MS. BOREN: -- does that contain voter data?
MR. BROXTON: No.
MS. BOREN: Okay. Where do you get the voter data for the code to create the ballot?

MR. BROXTON: So what happens, the voter comes in, they check-in at the electronic poll book, similar to what you've seen earlier. And

1 we've worked with Tenex, Know.ink, and many of 2 the poll books that are out there. Once that 3 voter gets checked-in, they get their ballot 4 style. You can come over and the election worker 5 can manually input that or they can use a
bar-code scanner. Now, we suggest using a bar-code scanner that would print out from your electronic poll book. They scan the barcode, it prints out -- it's called the access code. The access code is essentially their ballot style.

So if they go to the ballot-marking device, they punch in the access code, and I'll use the old access code. And you can see it turns red because this code has already been used. So a voter won't be able to come back and use the code and try and vote and again. Or even go to another precinct and try to use this code.

Does that answer your question, Ms. Boren?
MS. BOREN: Yes. And so in a primary if a voter changes their mind and they want to vote Democrat instead of Republican or vice versa, they go back to the beginning and get another code?

MR. BROXTON: Correct. I'm glad you asked that question because a voter -- and I think it's

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and then secondly, can it be programmed for a precinct to only contain ballot styles in that precinct?

MR. BROXTON: The first answer is yes. The program only contains ballot styles at a

\section*{particular precinct.}

That's a question I'll honestly have to get back to you because I don't know the answer to that. I think that it can, but I want to give you the right answer. And I apologize. If Sean were here with me, we would know that right away. But I don't know, I'll have to get back. I will get an answer to you today.

MS. BOREN: Sure. Thank you.
REPRESENTATIVE FLEMING: Going around the room. Dr. Lee?

DR. LEE: Thank you. So can you clarify which user uses the \(Q R\) code. In particular if a user hand-marked ballot, do I also have QR code and where does that come from?

MR. BROXTON: Okay. So let's start with the hand-marked ballot. If you have a hand-marked ballot, there is a \(Q R\) code on all of our ballots. On all of our ballots, we are going to read what you see on paper. We're actually going to read
already been said here today -- they have never really voted so they actually cast this into the scanner. I think everyone understands that.

So any point along the process, depending on how Georgia wants to do it, you can spoil this ballot and then they would have to base it on your policies and procedures to get it back in line to vote Democrat or Republican.

Or even -- again, this is a full ballot with the contest, and they say: You know what? I don't want to vote for Beverly Davis any more, I've changed my mind. Spoil the ballot, start all over again, and they will cast their vote.

REPRESENTATIVE FLEMING: John, that will be Democrat, Republican, or Libertarian, right? Is that all right?

MR. MONDS: In my opinion (indiscernible).
REPRESENTATIVE FLEMING: I just want to make sure we got that.

MS. BOREN: One last question.
REPRESENTATIVE FLEMING: Sure, Nancy. Go ahead.

MS. BOREN: I'm sorry.
So the first step, will it contain every ballot style in their county for early voting,

\section*{Page 288}
the contests and the character. You'll see barcodes but they're essentially -- they're just to line the paper with the scanner, make sure we're reading the correct contest and the marks on the paper.

The second part of your question was about this QR code. Again, this only contains the information that you see at the top of the paper which is the precinct and the date.

DR. LEE: Why do you need that? Why make a difference between the hand-marked versus a printed-out ballot? Why have the \(Q R\) code there on the side?

MR. BROXTON: Why is there a \(Q R\) code on this?

DR. LEE: Yeah, and not on the hand-marked ballot.

MR. BROXTON: On the hand-marked ballot we still have voting on the hand-marked ballot. It's essentially used to scan to line it up here. The \(Q R\) code here is just to really use for the further precinct information. I think I'm misunderstanding the question.

DR. LEE: But then if I go to the precinct, I use hand-marked ballot, and you said I don't
\begin{tabular}{|cc}
\hline & Page 289 \\
1 & have a QR code. Why not? Because you said QR \\
2 & code is containing the precinct information. So \\
3 & why is it different between hand-marking versus \\
4 & ballot machine printing? \\
5 & MR. BROXTON: Well, on the hand-marked \\
6 & ballot, you do have codes on the side which will \\
7 & contain precinct information. Is that -- am I \\
8 & answering your question correctly now? So you'll \\
9 & still have a version of coding on your \\
10 & hand-marked ballot. Am I ... \\
11 & DR. LEE: Yeah (inaudible). \\
12 & REPRESENTATIVE FLEMING: Cynthia, hold on. \\
13 & to you on this side. \\
14 & MS. BAILEY: Thank you. So can you address \\
15 & how your system in the central count environment \\
16 & would adjudicate an overvoted ballot. \\
17 & MR. BROXTON: Okay, absolutely. So let's \\
18 & first start with -- if you're talking hand-marked \\
19 & bat it will not be counted. And you can force \\
20 & the undervote. \\
21 & allow me that, the voter will actually be able to \\
22 & correct because it will not take overvotes here. \\
25 & It will allow them to overvote if they choose to
\end{tabular}

Page 291
1 would go to the ballot marker and from that
point, they go to the tabulator?

MR. BROXTON: Yeah. So you can actually -depending on how you feel works best for your efficiency, you can actually have the person that's checking them in also operating the election management poll book, this device, as well.

So it can be separated out or it can be right -- we have counties that actually have this one election worker checking in the voter and also administering the access code. Now, once that voter gets the access code, they would then move to a ballot-marking device. However, your precinct will have total (indiscernible)figure, they will be there after they've voted and go to the scanner.

MS. WELCH: Okay, so here where they get the access code, and the voter comes over to the unit to do the balloting --

MR. BROXTON: Ballot-marking device? Yes.
MS. WELCH: Right. Explain to us if someone put in the wrong code. If you don't use the scanner and we punch the number in there and we put in the wrong number and give the voter the

In the central count situation -- and we don't have the software displayed but you would essentially be able to pull up all ballots that they have an issue with. It will be flagged. And let me mention how our central count looks a little different than what you've mainly heard here today. You do not have to presort your absentee ballots. You're able to just take all of those ballots, put them into central count, and they will sort based on their precinct. When it comes to adjudication, those ballots are flagged, they are put in the separate box where you can actually pull up each individual ballot and basically adjudicate voter intent at that time.

REPRESENTATIVE FLEMING: Okay, Cynthia's going to have our last question.

Cynthia?
MS. WELCH: Real quickly. I want to confirm the steps that a voter will go through when they come in to vote. One, they would go to the e-poll book, and from that step they will go to the machine here to get the ballot code.

MR. BROXTON: Correct.
MS. WELCH: And from the ballot code, they

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incorrect ballot style, how do you prevent that between the three stations?

MR. BROXTON: So let's make sure I understand your question. If they punch in the wrong code?

MS. WELCH: Right. The wrong ballot and access code here, based on the paper that they received, it's the incorrect ballot style --

MR. BROXTON: Okay, so --
MS. WELCH: -- how could that be corrected before you --

MR. BROXTON: Couple different --
MS. WELCH: -- let the voter know?
MR. BROXTON: Couple different things. So this code is only good at the polling location. If they put in a wrong code that was not issued by this, they would not be able to vote here.

MS. WELCH: Okay.
MR. BROXTON: But let's take the second half of your question because I think there was a question there that how are we able to catch if there's something wrong on the ballot. They actually have a paper ballot, before they scan it. And I think another question I heard earlier in the day was wait times, what we've seen when
\begin{tabular}{|c|c|c|c|}
\hline & Page 293 & & Page 294 \\
\hline 1 & people actually use either a preprinted ballot or & 1 & provide the electronic poll book. That would be \\
\hline 2 & a ballot printed at the polling location. & 2 & another company that would have to partner with \\
\hline 3 & Generally speaking there's not a big issue with & 3 & you. \\
\hline 4 & waiting at the scanner because they actually have & 4 & MR. BROXTON: Correct. And we've been \\
\hline 5 & a paper ballot in their hand. They've got & 5 & partnering with a company called KNOW.ink which I \\
\hline 6 & something they're actually physically holding. & 6 & think some of you are familiar with. Tenex, \\
\hline 7 & They're reviewing the contests and the & 7 & we've been partnering with them all over the \\
\hline 8 & candidates. & 8 & United States. \\
\hline 9 & Does that answer your question? & 9 & Thank you. \\
\hline 10 & MS. WELCH: Yeah. & 10 & Representative fleming: You were left \\
\hline 11 & JUDGE MCCOY: Mr. Chairman, one quick & 11 & short-handed today, you did a great job. We \\
\hline 12 & question. & 12 & appreciate it, thank you. \\
\hline 13 & Representative fleming: Yes, Judge. & 13 & MR. BROXTON: Thank you, sir. \\
\hline 14 & JUDGE MCCOY: So you totally rely on the & 14 & REPRESENTATIVE FLEMING: All right. \\
\hline 15 & poll worker to manually enter a code in there to & 15 & And our last presentation will begin \\
\hline 16 & get the right ballot style. & 16 & momentarily. We'll standing in recess with \\
\hline 17 & MR. BROXTON: No, sir. I'm glad you asked & 17 & Dominion Voting making a presentation for us. \\
\hline 18 & again. We actually have a scanner. So this & 18 & (Pause) \\
\hline 19 & scanner, which you just heard, this actually & 19 & Representative fleming: All right. If \\
\hline 20 & eliminates the human error of the poll worker. & 20 & everyone would make their way back to their seat, \\
\hline 21 & When they get that access code or that QR code & 21 & it is the presentation we've been waiting for all \\
\hline 22 & from the electronic poll book, they scan it and & 22 & day, the last one. \\
\hline 23 & that pulls up their ballot style, and that will & 23 & We appreciate you being here and I'm going \\
\hline 24 & actually print the access code. & 24 & to turn it over to you and we'd love to hear from \\
\hline 25 & JUDGE MCCOY: But your company does not & 25 & you. Welcome. \\
\hline & Page 295 & & Page 296 \\
\hline 1 & MR. HORACE: Good afternoon, Chairman, and & 1 & through IT management. \\
\hline 2 & good afternoon, Commission. My name is Matt & 2 & Finally, Mitch Kedrell, his title is system \\
\hline 3 & Horace. I'm the chief security officer for & 3 & support specialist and he has vast experience \\
\hline 4 & Dominion Voting Systems, and in that role I'm & 4 & since 2003 and he is a resident of Gwinnett \\
\hline 5 & responsible for Dominion's enterprise-wide & 5 & County, Georgia. \\
\hline 6 & security, cyber security, and physical security, & 6 & I introduce to you Dominion Voting Systems. \\
\hline 7 & information technology, and all things security. & 7 & DR. COOPER: Thanks, Matt. \\
\hline 8 & As you know, Dominion is US owned and we're & 8 & And it's so great to see in the room the \\
\hline 9 & very experienced in executing statewide & 9 & commission and the members of the public, our \\
\hline 10 & implementations. We most recently received the & 10 & fellow vendors. I know it's been a long day, so \\
\hline 11 & support of the state of Louisiana, our latest & 11 & let's get on with it. \\
\hline 12 & acquisition, and it is my honor today to & 12 & As Matt said, I'm Eric Cooper, I'm the \\
\hline 13 & introduce to you to our team of professionals. & 13 & director of product strategy for Dominion Voting \\
\hline 14 & First, Dr. Eric Cooper, he is our director & 14 & Systems. And what we have back here is every \\
\hline 15 & of product strategy. He has worked in elections & 15 & piece of equipment that's necessary to run an \\
\hline 16 & for over 13 years, including software and & 16 & election. I would say it's an election in a box, \\
\hline 17 & hardware development as well as on-site election & 17 & but we have a couple of boxes. \\
\hline 18 & support, including the creation and management of & 18 & Just to give you a brief overview, I'm going \\
\hline 19 & election projects and election-day activities. & 19 & to run through our product offering, a little bit \\
\hline 20 & Mr. Scott Tucker, customer relations & 20 & about the company, and then we'll get into the \\
\hline 21 & manager, he's been in the elections industry for & 21 & hands-on demonstration. \\
\hline 22 & seven years. He's held positions as regional & 22 & So about us, Dominion Voting was founded in \\
\hline 23 & manager, national trainer, and now as customer & 23 & 2003. We're an experienced, dedicated, team of \\
\hline 24 & relations manager. He has an IT background for & 24 & professionals. We're more than just a vendor, \\
\hline 25 & 15 years in various roles from customer help desk & 25 & we're an elections partner. We have six offices \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline & Page 297 & & Page 298 \\
\hline 1 & throughout North America, including over 250 & 1 & engineering requirements and at the end of the \\
\hline 2 & employees, 1,200-plus individual customers, and & 2 & day, the equipment that you see out here on the \\
\hline 3 & over a hundred thousand units in the field. & 3 & table. \\
\hline 4 & This is our US footprint. It changes pretty & 4 & Democracy Suite: This is our core sweep of \\
\hline 5 & rapidly but I believe we're currently in about 35 & 5 & products. It drives the entire election process. \\
\hline 6 & different states. Statewide implementations in & 6 & Everything from building a ballot, voting and \\
\hline 7 & Louisiana, Nevada all but one county, New Mexico, & 7 & tabulating the ballots, reporting results, and \\
\hline 8 & Colorado all but four counties, and Alaska. & 8 & auditing results. It's simple. It's simple, \\
\hline 9 & The key thing there is Louisiana. They have & 9 & it's flexible, it's efficient. The same system \\
\hline 10 & a very similar model to Georgia and whereby the & 10 & that you see here, we feel those jurisdictions \\
\hline 11 & state election authority actually programs all of & 11 & that have, you know, maybe one or two thousand \\
\hline 12 & the different parishes centrally, programs all of & 12 & voters over jurisdictions that have several \\
\hline 13 & the tabulators and then delivers that & 13 & million registered voters, same platform, same \\
\hline 14 & election-day equipment after going through & 14 & hardware, same software. \\
\hline 15 & last-minute accuracy testing to the individual & 15 & Core advantages: It is a single election \\
\hline 16 & parishes. So it's a very similar model to what & 16 & database. If you're looking at statewide for \\
\hline 17 & Georgia does. & 17 & multiple counties, we start with a single \\
\hline 18 & My key role as director of product strategy, & 18 & template database that has most of the \\
\hline 19 & I have an engineering background. I was & 19 & jurisdictional information and then we can spawn \\
\hline 20 & previously the vice president of engineering for & 20 & individual projects for each individual county, \\
\hline 21 & Squillion Systems. I've migrated into a role & 21 & but all of that data resides in a single \\
\hline 22 & that's more customer focused. So my job is to & 22 & database, all right? It's a powerful, flexible \\
\hline 23 & meet with our customers, look at the market, look & 23 & ballot, laid out design engine. It can handle a \\
\hline 24 & at what's on the horizon as far as products and & 24 & variety of ballot types and slate types, \\
\hline 25 & services and then turn that back into actual & 25 & referenda, various styling elements for both \\
\hline & Page 299 & & Page 300 \\
\hline 1 & paper and our touchscreen interfaces. And it's & 1 & offering and that's this Canon G1130. Again we \\
\hline 2 & an easy tabulating program. So we can define & 2 & started to consolidate our focus on commercially \\
\hline 3 & multiple tabulators. Those for early voting have & 3 & off-the-shelf available components. We do have \\
\hline 4 & all of the precincts available, all of the ballot & 4 & two proprietary scanning devices, but the rest of \\
\hline 5 & styles. We can also filter those down into & 5 & the equipment is off-the-shelf, including the \\
\hline 6 & individual precincts with just those ballot & 6 & tablets, including the VVPAT, voter verified \\
\hline 7 & styles or a combination thereof if you have & 7 & paper audit trail printer, and the BMD printer is \\
\hline 8 & polling locations that have multiple precincts as & 8 & an HP as well. \\
\hline 9 & well. & 9 & And then finally we do have a digital \\
\hline 10 & So in person, this is the core of our & 10 & education system as well, and this a way of \\
\hline 11 & in-person voting solution. It includes the & 11 & adjudicating not just voter intent issues for \\
\hline 12 & ImageCast X , which is the touchscreen interface. & 12 & vote-by-mail ballots or absentee ballots but also \\
\hline 13 & We call it the ImageCast X because the X is & 13 & write-ins and any cast in precincts or any \\
\hline 14 & configurable. On either end of the table, this & 14 & combination thereof. \\
\hline 15 & is the ImageCast X in a ballot-marking device & 15 & Finally, we do have a remote accessible \\
\hline 16 & configuration. And on the other end is the & 16 & vote-by-mail product also used for UOCAVA voters, \\
\hline 17 & ImageCast X in a DRE with a voter-verified paper & 17 & and this is an online presentation that's secure, \\
\hline 18 & audit trail configuration. & 18 & has full accessibility features, and prints at \\
\hline 19 & But again, it's the same voter interface, & 19 & home a ballot that can be mailed, faxed, or \\
\hline 20 & same programming, it's just whether you're & 20 & e-mailed back into the central jurisdiction and \\
\hline 21 & getting the ballot that needs to be scanned in & 21 & scanned on our equipment as well. \\
\hline 22 & our ImageCast precinct scanner or if the results & 22 & And we do have a very robust results \\
\hline 23 & are being stored and verified on a paper audit & 23 & tallying reporting module. This is for all of \\
\hline 24 & trail by the voter. & 24 & your election night reports but also your \\
\hline 25 & Next. We also have our central count & 25 & statement of casts reported for campusing as well \\
\hline
\end{tabular}

1 as any extracts that may be used for a web-based recording, whether it's at the county or state level as well.

And then our final module is we do offer a ballot augmenting solution for printing ballots at your precinct or in a central office. And like most of our equipment, it's very scalable. So if you have a small jurisdiction that's not printing any of their own ballots, we have a printer that's around \(\$ 300\) all the way to a very large, robust, high-volume printer that's a little more expensive.

Some of our core technologies -- so all of our scanning solutions implement what's called a dual threshold. So when you are actually marking a hand-marked ballot, here (indicating), voters may not have, especially absentee, used the right kind of pen or filled the ovals in completely and legacy systems, there was a well-identified issue where it was a single level, anything below that was not a vote, anything above that was a vote, and the problem was is that when you would write on that margin, multiple scans of the same ballot could actually lead to different results.

By implementing the dual threshold, we have

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1 of outside of our system. It allows members of the public, election officials to actually filter and view subsets or entire elections where the ballot image is and compare those against the past voter records and also the AuditMark.

This system was used in the only statewide risk-limiting audit that's been conducted. That was in Colorado. The first one was done in 2016 and they just did a second statewide in the most recent election.

Security: So we take basically a holistic approach to security. It's multiple levels. It's both software- and hardware-based and also policies and procedures and best practices. And we put that throughout our entire product suite. Things like voter access, poll-worker access, we use two-factor authentication for all of that kind of access. We have robust signed blogs for all of the activity that happens on the machines. And, again, at the end of the day, we have the AuditMark for how that ballot was cast and interpreted and scan done.

We do industry best practices for secure protocol, including code obfuscation, penetration testing, and we are up to the latest 1.1 VVSG
a lower ballot, anything below that lower ballot is not a vote. We have an upper ballot, anything above that is a vote. In between is what we call an ambiguous mark. So we're saying that we're not going to determine outright whether that's a vote or not. In the precinct if you have a hand-marked ballot, the voter is presented an opportunity to clarify the voter intent, and for an absentee voter, that kind of vote will go through our adjudication system for voter intent.

And then finally we have our AuditMark. So, again, whether it's the VVPAT, whether it's our in-precinct scanner that's scanning a ballot-marking device ballot or a hand-marked ballot, we're taking a digital image of the front and back of the ballot, but at the end of the image, we're appending a text record of how the scanner interpreted that ballot when it was scanned. So it's a fully traceable and auditable record of how that ballot was handled at scan time. And you'll see that a little bit later when we actually get into the adjudication process.

And then finally we do have a ballot
audit-and-review module, and this is, again, sort

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security guidelines.
Cyber security, again, we look at the entire system, and we have developed our security approach looking at all of the threat factors that are out there.

Next.
So we have an ongoing focus. Obviously we have a chief security officer who's overseeing all of this activity. We have an ongoing focus both for our products and also for our company. Security is not just our equipment, it's also the people that work for our company. We're constantly reviewing and enhancing those security models and we are continuing to partner on not just with election administrators but also government DHS, FBI as threats become identified in the election system.

Final aside here, it's kind of a company motto, it's tower of partnership. We're not just a vendor that's going to sell you something and walk away at the end of the day. All of this equipment that you see up here was actually developed in conjunction with our customers.

We have the first iteration of the ImageCast that was done in partnership with Denver County

1 in Colorado. We then took the base system to 2 Michigan and we worked with the customers there

\section*{}

Page 307 and made customizations, modifications based on the needs. We did the same thing the following year in Nevada for a full implementation. We are currently doing that with Louisiana as well. So it really is a partnership, we're not just a vendor.

That's the end of the fun stuff, so the actual voting experience. The first is we will start with the ImageCast ballot-marking device. So I'm a poll worker, I've turned on the machine and before I can do anything with the machine, I have to provide a poll worker access card and a secure pin.
(Technical difficulties)
DR. COOPER: I think I had two different cards with two different versions here. While I get the right card, we'll move on here briefly.

So if we were using hand-marked ballots here, the hybrid solution where you have both a ballot-marking device and hand-marked ballots in the precinct, you have two different precinct scanning options.

The first is the ImageCast Precinct. So for
something you know which is the pin, so I enter that. It's not the right one.
(Technical difficulties)
DR. COOPER: All right, so we're going to have to move on.

Let's talk about the voting process. I'm a voter that comes into the precinct. We do not have our own e-poll book but we do directly interface with several third-party poll books, including Tenex, Votec, and Know.ink. So they can directly program our voter access cards through their e-poll book.

So as a voter, I would come in, I would go up to the check-in station. They would look my name up in the e-poll book, program the card, and then the voter is sent to the device. Once they put in their card, they're displayed the ballot that they're eligible to vote on. And again, the interface is the same between VVPAT and the BMD version of the ICX.

There are several disability-related items, including if you have multiple languages, the voter can choose their language at will and toggle back and forth. I can choose text size for low visual acuity, and I can also change the
a hand-marked ballot, the voter fills in bubbles. Simply goes up to the device, inserts it. If there are any additions, if it's an overvote, if it's a blank ballot, the voter will be alerted. The computer is saying that this is a blank ballot and at that point I can return the ballot and make a modification or if I'm happy and I want to maybe cast a protest ballot, I simply hit "cast," and it drops into the box. This device can also be configured for a full ADA review, so it gives an audio review of the ballots inserted for those voters with disabilities.

We have another precinct-based offering over here. It's the ImageCast Evolution. It's very similar to the ImageCast Precinct, but this is an all-in-one accessible device as well. So if I put a blank ballot in this device as an accessible voter, I can then use an audio-tactile interface or a touchscreen to actually make my selections. There's an integrated printer that will actually mark the ballot, rescan it, provide a review to the voter and then cast the ballot.

Waiting on the poll worker card.
Oh, found the right poll worker. Two-factor authentication is something you have, the card,

\section*{Page 308}
contrast level. So again, this is all voter controlled. If I'm a fully disabled voter, we also do have a handset that's configured over here, and this allows you to interact with the device and get audio feedback and use various keys to progress through the ballot. We also support sip-and-puff and two paddle -- two switch paddles as well for navigating the ballot.

So it's a pretty standard touchscreen interface that we're all sort of familiar with. Couple key things: Obviously, this is my hardware. So things like screen calibration are things of the past. It's much like your phone. You never have to calibrate the screen on your phone. You don't have to calibrate these tablets either. It's high-resolution and, again, I can change the size of the font at any time.

To make a selection, I simply choose anywhere within the candidate area. The nice thing about touchscreen interface is it prevents overvoting. If I want to modify my selection, I simply deselect and modify. And I can move throughout the ballot making my selections, including brightness, and then I can go to my ballot review, and, again, it shows each
\begin{tabular}{|c|c|}
\hline & Page 309 \\
\hline 1 & selection that I've made. If I skip the contest, \\
\hline 2 & there's clear indication to the voter that no \\
\hline 3 & selection has been made. If I want to go back to \\
\hline 4 & that, I can simply choose that contest. It'll \\
\hline 5 & take me back to that and I can make my selection, \\
\hline 6 & back to review, and the final step is to cast my \\
\hline 7 & ballot and it will print the record of my vote in \\
\hline 8 & clear text on the voter-verified paper audit \\
\hline 9 & trail. \\
\hline 10 & The voter has the opportunity to verify \\
\hline 11 & those results and to modify them at this point if \\
\hline 12 & they want to. If they're happy with that, they \\
\hline 13 & simply print the next page. And, again, I'm in \\
\hline 14 & the larger font here so the font size on the \\
\hline 15 & voter-verified paper audit trail is also larger. \\
\hline 16 & And if I'm happy with all of the selections, I \\
\hline 17 & simply hit "accept," and now that vote has been \\
\hline 18 & cast. \\
\hline 19 & Again, this is a direct-report electronic \\
\hline 20 & device with a paper audit trail so the results \\
\hline 21 & are stored on secured media behind locked and \\
\hline 22 & sealed doors. At the end of the day, you would \\
\hline 23 & take those USB sticks out, bring them down to the \\
\hline 24 & central office for tallying and tabulation. \\
\hline 25 & When I close the polls on this device, a \\
\hline
\end{tabular}

Page 311
1 ballot-marking device, both can be scanned and

REPRESENTATIVE FLEMING: So let me go ahead and start asking a question --

DR. COOPER: Sure.
REPRESENTATIVE FLEMING: -- if I may.
DR. COOPER: Yeah.
REPRESENTATIVE FLEMING: Something that I think you pointed out. So the printer and the tablets, these are -- I think the word you used, "Off the shelf?"

DR. COOPER: Yes, sir.
REPRESENTATIVE FLEMING: Explain that. So you can just buy printers from different locations and ...

DR. COOPER: Well, for some of the devices you can. So this is a standard HP printer. So you can buy it at OfficeMax. If your printers go down at the end of the day and for some reason you don't have a spare, you literally can go to Office Depot and buy it off the shelf.

The tablet's -- it is commercially available. It's with a company called Avalue. We do not manufacture the devices, they do. They have large experience with medical device
results report is automatically printed on the same paper audit trail record. So all of those results are included with the individual records as well.

So we're having a little trouble with our security. That's the problem with -- when you have too much security then you can get in a bad spot.

Through our system, we have the ability to have individual keys for each device. We can have consolidated keys at a given precinct location, or we can have a unified key. So you can have access to all of the devices with a single poll worker card.

Again, the interface -- I'm going to move on just for time. The interface is exactly identical to the one I just displayed but instead of printing the record on a voter-verified paper audit trail, it prints each ballot on a standard eight-and-a-half-by-eleven sheet of paper. This comes out, again, off the off-the-shelf HP printer. The voter can then verify their results here before inputting it into our ImageCast precinct scanner.

And, again, whether it's hand-marked or a
Page 312
tablets. So tablets that are on the crash carts, so high-impact environments. We have partnered with them to provide these devices for us. They guarantee a minimum of 10 -year life delivery of the units themselves and then 20 years for parts and any other issues with the tablets themselves.

REPRESENTATIVE FLEMING: So what would be the range for the state of Georgia to implement such a system and one of these versions of the system in all hundred and fifty-nine counties?

DR. COOPER: I'll be able to give a very similar answer that all of the other vendors have given. I mean, it really depends on the implementation obviously. So to put some bounds on that, if we look at the RFI that we responded to and we stuck with all 27,000 units, you're looking somewhere north of a hundred million dollars.

Based on our experience in other states and similar implementations, I don't think that you would need all 27,000 units. If you did a hybrid approach, obviously the number of units would be less, so you're looking at a number around somewhere between 40 and 50 million.

REPRESENTATIVE FLEMING: All right. Let's
\begin{tabular}{|c|c|c|c|}
\hline & Page 313 & & Page 314 \\
\hline 1 & go around the table. At this point, I'll start & 1 & DR. COOPER: How do you? \\
\hline 2 & over here. & 2 & DR. LEE: How readable is that paper? \\
\hline 3 & DR. COOPER: And as you are asking & 3 & DR. COOPER: It conforms to the latest VVSG \\
\hline 4 & questions, I'm going to just -- & 4 & guidelines for -- as far as minimum and maximum \\
\hline 5 & REPRESENTATIVE FLEMING: Please. & 5 & print size. \\
\hline 6 & DR. COOPER: -- bring up one more thing. & 6 & Representative fleming: And as we come on \\
\hline 7 & Representative fleming: Absolutely, as we & 7 & around the table, yes, Cynthia? \\
\hline 8 & move our way into our questions. & 8 & MS. WELCH: So on the unit here, has the \\
\hline 9 & Dr. Lee? & 9 & voter cast their ballot? \\
\hline 10 & DR. LEE: Yes. & 10 & DR. COOPER: Yes. Once they hit that final \\
\hline 11 & REPRESENTATIVE FLEMING: Turn your & 11 & "accept," the vote is actually cast. \\
\hline 12 & microphone on. & 12 & MS. WELCH: So what's the purpose of \\
\hline 13 & DR. LEE: To clarify, when you show voting & 13 & verifying if they can't take it back at that \\
\hline 14 & on this machine and you showed us a paper trail, & 14 & point? \\
\hline 15 & but you only show the image. So the voter will & 15 & DR. COOPER: Because it is still a \\
\hline 16 & not be able to verify again his actual physical & 16 & paper-based system. The official record is \\
\hline 17 & paper trail. & 17 & what's printed on the VVPAT vote and that's what \\
\hline 18 & DR. COOPER: Yeah, they can't put their & 18 & the voter is verifying. \\
\hline 19 & hands on it, but they can verify it through the & 19 & MS. WELCH: Okay, thank you. \\
\hline 20 & window and look at the text that's on there, and & 20 & Representative fleming: All right. Going \\
\hline 21 & if they're an accessible voter, the scan of the & 21 & around. Nancy? \\
\hline 22 & text is actually what generates the audio for & 22 & MS. BOREN: So what can happen on elections \\
\hline 23 & review. & 23 & will happen on elections, right? \\
\hline 24 & DR. LEE: Okay. So how readable is that & 24 & DR. COOPER: Absolutely. \\
\hline 25 & paper trail? & 25 & MS. BOREN: So obviously on that first \\
\hline & Page 315 & & Page 316 \\
\hline 1 & machine, it -- and you mentioned that there's a & 1 & the voter even before they start to cast that so \\
\hline 2 & unified card and a card assigned specifically to & 2 & that either they can change the paper roll, or \\
\hline 3 & that unit & 3 & what we've seen in our implementation in Nevada \\
\hline 4 & DR. COOPER: There can be, yes, but that's & 4 & is that they actually keep a couple of extra \\
\hline 5 & not how it's configured, yes. & 5 & complete VVPATs that are, you know, with fresh \\
\hline 6 & MS. BOREN: Right. It depends on how you do & 6 & tapes in them that are locked and sealed so that \\
\hline 7 & it. So you, I'm assuming, as a supervisor, reset & 7 & then they can just basically hot-swap those. \\
\hline 8 & the cards so that you were then able to turn on & 8 & MS. BOREN: Thank you. \\
\hline 9 & that machine, correct? & 9 & Representative fleming: Going around. \\
\hline 10 & DR. COOPER: Correct. & 10 & Okay, Lynn? \\
\hline 11 & MS. BOREN: And so you can only do that from & 11 & MS. BAILEY: I have one. \\
\hline 12 & the main -- & 12 & REPRESENTATIVE FLEMING: Thank you. \\
\hline 13 & DR. COOPER: From the election management & 13 & MS. BAILEY: Can you tell me the data that's \\
\hline 14 & system, yes. & 14 & contained in your \(Q\) R code? \\
\hline 15 & MS. BOREN: Okay. The capacity of the paper & 15 & DR. COOPER: Yes, I can. So there's a \\
\hline 16 & printer for the VVPAT? & 16 & variety of data. So there is a digital \\
\hline 17 & DR. COOPER: Again, it depends on the number & 17 & representation of the voter selections. There is \\
\hline 18 & of selections, but generally you're looking at & 18 & election-related information, precinct, ballot \\
\hline 19 & between two and three hundred voter records per & 19 & style, election date, and then there's also some \\
\hline 20 & roll. & 20 & security elements, some keys and signing values \\
\hline 21 & MS. BOREN: Will it allow for a partial & 21 & for the actual printed record so you can verify \\
\hline 22 & print? & 22 & them if it's been altered after it's been cast. \\
\hline 23 & DR. COOPER: No. So it has a low-paper & 23 & Representative fleming: Going around. All \\
\hline 24 & sensors, so if it's in danger of not being able & 24 & right. We certainly do appreciate your \\
\hline 25 & to complete the record, it will actually notify & 25 & presentation today. Thank you very much. \\
\hline
\end{tabular}
1
\begin{tabular}{|cc}
\hline & DR. COOPER: Thank you. \\
1 & REPRESENTATIVE FLEMING: All right. \\
2 & (Applause) \\
3 & REPRESENTATIVE FLEMING: We are now going to \\
4 & move directly to the public comment portion of \\
5 & our meeting. I do have a couple of dozen folks \\
6 & that have signed up. \\
7 & So I think the way we're going to do this \\
8 & is -- right here at the podium? Yeah. Right \\
10 & here at this podium. What I'm going to do is I \\
11 & will call your name and ask you to come up. What \\
12 & I'll do is I'll probably tell you who's on deck. \\
13 & So the person who's going to be next can go ahead \\
14 & and come up and either sit here or be ready to \\
15 & go. \\
16 & You will have two minutes. We would ask you \\
17 & to come and state your name and tell us where \\
18 & you're from, whether it be city or county or in \\
19 & Georgia or where else. And I will thank you for \\
20 & coming and then we'll let you start talking. \\
21 & Anderson, chief registrar of Wilkes County. \\
22 & Debbie? Can you reach that? okay. \\
25 & And after Debbie, I'm going call on Jean
\end{tabular}

DR. COOPER: Thank you.
(Applause)
REPRESENTATIVE FLEMING: We are now going to move directly to the public comment portion of our meeting. I do have a couple of dozen folks

So I think the way we're going to do this is -- right here at the podium? Yeah. Right here at this podium. What I'm going to do is I 1 call your name and ask you to come up. What So the person who's going to be next can go ahead and come up and either sit here or be ready to

You will have two minutes. We would ask you to come and state your name and tell us where you're from, whether it be city or county or in Georgia or where else. And I will thank you for coming and then we'll let you start talking.

So we're going to begin with Debbie Anderson, chief registrar of Wilkes County.

And after Debbie, I'm going call on Jean Ann? Jean Anne? Jeanine? Dufort maybe? No?
sudden find out we got -- you need to get this stuff in there now.

So if y'all could, vendors, please give them some ballpark figures, even if it's, you know, just what one set-up would be for what the normal unit might be. It's nice to look at what the state would do. We don't need, what was it, 200-and-something or a thousand units. We just need a -- we might need one or two.

But it is important if we can get that information. And thank y'all for letting us know about this. I'm really glad we have it. I'm glad to see we've all got a chance to have input and to gather and share our time together and ideas and try to work together.

It's really important we get all this done. And I took some videos of the presentations. Going back to show my commissioners, my board members, and others as far as what we could be looking at because we've got to start preparing them. And, of course, there's a lot of variations on what we saw today. Nothing was totally cut and dry.

REPRESENTATIVE FLEMING: Okay.
MS. ANDERSON: But it kind of gives us an

Okay. If I mess up your name, I sincerely apologize. If you will set me straight.

Debbie, tell us where you're from.
MS. ANDERSON: My name is Debbie Anderson. I'm the chief registar at Wilkes County. I have been working in elections for about 20 years, six years last year as the chief registrar. So I was there from all paper to the DRE and whatever is going forward from there.

It's real important that, you know, we get everything right while we've got the time, even as short as it is.

One of the questions I was going to ask, am concerned about was, one, funding and the number of units that would be provided by the state or whatever to the counties because we all -- we've got to come up with funding if we're going to need more than whatever is provided.

What I'm looking at here though is I have about 6,600 voters, seven precincts, probably one set-up in each one would probably be adequate for us. This is really important to know so we can start looking if we need to do some kind of a special-option tax or what we need to do to start being ready so that next year we don't all of a

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idea of where to go.
REPRESENTATIVE FLEMING: Thank you.
MS. ANDERSON: Thank y'all again.
REPRESENTATIVE FLEMING: Appreciate it.
Jeanie (pronouncing) Dufort. Jeanie, tell me how you pronounce your name.

MS. DUFORT: Jeanne.
REPRESENTATIVE FLEMING: Jeanne.
MS. DUFORT: Dufort.
REPRESENTATIVE FLEMING: There we go.
Exactly what I said, right?
MS. DUFORT: Exactly what you said. That's right.

REPRESENTATIVE FLEMING: Four times.
MS. DUFORT: I'm one of five girls and my mom's rule was you can call me anything but don't call me late for dinner, so ...

REPRESENTATIVE FLEMING: Jeanne, tell us where you're from --

MS. DUFORT: I'm from Madison, Georgia.
REPRESENTATIVE FLEMING: Okay.
MS. DUFORT: And I'm not an election official. I'm not an elected official. I'm a concerned citizen and don't -- we in Morgan County are very aware of the wrestling with the
\begin{tabular}{|cl}
\hline & Page 321 \\
1 & problems, the security problems our votes \\
2 & currently have. And I will admit I came here \\
3 & today predisposed towards hand-marked paper \\
4 & ballots because it's the easiest way to have a \\
5 & meaningful voter-verified thing. \\
6 & We've seen some re-creations of paper \\
7 & ballots today, re-creations that are slips that, \\
8 & you know, are about like looking at a grocery \\
9 & store slip. I think some people register what \\
10 & they've written much easier than looking at a \\
11 & little printout thing. \\
12 & doctor over here asked a few people have you done \\
14 & research, and I'm aware of some research that's \\
15 & happening, about whether that's a meaningful look \\
16 & if you're going to have a digitally-printed slip. \\
17 & And they should be talking about optical \\
18 & scanners from what a computer's (indiscernible) \\
19 & well may count. They're really, really good at \\
20 & counting, so let's count them with optical \\
21 & scanners and let's use risk-limited audits. \\
24 & done with original material. You know, there's a an audit isn't meaningful if it's not \\
24 & reason why if you get audited by the IRS, they
\end{tabular}

Page 323
you --
MS. DUFORT: Okay, I'll --
REPRESENTATIVE FLEMING: -- you time to wrap up.

MS. DUFORT: -- wrap it up. I wasn't paying as much attention to some of you. Thirty-million dollars, a hundred-and-thirty-million dollars, I didn't hear one thing today that showed me why you would look the voters in the eye, look the taxpayers in the eye and say: We just spent an extra hundred-million dollars for this really cool thing.

If there's a \(\$ 30\)-million solution that is sound and solid, that's what y'all need to do.

REPRESENTATIVE FLEMING: Thank you. We appreciate you coming today.

MS. DUFORT: Thank you.
REPRESENTATIVE FLEMING: Next up will be Phillip Williams, and after Phillip will be Mac Beeson.

So, Phillip, come on up if you are still here.

Is Phillip here? Going once, going
twice ...
Mac Beeson? Is Mac here?
actual checks you wrote, not the digital re-creation of that.

The cyber-security experts we heard today do seem aligned behind those choices as the best way to minimize risk and that's what we're all about and the best way to discover problems quickly when they occur, and to have the ability to do a meaningful recount if you really have to.

And all you election officials, you can groan with me right now because recounts really suck, right? We don't want to have to do that, but you ought to be able to do it well, with confidence, if you have to go there.

And we know that three out of four American voters right now have the ability, are actually voting with paper ballots. So we're lagging here in Georgia and I love it. We just did state of in Morgan County last week, and everything out of Bert Jones' mouth, everybody: We're number one in this, we're the top five in this. Well, when it comes to voting, we're in the bottom five and we need to fix that. I think that's why you've spent your time with us today.

But here's the thing that was news to me --
REPRESENTATIVE FLEMING: Jeanne, we'll give

Page 324
MR. BEESON: (inaudible)
REPRESENTATIVE FLEMING: Okay. All right. Okay.

Jeb Cameron? Jeb Cameron?
MR. CAMERON: (inaudible)
REPRESENTATIVE FLEMING: Also? Okay. That's all right.

Kathy Rogers? Might've been a misunderstanding there. How about Denice Traina? Denice? Is Denice here?
(Audience member speaking off mic)
REPRESENTATIVE FLEMING: Okay, who is your son? Joseph?

Joseph, come on up. Say your name and tell us where you're from.

MR. TRAINA: Sure. Thank you. I'm Joe Traina. I'm a voter in Richmond County, a former county party secretary, and I participated in the Burke County recount, so I've been following the work here. I appreciate the work that Lynn does -- she works every day -- and the work that she's done here today.

As a local voter and a founding member of Progressives for Democratic Reform, we welcome the commission members to preserve our most
\begin{tabular}{|ll}
\hline & Page 325 \\
1 & precious right, the right of Americans to select \\
2 & representation who govern on our behalf. PDR \\
3 & believes that it's a precious right must be \\
4 & protected and not be put at risk which is why we \\
5 & understand this is a not a partisan issue and \\
6 & even stands to hold our own accountable when \\
7 & exclusionary practices jeopardize our inalienable \\
8 & rights as citizens. \\
9 & Three quick points I want to leave you guys \\
10 & one, the most important is the right to vote must \\
11 & not be infringed by any feature of access, \\
12 & technical skill, economy, or partisan limitation. \\
13 & This means ability, income, transportation, \\
14 & physical address. Partisan identity must not be \\
15 & functional deterrents to determining our \\
16 & representation. \\
17 & so we encourage the commission to lobby \\
18 & leadership for automatic registration, allowing \\
19 & some voters to cast ballots for, quote, none of \\
20 & the above, end quote, or at the very least, \\
21 & same-day election-day registration -- to include \\
24 & election-day registration.
\end{tabular}

\section*{Page 327}
precious right, the right of Americans to select believes that it's a precious right must be protected and not be put at risk which is why we understand this is a not a partisan issue and even stands to hold our own accountable when exclusionary practices jeopardize our inalienable rights as citizens.

Three quick points I want to leave you guys with and just to be on the record for: Number one, the most important is the right to vote must not be infringed by any feature of access, technical skill, economy, or partisan limitation. This means ability, income, transportation, physical address. Partisan identity must not be functional deterrents to determining our representation.

So we encourage the commission to lobby leadership for automatic registration, allowing the above, end quote, or at the very least, same-day election-day registration -- to include

Number two, as taxpayers understand elections and the ever-expanding campaign season

REPRESENTATIVE FLEMING: Thank you, Joe. Appreciate you being here today.

Next I have on my list is Terry Reeves and after Terry will be John Fortuin.

Terry Reeves? Terry, welcome. Tell us -go ahead and say your name again for us and tell us where you're from.

MS. REEVES: Yes. Thank you very much. I'm Terry Reeves. I live in Rutledge, Georgia in Morgan County.

REPRESENTATIVE FLEMING: Good to have you.
MS. REEVES: Thank you very much and thank you all for having this commission. I am a concerned citizen. I'm not with any one particular group. I called the secretary of state after we attended our local board of elections meeting out of concern for the security of voting and the need for paper ballots because we knew that Kennesaw State hacked into our system and our voter information was out there for more than six months and nothing was done about it.

I'm concerned that every vote is cast and counted accurately and securely. So I urge you that whatever system you go with -- I haven't
are incredibly expensive, we therefore ask the commission to consider proposing instant run-off voting, also known as ranked choice voting, which are proving to be great reductions of costs in recent elections where they've been held.

And finally, number three, when we vote, it is vital in order to trust in the process that verifiable results are secure, with a paper trail and digital corroboration, which means is -- or what we're asking then for the commission to consider is the following proposal. Make no changes to the current system, simply add physical receipts and a digital verification component.

Nominal investment in printing receipts would mean the same process folks are used to is leveraged by a time-stamped copy of a voter's ballot with barcodes or unique ID that voters can use to verify or report problems themselves within real-time databases. This way votes and receipts are physical but audit processes remain largely unchanged beyond the inclusion of digital backups verified by the voters themselves in partnership with boards of election.

Thank you for your time.
heard the entire day here, but whatever system you vote in, I, too, urge that you have a paper trail, receipt trail, so that there can be no error. That is our one wonderful beautiful right and that is to choose our elected officials and to vote.

And I ask you to please protect that right and do everything in your power to make sure that we do have a trail and that it is done accurate.

And I appreciate your time. Thank you all very much for this commission.

REPRESENTATIVE FLEMING: Thank you very much.

All right, John? John Fortuin? Is John here?

Okay. John, welcome, please pronounce your last name correctly because I'm sure I did not and tell us where you're from.

MR. FORTUIN: Hi. My name is John Fortuin, and I'm from Athens-Clarke County.

REPRESENTATIVE FLEMING: Thank you, John.
MR. FORTUIN: I'm actually a candidate for Senate District 46. I'm in the Green party, but I come here today as a concerned citizen who's been working on this issue actually since 2004.


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REPRESENTATIVE FLEMING: John, I'm going to let you wrap-up.

MR. FORTUIN: All right. And once again -and we were subjected to the misinformation since the initial deployment of this original system. We need complete transparency on every aspect of the bidding. We need the bidding process to be open. We need actually to make certain that the lobbyists are not raking the citizens over the coals. We need to know how much they're getting paid, what their contracts are as well.

REPRESENTATIVE FLEMING: John, thank you. Appreciate you coming today.

MR. FORTUIN: Thank you.
REPRESENTATIVE FLEMING: Next is Susan McWethy and after Susan, Dave Barbee. So is Susan here?

Susan, please come on up. Do you want us to pass those around for you? Okay. Susan, welcome. Tell me how I mispronounced your last name and where you're from.

MS. MCWETHY: McWethy.
REPRESENTATIVE FLEMING: I did okay?
MS. MCWETHY: Yes. Susan McWethy from -- I live in Decatur.
would -- I can reiterate what John Fortuin just said about paper. It's simpler. It allows for a voter chain of custody. It makes sense, and I think scanning is good too, but we also must have an audit, a proper audit, proper risk-limiting audit.

So, again, transparency, simplicity, then I will have confidence.

Thank you.
REPRESENTATIVE FLEMING: Thank you, Susan. We appreciate you coming today.

Dave Barbee and after Dave will be Liz Throop. I think I pronounced that right. We'll see.

Dave --
MR. BARBEE: Okay.
REPRESENTATIVE FLEMING: -- tell us your name and where you're from.

MR. BARBEE: My name's Dave Barbee. I'm from Richmond County.

REPRESENTATIVE FLEMING: Thank you, Dave. Good to have you.

MR. BARBEE: Thank you.
Two reasons we're here: Number one, Diebold's out of business, machines are old and
\begin{tabular}{|cc}
\hline 1 & we've got to replace them. \\
2 & Number two, everybody's afraid that \\
3 & somebody's going to change the vote. \\
4 & Now, folks, that Diebold machine has been \\
5 & voting in Richmond County for 16 years in this \\
6 & thing. And the only way that that thing's hooked \\
7 & up to the wall is through electricity. I don't \\
8 & care who you are, you can't change my vote. \\
9 & Lynn's been great. She's had over 500 \\
10 & machines that we have for Richmond County, a lot \\
11 & of money to be replaced. And I've trusted every \\
12 & vote that I've cast and I know it's been counted. \\
13 & Now, this thing about paper trails I think is \\
14 & just metal hats. \\
15 & Lynn and I have even had a discussion about \\
16 & the "I voted" peach sticker. That's legal tender \\
17 & on election day. You can take that, go to a \\
18 & certain areas or a certain whatever and get paid \\
19 & for turning in that sticker. \\
20 & with the systems that we have now that would \\
21 & change our system to where my vote is not \\
22 & private. That's my vote. I don't want any -- \\
24 & you know, any record. I know how I voted and
\end{tabular}

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1 all of you and your really sweating all these
details and there's so many: Things like
accessibility, overcounting, undercounting, the cost of equipment, how quickly machines tabulate, and I appreciate that, but if votes are miscounted, that really dwarfs -- it invalidates all of these other problems.

And I'm concerned because I see a strong and growing perception that Georgia's elections don't or might not reflect voter intent. I can't think of a bigger reason for business and for the business class to actually leave Georgia than for the perception of corrupt government.

And I'm stressing that, you know, perception is reality when you're talking about getting people out to the polls and to making decisions about where they live. Only counted verifiable votes directly tabulated without encoding and barcodes will restore trust in the voting system. Again, thank you.
REPRESENTATIVE FLEMING: Thank you, Liz. We appreciate you being here today.

Next I'm going to ask Dave Titus to come up and then after that Jackson Faw.

Dave? David Titus? Is David still here?
business, except mine and the Almighty.
If you want to talk about paper trail and paper ballots, I'm the oldest guy in here. I remember when we had paper ballots this long and you marked the top of it with an "x" and you put it in the box. Guess what? After all the votes were counted, somebody always found another box. They had ballots that wasn't counted. I'm not going to -- it happens, okay? So --

REPRESENTATIVE FLEMING: Need to wrap-up,

Dave. MR. BARBEE: -- be careful what you do. I'm just asking you to make sure we have the same safe system, the safe system we have now.

Thank you.
REPRESENTATIVE FLEMING: Thank you, Dave. We appreciate you coming today.

Liz? Is Liz here? Liz? Tell me how to pronounce your last name and tell us where you're from.

MS. THROOP: Hi, I'm Liz Throop.
REPRESENTATIVE FLEMING: Say it again.
MS. THROOP: From Atlanta.
REPRESENTATIVE FLEMING: All right.
MS. THROOP: Again, I'm so impressed with

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Okay, after -- then we'll move on to Jackson Faw.

Jackson, did I pronounce that last name right?

MR. FAW: (inaudible)
REPRESENTATIVE FLEMING: Okay. Jackson, good to have you. Tells us where you're from. Happy to hear from you.

MR. FAW: Likewise. Thank you very much. Jackson Faw from Atlanta, Georgia. I'm just a concerned voter.

Last year in Atlanta, y'all might remember we had -- I-85 caught on fire. Six lanes both ways went down. It affected 250 -million cars a day, and everybody said: Well, that's going to take six months. I know it takes a certain amount of time for concrete to cure. But guess what? Georgia resolved it. Georgia funding got that bridge fixed in 44 days.

Right now, the eyes of the nation are on Georgia in this coming election as we're preparing to possibly elect the first black female governor, first black female to be running on a major party ticket.

Yesterday, Judge Totenberg threw out our
\begin{tabular}{|c|c|}
\hline & Page 337 \\
\hline 1 & secretary of state motion to dismiss a case, and \\
\hline 2 & she's going to make a judgment or they're going \\
\hline 3 & to make a judgment in about -- in another couple \\
\hline 4 & of weeks. And today we heard the secretary of \\
\hline 5 & state, controller of elections who's also running \\
\hline 6 & for governor, say that well, she might not make \\
\hline 7 & us do that. That -- folks, that can't be our \\
\hline 8 & solution. We can't say that maybe it won't \\
\hline 9 & happen because there's a lot of scrutiny right \\
\hline 10 & now. \\
\hline 11 & There's a lot of people saying why do we \\
\hline 12 & have the person in charge of elections is in \\
\hline 13 & charge of his own election. Last week \\
\hline 14 & Mr. Harvey, I know you know about this -- we had \\
\hline 15 & ten black counties in Georgia targeted for poll \\
\hline 16 & closures. Were it not for media attention from \\
\hline 17 & across the country, Randolph County would've \\
\hline 18 & closed seven out of its nine polling locations in \\
\hline 19 & a community that's \$35,000-a-year \\
\hline 20 & (indiscernible). \\
\hline 21 & So my point is, folks, we can get this done. \\
\hline 22 & We heard the vendors say they can get it done. \\
\hline 23 & We had two vendors say today they could get it \\
\hline 24 & done in eight weeks, whatever they're going to \\
\hline 25 & bring, donkeys and elephants, to get it fixed. \\
\hline
\end{tabular}

Page 339
1 There are many people who are, like, amazed

There are many people who are, like, amazed that I, an ordinary citizen, am here for this. Does the citizenry really care, do people really care about this? Well, of course they care. I've been doing a lot of work in rural counties, trying to get voters out. And also looking at what happened in Richmond (sic) County last week, I went and helped collect signatures to make sure that people understood about what was going on with their polling places possibly being closed and doing what we could to stop that from happening.

The only reason that happened was -- and I realize that I'm probably speaking outside of what is your purview. I understand that SAFE is not about this year's election, but what is about this year's election? It's been demonstrated that the current voting system, in spite of what was said earlier, is not SAFE. The reason why we knew that those places, those polling places were going to be shut down was because there was a tiny legal published in a weekly in Richmond County -- in Randolph County, and one person found it and started circulating the information to the press and so forth and so on.

REPRESENTATIVE FLEMING: Jackson, I'll allow you wrap it up.

MR. FAW: Yes, sir, I'll wrap it up.
REPRESENTATIVE FLEMING: Okay.
MR. FAW: Each of you are that are making this decision, history's going to be looking at you, and whichever way this election goes, we're going to be looking back and y'all's names are going to be on this. As a Georgian, I want to be proud to say this election was fair and accountable.

\section*{Thank you.}

REPRESENTATIVE FLEMING: Thank you, Jackson.
Next we have Priscilla Smith, and after Priscilla, I'm going to ask Smythe DuVal to come up.

Priscilla, welcome. Tell us where you're from.

MS. SMITH: Thank you very much. I'm Priscilla Smith. I voted in DeKalb County. I lived in the city of Atlanta.

REPRESENTATIVE FLEMING: Welcome.
MS. SMITH: Thank you. Thank you very much for your service to the commission. We really appreciate it.

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I don't know who's protecting us. The secretary of state is running for governor himself. He doesn't have a vested interest in undermining what's going wrong with the current voting system. I don't know who's going to represent us if you don't.

I'm begging you to recognize that something has to be done between now and October 15 th when early voting begins. There are people here who said they can handle the situation. We can do something. Stacey Abrams is calling for absentee ballots. No one wants to do that in the massive amounts that's going to be required. But I don't know how we're supposed to trust our vote.

And the disaffected voters that I've run into across rural Georgia don't trust anything. And nothing I've seen today makes me know that this next election is going to encourage people to be the citizens that they have to be in order to make democracy work.

So I beg you with what power you have as this commission to do something to increase the voter security for the next election.

Thank you very much.
REPRESENTATIVE FLEMING: Thank you,

1 Priscilla. We appreciate you coming today.

Mr. Smythe? Pronounce your last name for me.

MR. DUVAL: DuVal. Smythe DuVal.
REPRESENTATIVE FLEMING: DuVal. Tell us where you're from.

MR. DUVAL: I am from Marietta, Georgia.
REPRESENTATIVE FLEMING: Thank you for being here today.

MR. DUVAL: You're welcome. Thank you for hosting us. I am a Kennesaw graduate student in IT. I have experience in IT. And I'm also a Libertarian candidate for the Georgia secretary of state and a concerned citizen.

So I'd like to thank you again for hosting the meeting. Let's see. I want to do three things. First, for a candidate, two minutes is always really, really hard.

But hand-marked paper ballots, along with post-election audits, that is the gold standard. I think there's a lot to it to talk about that. But for everybody on the panel, I would definitely encourage you to look at the presentations you had today and see which of these options were the one in your RFI. We

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any kind of plan \(B\), even though they know that there's a possibility that these machines are going to get decertified, or there's a possibility --

REPRESENTATIVE FLEMING: I'll give you a chance to wrap it up.

MR. DUVAL: Sure. Thank you.
-- a possibility that, you know, more information could come out.

And lastly, I just wanted to thank the panel again, but also I'm concerned that the panel is not transparent enough. I'm hearing from panel members that there's really not a whole lot going on in the panel besides these meetings. There's no study groups, no requirements definition, no meetings. It sounds like the work of this going on is in the secretary of state's office and not the panel.

I'd like to hear more about it. I would love for you guys to get a Twitter handle or a Facebook page or something so we can start communicating with you directly.

REPRESENTATIVE FLEMING: Thank you,
Mr. Smythe (sic).
Next will be Dana Bowers and after Dana will
really want the gold standard of verifiable ballots in this state.

The second thing I wanted to talk about is this coming-up election. I was in the camp that we don't really need to change anything until the news came out our foreign adversaries were actually looking at our sites. At that point, the risk profile has gone up for me personally. I certainly don't know what the professionals are finding out, but I was very glad Mr. Mike Garcia spoke this morning. He was talking about risk, risk assessment, and how to actually prioritize risk.

That is my specialty in IT and I would like to point out that it's something we do need to take extraordinarily seriously, especially when we're talking about the potential adversaries are state-sponsored types of adversaries, people who have gone under so many other types of organizations that have way more resources than we do.

This is going to get decided by the judge on the 18th. With that in mind, I was, again, shocked to hear that a lot of places in Georgia are not planning on any kind of interruption or

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be Rick Barron.
Dana? Is Dana here?
(inaudible)
REPRESENTATIVE FLEMING: She's coming?
Where is she coming from?
(inaudible)
REPRESENTATIVE FLEMING: Oh, okay. There you are, Dana. Good to have you today.

MS. BOWERS: Thank you.
REPRESENTATIVE FLEMING: Say your name again for us and tell us where you're from and we'd love to hear from you.

MS. BOWERS: Hi. My name is Dana Bowers. I am from Gwinnett County. I am a native Georgian as well.

REPRESENTATIVE FLEMING: Thank you, Dana.
MS. BOWERS: I just would like to thank the commission for taking public commentary and questions into consideration. I attended the first state commission meeting and I presented a proposal for the easy and inexpensive implementation of paper ballots for the November general election using the current equipment the state already has on hand.

As an election integrity activist and
\begin{tabular}{|c|c|}
\hline & Page 345 \\
\hline 1 & everyday Georgia citizen, I am extremely \\
\hline 2 & concerned about the lack of verifiable facts \\
\hline 3 & being used by our top election officials almost \\
\hline 4 & as much as the lack of verifiable votes we pass \\
\hline 5 & every time we go to the polls. The secretary of \\
\hline 6 & state's office has taken a personal interest in \\
\hline 7 & unverifying our organization as well as \\
\hline 8 & misquoting and misinterpreting the law. \\
\hline 9 & So basically what I'm trying to say is \\
\hline 10 & they're actually using their power to come back \\
\hline 11 & on the counties that actually have their own \\
\hline 12 & power. \\
\hline 13 & So in a formal letter to all Georgia county \\
\hline 14 & boards of elections and boards of county \\
\hline 15 & commissioners, the secretary of state's office \\
\hline 16 & appears to have threatened counties with some \\
\hline 17 & form of punishment if they abide by the law that \\
\hline 18 & allows them to independently implement paper \\
\hline 19 & ballots. No such punishment is defined in any \\
\hline 20 & election law in the state of Georgia. This has \\
\hline 21 & the feeling of voter intimidation because after \\
\hline 22 & all, these commissioners and board members are \\
\hline 23 & voters just like me. And from one voter to \\
\hline 24 & another to another, I would like to urge the \\
\hline 25 & state commission to please consider expert \\
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\end{tabular}

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1 state your name again for us. Tell us where

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state your name again for us. Tell us where you're from. We'll be happy to hear from you.

MR. BARRON: I'm Richard Barron. I'm the director of registration and elections for Fulton County, Georgia.

And, well, I'm here today to encourage the commission to -- whatever system you end up deciding upon, please be sure that it accommodates early voting. We've -- in Fulton County, we've tried to make sure that everyone is enfranchised. During the presidential election, we had up to 27 locations per day going. We plan on doing up to 22 in the gubernatorial election.

So what we've done is tried to take a lot of pressure off on election day. It is very difficult with paper ballots or a pure paper system to administer early voting. Early voting is on the book in Georgia. We've got 19 days of it. We have to have every ballot style in every early voting precinct.

If we come up with a system that is based mostly on paper, we're going to have a very difficult time administering early voting. At that point, we're going to need to increase the number of election-day sites that we already
testimony from those that do not represent a corporation and the voice of the voters.

Our organization filed a motion for a preliminary injunction for emergency statewide implementation of paper ballots in federal court. As of yesterday, Judge Totenberg dismissed Secretary Kemp's motion to dismiss our case --

REPRESENTATIVE FLEMING: Dana, I (indiscernible) --

MS. BOWERS: -- and recorded that hearing --
REPRESENTATIVE FLEMING: Ma'am?
MS. BOWERS: -- where we will --
REPRESENTATIVE FLEMING: Ma'am?
MS. BOWERS: -- be able to prevent more --
REPRESENTATIVE FLEMING: I want to give you a chance --

MS. BOWERS: -- information --
REPRESENTATIVE FLEMING: -- to wrap up.
MS. BOWERS: -- and reiterate the
feasibility of our paper-ballots plan.
Thank you very much.
REPRESENTATIVE FLEMING: Thank you, Dana. Appreciate you coming here today.

Rick Barron? Is Rick here?
Rick, come on up. Good to have you. Please

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have. I think you're all familiar with the problems Fulton County had from 2012 and before.

So I think over the last five years, my staff and I've worked very hard to make sure that Fulton County runs its elections well. And I think we've achieved that. A lot of it is because of early voting.

And there's -- three minutes or two minutes isn't enough to go into all of the other things, but I have had eight years of experience in conducting early voting with -- or -- and voting with paper ballots in Texas in addition to my time here in Georgia.

So the biggest complaint with paper ballots are in early voting when voters received the wrong ballot. And that was basically a pure paper system. If we go to ballot-on-demand printers --

REPRESENTATIVE FLEMING: You want to wrap it up.

MR. BARRON: Yeah. If we go to ballot-on-demand printers, we already have multiple printers in each early-voting site because Georgia has an onerous requirement of printing out every absentee-ballot application.
\begin{tabular}{|c|c|c|c|}
\hline & Page 349 & & Page 350 \\
\hline 1 & On-demand printers is going to add more printers. & 1 & movement in Georgia for 13 years. \\
\hline 2 & We would have more backups if that happens, so & 2 & All but two of the speakers who spoke at the \\
\hline 3 & we're going to need to have some sort of & 3 & June 13th meeting were our members. I've got 30 \\
\hline 4 & ballot-marking device with paper printout or a & 4 & years of IT experience. In 2002, I warned \\
\hline 5 & DRE with VVPAT for early voting. & 5 & Kennesaw State University and the secretary of \\
\hline 6 & Thank you. & 6 & state's office not to purchase the current voting \\
\hline 7 & REPRESENTATIVE FLEMING: Appreciate you & 7 & machines because they can't produce a verifiable \\
\hline 8 & coming in today. & 8 & product or handle recountable results. \\
\hline 9 & Next will be Joe Traina. Joe? Is Joe here? & 9 & Last year, 20 computer scientists wrote a \\
\hline 10 & (inaudible) & 10 & letter to the secretary of state's office urging \\
\hline 11 & REPRESENTATIVE FLEMING: Oh, okay, maybe it & 11 & him to decommission these machines for the same \\
\hline 12 & was on the list twice. Okay. & 12 & reasons I gave them 16 years ago. \\
\hline 13 & Next, Gerald Favato (pronouncing)? Gerald? & 13 & So at the June meeting I requested to make a \\
\hline 14 & Favorito, okay. & 14 & presentation to you at a future meeting. The \\
\hline 15 & MR. FAVORITO: I'm Garland. Garland & 15 & agenda -- I have since fleshed out the agenda. \\
\hline 16 & Favorito. & 16 & It's on the back of your handout. I requested a \\
\hline 17 & Representative fleming: Garland? Okay, & 17 & vote at that time and I'm requesting a vote again \\
\hline 18 & Garland. Garland, you write as well as I do. & 18 & today if you think that this information that I \\
\hline 19 & Thank you. Welcome. Good to have you today. & 19 & printed out for you is worthwhile. \\
\hline 20 & We'd love to hear from you. Tell us where you're & 20 & In looking at today's presentations, I need \\
\hline 21 & from. & 21 & to let you know that at least half or more of the \\
\hline 22 & MR. FAVORITO: I'm from Roswell, Georgia. & 22 & presentations you saw today were for unverifiable \\
\hline 23 & And I have a handout there. I'm -- there's two & 23 & voting systems just like we've been fighting for \\
\hline 24 & sides, front and back. I'm the cofounder of & 24 & 16 years. So imagine how that makes me feel to \\
\hline 25 & VoterGA. We've led the election-integrity & 25 & see that we're not really making any progress in \\
\hline & Page 351 & & Page 352 \\
\hline 1 & the 16 years and we're still looking at & 1 & time today. I want to appreciate y'all, the \\
\hline 2 & unverifiable voting equipment again. & 2 & members of the commission, for coming today and \\
\hline 3 & Now, I know that you would not really & 3 & we thank you for your time. \\
\hline 4 & understand that because you haven't seen my & 4 & Thanks again to Columbia County for all of \\
\hline 5 & presentation. You haven't identified in the & 5 & their kind assistance in setting up the venue for \\
\hline 6 & current the proven opportunities, you haven't & 6 & us. We will stand adjourned. Thank you. \\
\hline 7 & defined the requirements you have, and you & 7 & (Concluded at 6:00 p.m.) \\
\hline 8 & haven't evaluated one of the most critical things & 8 & \\
\hline 9 & which is centralized versus decentralized & 9 & \\
\hline 10 & election -- & 10 & \\
\hline 11 & Representative fleming: Garland, I want to & 11 & \\
\hline 12 & give you a chance to wrap it up. & 12 & \\
\hline 13 & MR. FAVORITO: Okay, give me about 10 & 13 & \\
\hline 14 & seconds. & 14 & \\
\hline 15 & The security flaws that are in that election & 15 & \\
\hline 16 & preparation, that's centralized, and that's what & 16 & \\
\hline 17 & we need to discuss now, and I'll go into more & 17 & \\
\hline 18 & detail in my presentation. & 18 & \\
\hline 19 & So again I would ask for a vote on that & 19 & \\
\hline 20 & today, please. & 20 & \\
\hline 21 & REPRESENTATIVE FLEMING: Garland, thank you & 21 & \\
\hline 22 & for coming today. & 22 & \\
\hline 23 & That concludes the public input for people & 23 & \\
\hline 24 & that signed up. & 24 & \\
\hline 25 & Committee members, you've been here a long & 25 & \\
\hline
\end{tabular}
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