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Statement of Kathy Rogers, Director of Election Administration,
Georgia Office of Secretary of State regarding Electronic Voting
To the Election Assistance Commission

EXECUTIVE SUMMARY

The 2002 General Election was a milestone in Georgia history, as we became the first state in the nation to successfully implement a statewide uniform system of electronic voting. Georgia's transition to new electronic voting equipment was the result of an in-depth analysis of the accuracy and accessibility of available voting systems, an extensive statewide voter education program and poll worker training, and an unprecedented partnership between state and county governments.

In the almost two years following that first election, Georgia counties have conducted hundreds of elections using electronic voting. Numerous success stories have emerged from nearly every corner of the state. Two themes quickly emerged: Georgia voters young and old embraced and expressed confidence in the new voting system, and our state's undervote rate was dramatically reduced following the deployment of the electronic voting platform. Georgia voters have overwhelmingly indicated their approval of electronic voting in not one but two independent public opinion studies conducted by the University of Georgia's Carl Vinson Institute.

The Center for Election Systems at Kennesaw State University was created in 2002 to provide support and independent testing to all 159 Georgia counties. The Center for Election Systems at KSU tested ***every*** touch screen unit, encoder, optical scan ballot reader and server used in the 2002 General election. Tens of thousands of voting terminals and related components were tested by the Center, and its staff continues to

travel to each of Georgia's 159 counties to independently test and validate all new equipment purchases. As described in Dr. Williams' testimony, an important function of this testing is to assure that the correct, current, state-certified and NASED-qualified software is operating on all components of the election platform. As such, the State and its counties are not forced to solely rely on the representations of the vendor, but instead benefit from the expertise of an independent and technically capable partner to assure consistency and quality control statewide.

In addition to testing, The Center for Election Systems at KSU now offers support to counties and their staff in the areas of poll worker training, enhanced courses on election management training, courses for new election officials and ballot building creation and review services.

Under the direction of Dr. Brit Williams at the Center for Election Systems, all software and hardware used in Georgia election systems is put through a series of tests designed to validate the security and accuracy of the voting systems. As noted in his presentation, Dr. Williams uses a hashing program to ensure that every server housed within each elections office is free from any extraneous code. This testing is performed AFTER equipment is delivered from the vendor to the state, and is repeated at regular intervals

Georgia Election Officials have embraced electronic voting. Those who are charged with conducting elections understand that the security of an election does not rest on the performance of equipment alone – whatever that voting platform may be. These election experts are well acquainted with the entire umbrella of security that surrounds the voting process. Every feature of the comprehensive security protocol, including paperwork procedures and physical security, is important to assuring the integrity of the voting process. A secure and accurate election begins long before Election Day and is first comprised of many levels and layers of testing.

With these safeguards in place, attempts to alter the system software would be readily detected. While the foremost goal is to assure that illegal tampering never occurs,

experienced election officials recognize that no voting system can be made completely invulnerable to attack. So a variety of measures are in place to assure that any attempt to compromise the system can be detected. Additional physical security controls are in place in the facilities where the equipment is housed and standard security measures are in place in each precinct on Election Day. Multiple, overlapping audit trails of the number of voters who have voted and the number of ballots cast as well as votes that were cancelled are recorded in each precinct on Election Day, and compiled and retained after the election. After the polls close these numbers are reconciled with the numbers produced by the electronic voting system during the vote tally and any "extra" votes or cancellations would be immediately identified. These numerous checks and balances that must all be strictly followed ensure that every voter is afforded the opportunity to cast a secret ballot that is the true and accurate intent of the voter.

The Call for Change

As Director of Elections Administration for the State of Georgia I was charged with directing the nation's first installation of a Statewide Uniform Direct Record Electronic Voting System. My election-related experience began two decades prior that time, when I first volunteered my services as a poll worker, and continued as an elections office worker and later as Director of Elections for Chatham County (Savannah) Georgia. I relate this experience to note that during the course of my career I have been responsible for the programming and counting of ballots cast on lever machines, punch cards, optical scan tabulators and paper ballots as well. I can, without hesitation, testify to the fact that each of the aforementioned systems had the potential to not only malfunction, but also to lose votes and confuse voters.

The disputed 2000 Presidential Election served as a huge wake up call to a nation of voters and election officials. Alarmed by the high percentage of undervotes recorded by voting equipment in Florida, Secretary of State, Cathy Cox compiled data on undervotes experienced with Georgia's then existing equipment; a mix of lever, punch, optical scan and even paper ballots. The findings were staggering. Not only did Georgia have a higher undervote rate than Florida; at 3.5% our undervote rate far exceeded the national average of 1.9% and was reported by the CalTech/MIT study as the third-worst in America. A study entitled "A Wake-Up Call for Election Reform and Change" was subsequently produced by the Secretary of State outlining the performance of Georgia's election equipment in each of its 159 counties during the 2000 General Election. Further analysis documented extremely large variations in undervote rates between counties, as well as huge undervote variations between majority vs. minority precincts in the same county using the same equipment. In 2001 the ACLU, on behalf of several Georgia voters, sued the state, noting that, based upon the state's own data, the election platform then in place had a discriminatory impact and served to disenfranchise minority voters in counties throughout the state.

The findings in the "Wake Up Call" report were alarming enough that in 2001 the General Assembly passed, at the request of the Secretary of State, Senate Bill 213 which provided for the creation of a 21st Century Voting Commission. This group was tasked with studying the accuracy and reliability of all nationally qualified voting systems and to provide a report on its findings and recommendations to the General Assembly. I was then an election official in Chatham County and was honored to be selected as a member of the 21st Century Voting Commission. Our Commission was comprised of a balanced, multi-partisan group of General Assembly members, election officials, technology experts, and other important stakeholders. We took our charge seriously and invested a significant amount of time studying reports on existing technology, visiting other states to observe elections using electronic voting systems, holding meetings to obtain public comment, and, most importantly overseeing an electronic voting pilot project.

In November 2001, 13 cities participated in this pilot project, utilizing six different NASED-qualified and state-certified DRE systems from six different vendors, to conduct actual municipal elections. The cities were selected to assure geographic, demographic and partisan diversity. The University of Georgia's Survey Research Center

was retained to perform an intercept, or "exit poll," of voters to measure their reactions to the equipment and attitudes about the deployment of new voting technologies.

Altogether, the State conducted a full year of study, evaluation and due diligence before making its recommendation for voting system reform. In January 2002 the 21st Century Voting Commission unanimously recommended to the Governor and General Assembly that Georgia adopt a statewide uniform system employing electronic voting equipment.

The Center for Election Systems at Kennesaw State University (KSU) & Security Protocols

Georgia is fortunate to have the Center for Election Systems at Kennesaw State University as our independent, technically capable entity responsible for testing and certification of election equipment. Upon completion of national testing, experts at the Center for Election Systems at KSU, under the direction of Dr. Brit Williams, review the system for compliance with state law and test the system for the presence of any unauthorized or fraudulent code. In addition to laboratory testing, technicians cast thousands of votes on multiple units to simulate a real world election environment. Upon the successful completion of this process, the system is then certified for use in Georgia.

After equipment has been certified, the vendor is then allowed to install the system in local jurisdictions. Upon completion of vendor installation, independent testers travel to each county to perform acceptance testing of all equipment. In 2002 the Center for Election Systems at KSU tested each piece of voting equipment used in the 2002 General Election, including over 22,000 individual touch screen voting terminals, 9,000 encoders, and 159 election management servers. During acceptance testing technicians from the Center for Election Systems at KSU utilize a software-hashing program that verifies the system installed by the vendor is identical to the system certified at the state level by Dr. Brit Williams. On an ongoing basis Center staff continues to travel to each and every county testing all new purchases of equipment. Counties are prohibited from using any component that has not undergone acceptance testing.

Servers are always kept in the locked offices of county officials, and access to all system components is restricted and carefully controlled. No extraneous software may be installed on servers. There is no network connectivity and physical access to the machines is limited to authorized personnel. Touch screen units are locked and sealed when not in use.

Election Day 2002 – The Truth

November 2, 2002 was an historic day for Georgia. For the first time, every voter was afforded the opportunity to cast a ballot in the same manner using the same equipment with precisely the same voting interface. A voter in one county did not receive the advantage of better technology while his counterpart in a neighboring county voted on antiquated voting equipment prone to high error rates. That fact sometimes seems to be forgotten today. Georgia corrected a problem that was close to being a disaster.

On Election Day the *Atlanta Journal Constitution* ran an online poll of voter experiences; the feedback was overwhelming in favor of electronic voting. Voters from the coast to the city to the mountains demonstrated their support of the new voting system. In one day many concerns and fears were laid to rest; the elderly did not have difficulty voting and voters were not afraid of the new technology. Voters who had previously never cast a ballot independently shared with us their feeling of pride and accomplishment at being able to utilize the features of electronic voting that allowed them to vote unassisted for the first time!

The 2002 General Election was one of the cleanest, most accurate elections ever held in the State of Georgia. I have made that statement several times, and have been chastised by those who are opponents of electronic voting. They say, "How do you know that it was a fair and honest election"? I know because I have worked with many different election systems, and I have seen the good, the bad, and the ugly. In truth, I have worked elections utilizing older technology where I was not 100% convinced that the votes certified were the same as the votes cast. Whenever the use of the human hand and eye is interjected into the process of recording and counting election results, you can expect that election results may not be accurately counted.

Electronic voting has removed the chance for fraud and error that inevitably comes when humans record votes on paper and handle and count paper ballots. You need only talk to the hundreds of election officials across Georgia and the nation, who are the real election experts, to find that that these election officials are excited about electronic voting. For many of them it is much more complex than the voting system they previously used, and so some election officials were initially hesitant about the idea of electronic voting. As these same election officials began to learn how the system operated and became intimately familiar with the testing, programming, and tabulation of election results, they became some of the biggest proponents of the new technology.

We have taken huge strides in improving accuracy and ease of use, and the data gives us reason to be confident that a much higher percentage of the ballots cast in Georgia in November 2002 represented a true and accurate reflection of the voter's intent. Voters are allowed to review their ballot prior to touching cast ballot. What system had ever provided that capability before? What lever, punch or optical scan system

actually provided an opportunity for a voter to look at his or her choices and confirm or change those choices prior to touching cast ballot?

Six years ago, under Georgia's antiquated voting platform, the top-of-the ballot U.S. Senate undervote was 4.8% of ballots cast. In 2002, after deployment of the new electronic system, the undervote in the top-of-the ballot U.S. Senate race was a mere 0.87 percent. That is a more than five-fold reduction in undervoting, a decrease of 71,000 ballots that showed no choice in the top of the ticket race. And it is clear and convincing evidence that an electronic voting platform that prohibits overvotes, that provides the voter with feedback and that offers a summary screen to check and review ballot choices can dramatically improve the accuracy of the vote count.

Voter Confidence Validated

The Carl Vinson Institute of Government at the University of Georgia conducted a public opinion survey following the 2002 General Election and found that Georgians overwhelmingly prefer electronic voting to other methods. More than 70% of respondents reported being "very confident" that their vote was accurately counted, a sharp increase from the 56% who responded to that same question during the 2001 pilot project. Some 97% of voters said they "experienced no difficulties" when using electronic voting terminals.

The Vinson Institute followed up with a second survey one year later, in November 2003, which confirmed that over 70% of voters are still confident in Georgia's electronic voting platform. This same survey also noted that all voters in all age groups, income and education levels, and racial and ethnic groupings believe that electronic voting is superior to forms of voting previously used in Georgia.

The Many Myths of Paper Receipt

Recent reports published by academics, computer scientists and software security professionals have raised questions about security with electronic voting systems. It is important to note that these reports have been written by computer scientists who admittedly know very little about how elections are administered and often completely disregard the internal and external security measures in place for Georgia elections. A number of these electronic voting reports have also raised the issue of a "paper" trail. It is important to note that Georgia's electronic voting system *does* have the capability of printing a paper printout of each vote cast, as required by the Help America Vote Act.

Georgia did away with "paper" in our elections process for a number of reasons including:

- The unreliable nature of paper ballots as demonstrated by the 2000 presidential election debacle in Florida;
- The fact that, nearly without exception, election fraud cases in Georgia history have involved "paper;"
- Diminished accessibility and privacy for our state's voters with disabilities;
- Federal requirements that ballots be made available in multiple languages in regions with growing minority populations which will certainly include Atlanta and other metropolitan counties in the near future;
- Voter delays associated with poll workers addressing paper jams, refills and other printer related issues on more than 24,000 individual printers on Election Day.

The paper receipt debate has generated a great deal of inaccurate, false, and misleading information by those who are calling for its hurried implementation. To date, there have been numerous articles and Internet postings that continue to twist the truth – or even fabricate fictional accounts about Georgia's electronic voting platform. Conspiracy theories abound. Some espouse theories that claim possible large-scale subterfuge on the part of the vendor and the election officials. Are we calling to institute a major change to our system of voting because of these outlandish theories? As noted earlier, no system, whether electronic, mechanical or paper-based, can be made 100 % invulnerable to attack. But the facts are that our current uniform statewide system of voting is more secure than any type of voting used in the history of Georgia's elections. We did not simply sign a contract and walk away from the process and leave it to counties to fend for themselves to implement this solution. To the contrary, the Secretary of State's office has provided oversight and direction through every step implementation, and to date we continue to expand upon our role in overseeing not only electronic voting, but also all aspects of elections.

Besides the conspiracy theory, let us consider the impractical side of paper receipts. How is each receipt collected? How does the voter view it? Which is the "official" record of the election? Is it the paper or is it the votes that reside on the unit? If it is the paper then what happens if so much as one receipt is mangled or destroyed by a mechanical printer? Is the entire election then in jeopardy? How do poll workers handle the complex addition of a paper receipt and the equipment required to produce it? What are the standards needed to govern the storage and tabulation of a paper receipt? Thermal paper vs. regular paper? Is the receipt cut from the roll after each voter casts their ballot, or is it permissible to have one continuous roll that may easily allow a poll worker to determine how a person voted?

Experience has taught us that the deployment of a significant new addition to a DRE platform must also be examined in the light of Election Day reality. The success or failure of any voting system rests on the shoulders of poll managers and poll workers, who are, after all, citizen volunteers, many of them elderly, paid a very modest sum to operate voting equipment perhaps only once or twice a year. Paper receipt advocates who compare them

to employees at Wal-Mart or Target miss the mark entirely – poll workers are not and never will be full-fledged employees, who can expect regular sessions of training and who have multiple levels of professional supervision at their workplace. So not only must poll workers be carefully trained, but equipment must be designed to minimize the technical and operational requirements they need to master in order to carry out a successful election. If, because of the demands of new and more complicated equipment that includes printers and related components, even one percent of Georgia precincts experience problems making their polling places operational on election morning, that translates into more than 30 precincts unable to allow voting to take place – a situation that no doubt would be portrayed by the media and perceived by the public as a catastrophic failure.

Just as important, we should make absolutely certain that the addition of a paper receipt function, if implemented, does not put us back into the same soup of unacceptably high undervote rates that we have worked so hard to overcome. In the vacuum of a computer science lab, a new paper receipt prototype may appear simple and fool proof. But in the real world of elections, with equipment that must be accessible to voters with widely divergent levels of education, literacy, language proficiency, experience and physical ability or disability, it is crucial that the user interface be simple, straightforward and intuitive. Georgia spent enormous time studying this very issue, and the experience of other jurisdictions, before adopting a modern DRE platform as its preferred model. That due diligence paid off with plummeting undervote rates – across all demographic groupings – and a much more accurate election outcome that re-enfranchised tens of thousands of voters. It would be tragic if a hurried, and inadequately researched, requirement for a paper receipt function makes the voter interface so complicated that it increases voter confusion and drives back upward the incidence of undervoting.

These are all questions that beg to be answered BEFORE a paper receipt is mandated. Georgia did its homework when deciding to pursue electronic voting by researching each system on the market carefully and observing its performance in a live election setting. We would be negligent in our duty if we foisted an untested and untried "experiment" upon the voters of Georgia. The use of paper receipts must be tested and standards must be adopted before such a major system change is mandated across the nation.

Conclusion

The nation's election officials have anxiously awaited the appointment of the Election Assistance Commission and we applaud you for holding hearings on the performance of electronic voting systems. The Office of the Secretary of State is not opposed to any change which contributes further to the current "umbrella" of security and we embrace a concept of continuous improvement in election security. We do, however, oppose any change that erases all of the giant steps we have already taken to enhance the ease of use and improve the accuracy of Georgia elections.

Electronic voting opponents are so focused on a paper receipt alone that little attention has been given to other methods which may enhance voter security when using electronic voting. With the proper attention and study, it is very likely that new and improved methods of verification and testing may evolve that does not wed us to the use of a cumbersome paper receipt. This Commission has a difficult task – to sift through the rhetoric and headlines and accusations, some of them the product of partisan resentments – to separate fact from fiction and carefully assess the strengths and vulnerabilities of voting system alternatives. The claims and assertions of electronic voting opponents must be scrutinized with the same ferocity that has been applied to the statements and actions of equipment vendors and election officials. The successful experience of Georgia, and our enormous increase in accuracy and accessibility with minimal operational flaws and zero – not one – documented case of vote tampering or fraud – should be weighed as well. And I would respectfully suggest that any new standards adopted not only be carefully vetted by technical experts in the laboratory, but that they be proven to "first, do no harm" in real world election settings using real live American voters – and plenty of them.

No responsible election official would come before you and claim that any current system is the best that can ever be devised. Nor would we suggest to you that we cannot make voting systems even more accurate, accessible and secure than the systems now in place. A culture of continuous improvement is one that we have adopted in Georgia elections, and one that should be embraced by every jurisdiction. And so we applaud all those who offer responsible, well-reasoned criticisms and who have carefully considered recommendations for improvement. I am confident that this Commission will exercise great care and discernment in evaluating electronic voting systems, as we all strive to improve still further America's system of elections and voting.

Thank you for the opportunity to share my thoughts with this distinguished panel.