ELECTION REFORM Briefing

April 2004

INSIDE

Securing the Vote

For nearly a year, the national election reform debate has become dominated by a single issue: can voters trust that their ballots will be counted properly?

While most of the focus has been on the narrow question of whether direct-recording electronic (DRE) voting machines should be equipped with voter-verified paper audit trails (VVPATs), this debate is better understood as part of a larger inquiry into what laws and procedures are employed at the state and local level to ensure that the voting process is secure.

Consequently, in this seventh edition of our Election Reform Briefing series, *electionline.org* examines voting security, the most controversial aspect of election reform since the passage of the Help America Vote Act.

In doing so, however, *electionline.org* does not seek to join the ongoing (and increasingly acrimonious) VVPAT debate. While addressed in this publication, those questions are not the centerpiece of our research, just as papertrails are not the only method by which election officials can safeguard the vote.

For this Briefing, *electionline.org* surveyed the nation's state election directors on the subject of voting security. Their answers were dominated by VVPAT concerns, most certainly reflecting the intense focus of the last year, but some of them described other procedures – ranging from certification and testing of machines to storage of equipment and training of poll workers – that have similarly important roles in the voting security

regime. This report summarizes those responses and looks for trends that could affect the security debate through the November 2004 presidential election and beyond.

By doing so, we do not endorse their positions, either for or against electronic voting, paper audit trails or any other issues that they might feel strongly about. Rather, through questioning those in charge of administering elections in 50 states and the District of Columbia, we intend to provide an overview of facts on the ground – what security procedures are already in place, which ones are being sought and how the debate over the security and integrity of various forms of voting have shifted the debate over election upgrades and the attitudes of voters in their various states.

The Beginning

The troubled election of 2000 raised national awareness that elections are more than a contest between two candidates. Voting is a multi-step process. With breakdowns in one or more of these steps, the entire process – and the election's outcome itself – can be called into question.

The Help America Vote Act and dozens of state and local laws and rules have sought to improve the process through a number of mandates as well as $3.86 billion to fund the purchase of new voting systems, registration databases and education programs.

The goal throughout, however, has been to increase public confidence in the outcome of elections while giving states enough money so that they are not stuck with the entire tab.

Along the way, however, old worries about the age, accuracy and error rates of the voting machines

The troubled election of 2000 raised national awareness that elections are more than a contest between two candidates. Voting is a multi-step process. With breakdowns in one or more of these steps, the entire process – and the election's outcome itself – can be called into question.

that until recently were used in states including Florida, Georgia and California, have given way to new concerns about the high-tech systems that have replaced them.

It took less than a year of having DRE machines in place before computer scientists began to call into question the lack of an "open-source code," or publicly-accessible operating system.

A troubled primary in South Florida in September 2002 did little to assuage concerns about electronic voting, as machines jammed or started up slowly in precincts across Miami-Dade and Broward counties.

And again in Florida in 2004, questions about the intentions of 134 voters who cast "no vote," in a single-office contest dogged a special election that was decided by less than a dozen votes. Those who supported paper trails for electronic machines wanted to know exactly what happened to the votes. Did the machines fail to record their choices? Did the voters express their displeasure with both candidates by coming to the polls and walking away without choosing one of them? Those questions, paper trail advocates said, can never be answered because those ballots no longer exist.

Other problems plagued touch-screen machines in California in March, as some machines failed to start up properly in San Diego County.[1] Some statewide election experts said counties across the state were using either uncertified machines, uncertified software or both.[2]

With the 2004 presidential contest looming, it appears that more and more, questions among many watching the process have turned from "how have elections improved since 2000," to, "can we trust the upgrades that have been made?"

Executive Summary

Less than two years ago, electronic voting was considered to be the remedy for the ills of punch cards and other older machines. The concerns of computer scientists, activists and some voters' groups, however, have grown from a small movement centered primarily in California to a national phenomenon. Questions over the security and integrity of paperless direct-recording electronic (DRE) voting machines has been the subject of front-page articles, editorials, TV newscasts and even segments on Comedy Central.

With the presidential election approaching, *electionline.org* surveyed election officials about a number of issues concerning not just DREs, but more generally what states do to secure the vote and ensure that voters and candidates are confident that the results of elections are accurate and trustworthy.

Differences of opinion on the issue are sharp and often pointed. DRE supporters, including a number of election officials, advocates for people with disabilities and voting system manufacturers, insist safeguards such as testing, certification and encryption ensure a safe, paperless vote. Those on the other side say that without paper – and without open-source codes detailing how machines collect and count votes – the opportunities for mischief are ripe.

Public perception, however, is paramount in this year's presidential election. Nearly 30 percent of registered voters live in jurisdictions that use DREs, a jump of 17 percent since the 2000 election.[3]

The arguments for and against DREs often become more technical than most non-computer scientists can understand. Election administrators, elected officials, candidates and the media are keenly aware that voter confidence trumps all in the first nationwide race since the 2000 fiasco.

Paper Audit Trails

The issue of whether DREs need voter-verified paper audit trails has been a common topic of debate in legislatures around the country.

- Lawmakers in 15 states with DREs are considering or have considered bills mandating voter-verified paper audit trails. Legislation has been introduced in four other states that will not use DREs in 2004. Those are: Arizona, Maine, Minnesota and Vermont.
- Three more – Illinois, New Hampshire and Oregon – have laws concerning requirements for paper trails with DRE machines or require the ability to perform a ballot-by-ballot manual recount.
- Three more - California, Missouri and Nevada - have secretary of state directives that mandate voter-verified paper audit trails.
- Eighteen states have DREs and no legislation that would mandate voter-verified paper audit trails.
- Nine states have no DREs and no legislation that would mandate voter-verified paper audit trails

Certification

Federal and state guidelines concerning the performance and specifications of voting systems – and in DREs, the programs that operate them – are considered by many to be the most critical step in ensuring the accuracy and integrity of election results. The vast majority of states employ voluntary voting system standards determined by the Federal Election Commission as well as state standards that have added specifications to meet each state's need. For example, New York requires full-faced ballots while Massachusetts machines must have the capacity to allow voters to write the address of write-in candidates.

Research into how each state determines which machines can be used found:

- Thirty-five states require voting systems to meet federal standards as well as state standards.
- Nine states rely entirely on federal voting system standards.
- Five states – Arizona, New Hampshire, New Jersey, North Carolina and Vermont – use state standards only.
- Mississippi and Oklahoma have no voting system standards. Oklahoma determines statewide voting system usage, while localities in Mississippi are free to choose their own voting system.

Major Issues

Briefing Summary

Not long ago, electronic voting systems were considered to be the remedy for the problems that beset the 2000 presidential elections. In the initial rush to replace older voting machines, few around the country questioned the security of high-tech systems.

Much has changed. As states made the move from antiquated lever and punch-card machines to touch-screen systems, the small coalition of people who originally raised questions about security in 2002 grew in size and stature into a group that would become a major player in election reform.

As the debate escalated, lawmakers in 19 states began introducing bills that would mandate the addition of a voter-verified paper audit trails. Other states have legislation which would require machine testing and performance evaluations.

Some state officials in California have proposed bans on the use of DREs until, they say, it can be proven the machines are accurate elsewhere have raised concerns related to the weakness of security and protection against fraud and tampering.

In November of last year Wisconsin Rep. Mark Pocan, D-Madison, and state Sen. Jeff Plale, D-South Milwaukee introduced a bill (AB849) to ban the use of touch screens that are not equipped to produce paper trails. In early March, the state assembly overwhelmingly approved the measure.

After voting problems were widely reported in a number of California counties during the March primary, state senators Don Perata, D-Oakland, and Ross Johnson, R-Irvine, proposed legislation (SB 1723) to decertify DREs in 2004.

According to some California state officials, concern over the reliability and security of the machines has risen among voters. A survey of voters and poll workers conducted after the primary revealed a split among those who had used the technology.[4]

Voters with disabilities praised the DREs which they said allow them to vote independently and privately. And a number of senior citizens said they were "pleasantly surprised" at how easy the machines were to use.

Critics on the other hand, were concerned over the lack of a VVPAT, while others complained that they were inconvenienced by malfunctioning machines. In some cases, voters said they did not return to vote.

Many of the country's election officials say touch screens have been widely accepted by the voting public. A 2002 study conducted in Florida found that 95 percent of voters were pleased with the machines and felt confident that their vote counted.

While a number of states have focused on a paper trail system to ensure security, some states have been working to implement broader measures.

In December 2003, Kansas Secretary of State Ron Thornburgh appointed a task force made up of state and local election officials to review and recommend a voting security policy to be adopted by the state. The group will address such issues as the prevention of unauthorized access to machine software and the potential for tampering with election results.

Georgia's State Election Board is currently in the process of adopting more stringent guidelines for the storage and delivery of voting equipment – a topic of some interest after a Georgia Tech student photographed unsecured Diebold voting machines in the lobby of the school's student center.[5]

Officials in New Hampshire released updated security requirements for voting machines, including rules for identifying safe places for storage and for using logbooks to track local access to machines.

Mississippi, Iowa and Colorado are among the states that have decided to wait for the federal Election Assistance Commission (EAC) to determine security standards before making additional changes.

In February 2004, the Colorado Secretary of State's office suspended the purchase or lease of DREs until the EAC releases security standards.

But those standards are not likely to be set anytime soon.

According to Commissioner Paul DeGregorio, "the process is likely to

take a year… assuming we get the money from Congress to do this."

In order to kick start the process, the EAC's Technical Guidelines Development Committee must first draft a series of voting system guidelines, which would include security measures, explained DeGregorio. Once drafted, the guidelines would be reviewed by two separate boards – standards and advisory - and then submitted to the EAC.

For fiscal year 2004, neither the EAC or the National Institute of Standards and Technology (NIST) received enough money to execute such a plan, said DeGregorio.

The EAC will have to use money from the FY 2005 budget to "complete this important project," he said. For now, "…NIST has information already off the shelf that might be helpful to election officials."

Several states, including Florida, Oregon and Texas indicated in the survey that no further security measures needed to be taken because their state laws already mandate that voting systems be secure from fraudulent or unauthorized manipulation.

Certification – The Critical Step in Securing the Vote

Before the use of electronic voting machines became widespread in the past 15 years, there had been no reason to consider the innards of voting machines. Punch-card systems use plugs only to power the florescent light bulbs. Lever machines operate mechanically, requiring no circuits or hard drives. And with paper ballots, the system to cast the vote is no more complicated than a pencil in the hand of a voter.

Voting technology, software upgrades and other advances in hardware and software progress at a much faster rate than certification. In other words, an improvement to a voting system, while potentially beneficial, cannot just be uploaded into a machine without being certified as required by each state.

Not so with DREs.

High-tech voting machines, like personal computers, are little more than empty boxes without the software that enables them to perform tasks.

Securing the vote in the age of modern voting machines means that state and local officials, as well as machine manufacturers, keep in constant contact about the need for upgrades and the software or firmware that will be installed on to voting systems. If not, recent history has shown, concerns about what is running the voting machines could eclipse concerns about the integrity of the machines themselves.

Voluntary voting system standards, established by the Federal Election Commission (FEC) more than 20 years ago, did not make too many waves. But, according to the agency, "national interest in this program has been renewed as a result of the 2000 election."[6]

Those standards, designed to make it easier for state and local officials to make decisions about voting systems, rate criteria, including electronic management, accessibility to people with disabilities, communication capacities for systems, feedback to voters and audit trails.

A complex and expensive process

Getting machines certified is the first step in selling equipment. But the process is both expensive and complex. States have different requirements, as varied as the states themselves. In Massachusetts, rules for write-in ballots would require electronic machines to accept numbers because voters must include the address of the write-in candidate. In California, electronic voting machines will be required to have printers that produce voter-verified paper audit trails by 2006.

Determining each state's requirements represents only the first step. Deep pockets are mandatory, as certification is funded by the vendors themselves.

Federal testing of hardware and software, conducted by independent testing authorities, can cost around $150,000, said Alfie Charles of Sequoia Voting Systems. State-specific requirements and certification, which could include the ability to offer straight-ticket voting, unique write-in requirements, or other

requirements, can add another $5,000 to $20,000 per state.

"The certification process is extraordinarily detailed, time consuming and costly, but the [independent testing authority] review is a critical check and balance to ensure the accuracy and reliability of all voting systems – whether they are paper or electronic," Charles said.[7]

The last survey conducted on the issue in 2002 found that only five states have no additional certification procedures beyond the federal government's standards. Thirty-five require localities to purchase only voting systems that have been tested and approved by the state election authority. Nine states purchase the machines on behalf of localities.[8]

With electronic machines, additional problems arise. Voting technology, software upgrades and other advances in hardware and software progress at a much faster rate than certification. In other words, an improvement to a voting system, while potentially beneficial, cannot just be uploaded into a machine without being certified as required by each state.

The software problem

Under FEC standards, and most state rules, software itself is considered, a voting system that must be approved before its use. Still, last-minute software upgrades seem to be popping up around the country, raising the suspicion of some DRE opponents and the ire of election officials.

Election officials in California and Indiana have both leveled accusations at voting machine vendors for installing uncertified voting system software. In California, Secretary of State Kevin Shelley is investigating why Diebold installed uncertified software touch-screen systems in 16 counties.[9] Machines running the uncertified programs collected votes during the October 2003 gubernatorial recall election.

According to the Indiana Election Commission, three counties – Johnson, Wayne and Henry – used an, "illegal voting system" in the November 2003 election, produced by Election Systems & Software.[10] The software, which the company said was necessary to make the voting system more user-friendly, was authorized for use by the commission in early March 2004.

With the introduction of new technology, most states have revised their voting system standards – or use those that have been approved by the National Association of State Election Directors – to make sure both the hardware and software on which elections are conducted have been thoroughly tested.[11]

But some concerned about electronic voting machines have noted how easy it is to put new software on voting machines without fanfare. It is not, after all, a new voting system that will be introduced, but rather a patch, an upgrade or even just a de-bugger.

A group of California voters along with activist Beverly Harris filed suit in the state in early 2004 to stop Diebold machines from being used. Among their charges against the Ohio-based company was the assertion that "every California county that used Diebold software in the October and November 2003 elections…installed software versions and/or modifications that had not been certified for use in California … as required by law."[12]

More complications loom for the states using electronic machines. While California and Nevada will soon require the widespread use of printers to provide voter-verified paper audit trails, no such systems have yet been certified by any state or the federal government by the beginning of April 2004.[13]

Some observers have warned that states including Georgia, Florida and Maryland, which pushed through voting system upgrades in time for the 2004 election, could pay the price for being "early adopters" of voting technology.

Voting Machine Makers Battle for Market Share

Recently, four companies have dominated the voting machine market – Diebold Election Systems, Election Systems and Software (ES&S), Sequoia Voting Systems and Hart InterCivic. With states receiving millions of dollars from the federal government to change or upgrade voting machines, these companies have been signing contracts with many states, counties and jurisdictions to supply more voting systems – mostly touch-screen and optical-scan machines.

However, as the controversy grows over the security of touch-screen voting machines and as numerous states, officials, organizations and voters demand voter-verified paper trails, smaller voting machine producers are starting to push their way into the market with new devices that might meet these demands.

These smaller "second-tier" companies might have some advantages. By entering the market later and by watching the flak the major companies have taken over security issues, these smaller companies have focused on touch screens that produces some kind of paper trail or combines both old and new voting technology to produce a paper trail.[14]

AutoMARK Technical Systems (ATS), formerly Vogue Election Systems, has produced a machine that combines touch-screen technology and optical scan technology – essentially a touch-screen voting machine that would produce an optical scan ballot. And in a recent development, the larger ES&S announced it had joined with ATS in offering this new system.[15] The AutoMark voting system displays an optical-scan ballot on a touch screen. After voters select choices on the touch screen, the marked ballot is returned and counted by an optical-scan machine – only a paper ballot is recorded. The machine also has audio capability for visually impaired voters.[16]

A company with similar technology is Illinois-based Populex, produces touch-screen machines that print out paper ballots with a bar code which is used for the vote count. Again the votes are not stored electronically.[17]

In addition, several other companies are producing touch-screen machines with the capability of producing VVPATs. New Jersey-based Avante Technology has produced a machine that "incorporates a real-time voter-verifiable paper record to ensure voter confidence and an automatic paper audit trail."[18]

With little fanfare, Avante's machines were used in four Connecticut towns in November 2003. One registrar touted the "voter-verified paper trail to eliminate any hint of irregularity."[19]

In late March, Accu Poll, a California-based vendor, had its VVPAT-capable touch-screen machine certified by the National Association of State Elections Directors (NASED), and plans to aggressively market this machine.[20]

The large vendors, who still stand by their paperless touch-screen voting machines, have also responded – either by promising they can provide add-on printers to machines already in use, or by developing new touch screens with built-in printers. Sequoia plans to market a "voter-verifiable paper record printer as an optional component" to one of its touch-screen models. The machine is scheduled to be used statewide in Nevada by November 2004.[21] Diebold has said they can add printers if states require them to do so.[22]

What adding printers will cost is another question. Judy Taylor, elections director of St. Louis County, Missouri, told the Associated Press that "printers will add $12 million to the $25 million bill to replace punch cards with touch-screen machines."[23] Ann Reed, Shasta County clerk/registrar in California, said her county wrote into its DRE purchase contract that the vendor bear half of any upgrade costs. However, even if the vendor does pay for half of the estimated $500 per machine to add printers, Reed states the cost for her county and others could be steep.[24]

Policymakers Respond

Congress Stalls on Paper Trails

Despite growing interest in a Congressional bill proposing national requirements for voting security, the federal government's overall response to the voting security issue has been marked by the same uncertainty and funding problems that have characterized election reform in the post-Help America Vote Act (HAVA) era.

The centerpiece – indeed, the battle flag – of most voting security advocates around the country is H.R. 2239, the Voter Confidence and Increased Accessibility Act of 2003 sponsored by Rep. Rush Holt, D-N.J.[25]

Holt's bill had 132 House co-sponsors at the beginning of April. It would require all voting systems purchased with HAVA funds to provide a Voter-Verified Paper Audit Trail (VVPAT). H.R. 2239 (and S. 1980, a Senate companion co-sponsored by Sen. Bob Graham, D-Fla. and Sen. Hillary Clinton, D-N.Y.) has been endorsed by numerous groups, including Stanford professor David Dill's *verfiedvoting.org* and Kim Alexander's California Voter Foundation (*calvoter.org*).

Yet, nearly a year after its introduction, neither it nor its Senate counterpart has yet to receive even committee consideration in Congress. In March 2004, HAVA's four Congressional co-sponsors – Rep. Bob Ney, R-Ohio, Rep. Steny Hoyer, D-Md., Sen. Mitch McConnell, R-Ky., and Sen. Christopher Dodd, D-Conn. – sent out a "Dear Colleague" letter asking members of Congress to refrain from acting on H.R. 2239 or any other voting security legislation. They asked their colleagues to wait until the Election Assistance Commission (EAC), the new agency responsible for implementing HAVA at the federal level, had time to carry out its duties. Noting the growing chorus of concern about voting technology, HAVA's co-authors wrote:

"While there are risks associated with any technology, the solution is not to rush to judgment by returning to flawed systems. Rather, the answer is to allow the Commission, together with the active input of election officials, computer experts, and civil rights groups representing voter interests, to develop standards for ensuring the security of all voting systems, as required under HAVA."[26]

The calls for delay have frustrated many VVPAT advocates, given that the EAC and the National Institute of Standards and Technology (NIST) – which will provide assistance to the EAC for voting system certification under HAVA – have been delayed and largely without funding to carry out their duties.[27]

The EAC did not begin its work until the beginning of 2004. At its first meeting in March, the EAC voted to conduct a hearing on electronic voting by early May. As of April 2004, the EAC was just beginning to assemble the various boards and committees to assist with policymaking on the issue.[28]

NIST, while setting up a website, vote.nist.gov, and hosting a December 2003 symposium on voting standards, *realex.nist.gov/voting-standards*, was nonetheless forced to suspend its activities in February 2004, for lack of funding.[29] NIST was able to resume its activities by reprogramming $375,000 of base funding for its voting standards work with the EAC – but the remainder of its work depends on further appropriations by Congress.[30]

Thus, if the voting security debate is to be resolved at the federal level, it will not occur anytime soon.

State Response

California has consistently been a leader in the debate over voting system security. Concerns over electronic machines were raised there first, its secretary of state was among the first to require voter-verified paper trails, and now, it is the first to reveal a deep rift between state and local election officials on issues of voting security.

The conflict over voting systems simmered through late 2002 and came to a head in the summer of 2003. A panel of experts charged with determining voting system standards for the state's HAVA compliance plan deadlocked on the issue of voting security. More specifically, they disagreed whether electronic

machines should be required to have paper printouts of each individual ballot.

California Secretary of State Kevin Shelley broke the deadlock in November 2003 with an announcement that by July 2006, all DRE systems in use in the state would have to incorporate "an accessible VVPAT."[31]

That announcement evolved into draft standards that will govern the eventual adoption of the VVPAT systems as outlined in a document released by Shelley in March 2004.[32]

In recent months, however, the conflict between county registrars and Shelley has drawn the attention of lawmakers, voting machine manufacturers and, of course, state and national media.

With the presidential primary, Shelley, concerned about the absence of any paper backup for electronic voting systems in 14 counties, released a list of security measures that he said would represent, "proactive measures to assure voters that their votes will be counted as cast."[33] Those included prohibitions on the use of the Internet to transmit results, parallel monitoring, in which random machines would be taken off-line and tested for accuracy during the election, mandates to post election results, election monitors from the state and other requirements.

Local officials from the state's largest counties, including Los Angeles, San Diego, Riverside and Santa Clara, responded with a point-by-point rebuttal of the security measures in a memorandum that accused Shelley of, "misleading the public we serve." The document noted that there has not been a, "single documented incident or evidence of security breaches in any election in which DRE equipment has been used in California or the nation. We find it contradictory that you have repeatedly stated in both written reports and media quotes attributed to you that you are confident in the security and accuracy of the DRE vote tabulation systems your office has tested and certified for use in California, but merely wish to address the perception of unreliability and inaccuracy."[34]

The release of Shelley's draft standards for the state's voter-verified paper audit trails did nothing to mend the rift between the secretary and local officials, even as it became apparent that VVPATs would become part of California's voting, whether or not local officials approved.

San Bernardino County's registrar stated the, "logic and syntax of the … draft standards is disingenuous and contradictory" and said the standards would do nothing less than, "undermine the legitimacy of California's future elections."[35]

Beyond California

While the Golden State's vitriolic debate over paper trails has been the most noteworthy thus far, disputes between officials and lawmakers over DRE security have not been limited to its borders. In Maryland and Georgia – two states which adopted uniform DRE voting systems – state officials have found themselves in a similar position to California locals. They have been fighting off accusations of security weaknesses and potential inaccuracies in the voting systems they pushed to implement.

Top election administrators in both states were compelled to defend Diebold touch-screen voting systems during legislative sessions in which they opposed bills that would mandate the use of VVPATs.

Maryland state senators approved S.B. 393 in early April 2004 over the objections of state election director Linda Lamone, who told lawmakers that the state had taken measures to ensure the accuracy and integrity of the machines. Lawmakers were unmoved, however, and passed the bill unanimously (46-0) despite warnings that the state could not afford the $1,000 to $3,000 cost per machine to add printers.[36] The bill later died in a conference committee, when the House and Senate disagreed over a proposed taskforce to study the issue.

And in Georgia, the State Senate approved a bill (S.B. 340) that would require paper trails with that state's uniform Diebold voting system, but only after Congress appropriates money to do so and the Election Assistance Commission establishes guidelines for their use.[37]

Secretary of State Cathy Cox, who pushed through a $54 million contract to buy touch screens for the entire state, has also become among their most vocal defenders. In an interview with the *Atlanta Journal-Constitution*, Cox insisted the fears of tampering do not come from the, "real world of elections," in which ballot boxes have been stuffed with paper.

"I have no doubt that a mediocre kind of computer scientist could probably wreak havoc on this machine if you let them play with it, take it home, hook it up to the

Internet [and] attach a keyboard to it…[voter-verified paper audit trails] really add nothing to the system and the people who think it will don't understand the history of voter fraud we've had with paper," Cox said.[38]

As the debate over electronic voting machines spreads to the rest of the country, it is increasingly likely that there will likewise be episodes of state and local tension, as those who select machines for purchase – typically local but occasionally state election officials – are obliged to defend their paperless usage.

A Heavy Dose of Scrutiny Awaits 2004 Vote

"So, will there be another Florida?"

Americans want to know if the postscript to the 2000 election – as exciting and embarrassing as it was – will be repeated.

Could it happen again? Could there be one or more states where the ingredients for an electoral perfect storm – a close election, (inter)national interest and alleged voting problems that affect the outcome – could come together to put the Presidency in doubt?

The questions over the security and integrity of voting systems have fueled election controversies during the primary season. The early evidence suggests those will increase tenfold in November.

The first two ingredients to cause post-election turmoil are undoubtedly present. It appears that the nation's sharp political divide is largely unchanged since 2000 – with Republicans and Democrats evenly split on the war in Iraq, the economy and social issues such as gay marriage. Given this split and the nation's current role in the world it is difficult to imagine more interest in the outcome of the November vote.

So, whether or not we have "another Florida" in 2004 depends solely on that third ingredient: alleged voting problems that affect the outcome of the election.

Consider the level of attention that has been paid so far this year to races that could be considered minor. A CBS Evening News segment in January highlighted problems with a fall 2003 election for school board in Fairfax County, Virginia, in which electronic machines, the report stated, "simply failed to count an unknown number of votes for Republican … candidate Rita Thompson. She lost."39

It – and numerous other news reports – also mentioned a better-known case in early 2004 during a special election in South Florida in which DREs recorded 134 blank ballots in a race decided by a dozen votes.

The spotlight again shone on more recent problems in California.

On Super Tuesday in San Diego, a power fluctuation caused new touch-screen machines to present poll workers with startup screens they had never seen despite hours of training, causing delays. Other problems plagued machines in Alameda and Orange counties, while some questioned vote totals in Riverside, another county using DRE machines leading to demands for a recount.

One can predict with some certainty that the outcry over machine problems will be much greater if the White House is won by only a few electoral votes.

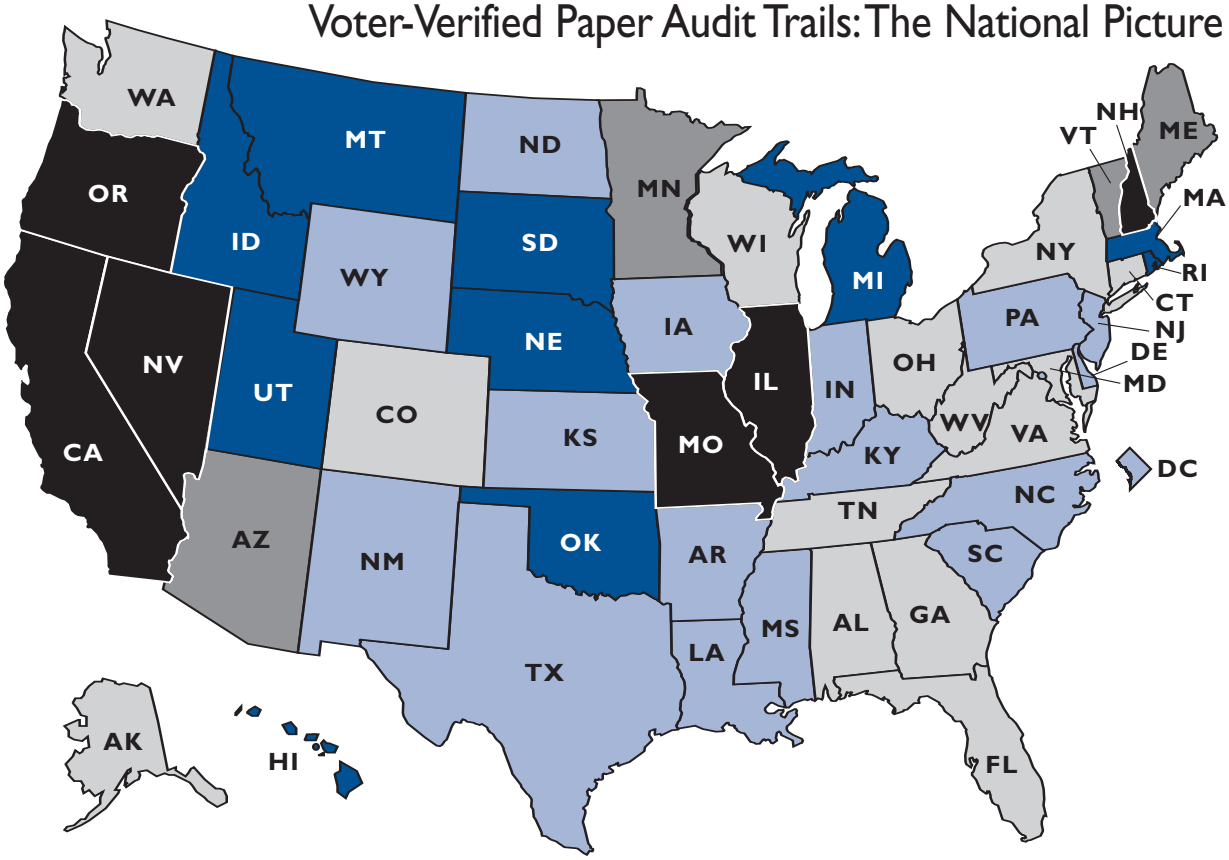
It would appear that America is on track for election controversies because so many people are on the lookout for them to occur. If Florida 2000 was considered the perfect storm of election controversy, take a look at the low-pressure system building nationwide for November 2004.

- Politicians, parties and interest groups are paying attention – and, like Sen. John Kerry's, D-Mass., Presidential campaign, are preparing to strike before, during and after the election if it is perceived to be in their interest to do so.
- Based on phone calls and research requests at *electionline.org*, the media is gearing up for detailed reporting of states' and localities' election preparations;
- State and local election officials across the country are girding themselves for another season under what Doug Lewis of the Election Center called the "electron microscope" of public and media attention.
- Everyday Americans – even if their only connection to the elections process is voting – are aware of the potential for problems and will be on guard against errors that affect their right to vote.

In this environment, with so many different people and groups focused on the election process, it is not only inevitable but likely that someone will find something to challenge in the 2004 result. Combine that with the nation's sharp political divide and the high national and international stakes, and those challenges could result in "another Florida" in 2004.

In other words, the number of people hoping to prevent "another Florida" could actually help to make it happen.

Voter-Verified Paper Audit Trails: The National Picture



KEY TO MAP

- **States using DREs, voter-verified paper aufdit trail (VVPAT) legislation introduced/ pending/failed**
- **States using DREs, no VVPAT legislation**
- **States with no DREs, VVPAT legislation introduced/ pending/failed**
- **States with no DREs, no VVPAT legislation**
- **States with secretary of state directives or laws concerning VVPATs or requirements for manual recounts**

Summary

Using DREs, VVPAT legislation introduced/ pending/failed	Using DREs, no VVPAT legislation		No DREs, VVPAT legislation introduced/ pending/failed	No DREs, no VVPAT legislation	States with secretary of state directives or laws concerning VVPATs or requirements for manual recounts
AL	AR	SC	AZ	HI	CA[A]
AK	DE	TX	ME	ID	MO
CO	DC	WY	MN	MA	NV
CT	IN		VT	MT	IL[B]
FL	IA			NE	NH[C]
GA	KS			OK	OR[C]
MD	KY			RI	
NY	LA			SD	
OH	MI			UT	
TN	MS				
VA	NJ				
WA	NM				
WV	NC				
WI	ND				
	PA				
TOTAL = 14 STATES	TOTAL = 18 STATES		TOTAL = 4 STATES	TOTAL = 9 STATES	TOTAL = 6 STATES

[A] *California also has legislation pending.*

[B] *Illinois changed its law in 2003 to require a VVPAT.*

[C] *New Hampshire and Oregon laws refer to manual recounts, having the same effect as a VVPAT.*

Snapshot of the States

Snapshot of the States: Voting System Security

Typically, *electionline.org* condenses and categorizes the responses of state election directors and their deputies so they can have comparative value. In this briefing, state election directors were asked a number of questions about voting system security. However, with a number of states using different kinds of voting systems, the answers were more varied than in previous surveys. For this reason, the responses vary in length and specificity according to the information received from the state. In cases where states did not respond to survey questions, *electionline.org* researchers found information from sources that include plans for complying with the Help America Vote Act, state election code and other available resources. **A state that did not respond is marked with an asterisk.**

Alabama*	**Current voting machines:** Optical scan and DRE **Voting system certification:** State regulation requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** SB251 requiring a voter-verified paper trail is under consideration by the legislature. **In their own words:** Did not respond to survey.
Alaska	**Current voting machines:** Optical scan, DRE and paper **Voting system certification:** State purchases voting equipment and requires that voting systems meet federal standards. **Current voting system security legislation/state directives/other activity:** H.B. 459 requiring a voter-verified paper trail is under consideration by the legislature. **In their own words:** "The machines purchased by the state can be modified if required."
Arizona*	**Current voting machines:** Optical scan **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** S.B. 1250 requiring a voter-verified paper trail is under consideration by the legislature. **In their own words:** Did not respond to survey.
Arkansas	**Current voting machines:** Optical scan, punch card, lever, DRE and paper **Voting system certification:** State approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** Election officials, "who have used a DRE like them. Those who have not are, at this point, skeptical about their reliability."
California	**Current voting machines:** Optical scan, DRE and Datavote (punch card) **Voting system certification:** State law requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** S.B. 1438 and A.B. 2843 requiring a voter-verified paper trail are under consideration by the legislature; S.B. 1723 prohibiting the use of DREs in the November 2004 election is under consideration by the legislature; S.B. 1376 making it a felony to insert uncertified hardware, software or firmware into any voting system is under consideration by the legislature. Secretary of State Kevin Shelly has also required VVPATs by 2006. Draft standards concerning VVPATs were released in March 2004, and public meetings on the standards are being held. A lawsuit has been brought by disabled groups to mandate touch-screen use in polling places by November. **In their own words:** "Voters who use the [DRE] machines for the first time often react positively to the system's ease of use and accessibility. But those voters who hear or read about security and audit issues with the systems have expressed concerns. This group of voters has been steadily growing. Most local officials who have used the machines react positively. However they are often reacting to the ease of use of the machine, and they do not speak to the security and audit issues that have been raised."
Colorado	**Current voting machines:** Optical scan, punch card, DRE and paper **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** H.B. 1296 requiring a voter-verified paper trail was killed; S.J.R. 04-010 – Senate Joint Resolution stating lack of confidence in DRE machines without voter verifiable paper trail; H.B. 1227 brought by the secretary of state would enhance the testing and certification authority of the secretary of state is under consideration by the legislature. An emergency rule was also issued in February, "to suspend purchase or lease of DREs until the EAC has put [voting system] guidelines in place." **In their own words:** "We have received negative comments from voter-verifiable paper trail advocates [about DREs]. Responses from voters have been mostly favorable."

Connecticut	**Current voting machines:** Lever and DRE (in pilot studies) **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** S.B. 388 requiring a voter-verified paper trail is under consideration by the legislature. **In their own words:** "Voter satisfaction has been exceedingly high with the performance of the [DRE] machines. We [also] have a vocal group of voters who are insisting on the denial of purchasing any machine produced by Diebold."
Delaware	**Current voting machines:** Uniform DRE **Voting system certification:** State purchased voting machines and required that voting systems meet federal standards. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "We are currently working with our vendor for an audio module to be attached to our current voting machines which will meet HAVA requirements. Delaware elections [officials] do not support bills in the House and Senate which would mandate a paper ballot receipt for the voters. We believe this will lead to more fraud in voting. While the concept may sound good, the reality of it becoming law is a nightmare."
District of Columbia	**Current voting machines:** Uniform optical scan, DRE (one per polling place) **Voting system certification:** Requires that voting systems meet federal standards. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "[The District] has had a positive experience with the Sequoia DRE."
Florida	**Current voting machines:** Optical scan, DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** H.B 1037 requiring a voter-verified paper trail is under consideration by the legislature. U.S. Rep. Robert Wexler, D-Fl., filed suit to force the state to adopt a voter-verified paper trail, while Secretary of State Glenda Hood has voiced her opposition to a VVPAT. **In their own words:** Voter response to DREs has been, "very favorable. In a study done in 2002 about DREs, 95% of those polled were very pleased with the systems and confident that their vote counted."
Georgia	**Current voting machines:** Uniform DRE **Voting system certification:** State purchased voting machines and requires that voting systems meet federal standards. **Current voting system security legislation/state directives/other activity:** S.B. 340 requiring a voter-verified paper trail is under consideration by the legislature. **In their own words:** "The Secretary of State has previously adopted rules and regulations and supported the passage of election laws that govern the procedures and practices surrounding the use of all voting equipment. The State Election Board is currently in the process of adopting even more stringent guidelines for the storage and delivery of electronic voting equipment."
Hawaii	**Current voting machines:** Uniform optical scan **Voting system certification:** State leases voting systems and requires that voting systems meet federal standards. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "Hawaii believes that some important issues connected to the issue of voting-system security are the thoughtful identification of the risks involved in electronic voting and an honest assessment of the possible risks. It is not enough to simply state that a problem can occur. It is responsible to discuss the frequency and severity of the risks as well as mitigation factors associated with the risks."
Idaho	**Current voting machines:** Optical scan, punch card and paper **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** Regarding procurement of voting machines, the state is, "still moving slowly and watching what is happening in 2004."
Illinois	**Current voting machines:** Optical scan and punch card **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** State law was amended in 2003 to require a VVPAT. **In their own words:** "Illinois has not yet certified any electronic voting machines."
Indiana*	**Current voting machines:** Optical scan, punch card, lever and DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** S.B. 422 to strengthen safeguards against absentee voter fraud; Senate Enrolled Act 72 to prohibit voting system vendors from selling or installing uncertified voting systems or software and to penalize vendors who do not follow state's certification guidelines. **In their own words:** Did not respond to survey.

Iowa	**Current voting machines:** Optical scan, lever, paper and DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** The secretary of state has not taken a formal position on this issue. **In their own words:** "We have not changed our voting system certification process. We are waiting for the certification process through EAC and NIST to be established and will follow their recommendations and guidelines."
Kansas	**Current voting machines:** Optical scan, DRE and paper **Voting system certification:** State requires that voting systems meet federal standards; state tests and approves voting systems. **Current voting system security legislation/state directives/other activity:** A voting system security task force was formed in December 2003 and will issue and recommend policy to counties this spring. **In their own words:** "In our view, those directly involved in the [security] debate could emphasize two points: (1) voting systems now being described as insecure have been successfully used in numerous elections without security failures, and (2) many states and local jurisdictions had already adopted stringent security measures, including some being recommended by critics, before the current debate began."
Kentucky	**Current voting machines:** Optical scan, DRE and lever **Voting system certification:** State law requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "We have had and continue to have a very positive experience with our electronic voting equipment. Electronic voting machines have been used in Kentucky since 1984."
Louisiana	**Current voting machines:** Lever, DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "The reaction [to DREs from voters] has been overwhelmingly positive."
Maine*	**Current voting machines:** Optical scan and paper **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** L.D. 1759 requiring a voter-verified paper trail is under consideration by the legislature. **In their own words:** Did not respond to survey.
Maryland	**Current voting machines:** Uniform DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** S.B. 393 and H.B. 53 requiring a VVPAT failed. Johns Hopkins University issued a security report in July 2003 critical of the security of Diebold voting machines in use in the state. The state then contracted with Science Applications International Corp. to do a security assessment and found problems they said could be fixed. The Maryland General Assembly also commissioned a report on the security of Diebold voting machines. **In their own words:** It is, "important that security analyses include an analysis of the entire voting process, not just the voting system software hardware. Consider the timing of any security analysis and timeframe for implementing any recommendations from the security analysis. Understand the financial and personnel impact of studying and implementing voting system security standards. Understand the impact that mandatory security standards and procedures – especially last minute procedures – have on the local boards of elections."
Massachusetts*	**Current voting machines:** Optical scan, lever and paper **Voting system certification:** State regulation requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** Did not respond to survey.
Michigan	**Current voting machines:** Optical scan, punch card, lever, paper and DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** State is moving to a uniform optical-scan system and will perform a security analysis of all optical-scan systems that qualify to be used in the state. **In their own words:** "The potential system security issues of DRE systems are among the reasons two-thirds of Michigan's precincts currently use optical scan systems. The difficulties many face in 2004 result from the late passage of HAVA with implementation dates that may not be realistic. Election officials are doing their best to meet these deadlines. At the same time the equipment that is needed to meet the deadlines has become the center of controversy. The issues raised will likely be resolved through the deliberative process of voting system guideline development. However, under the best of circumstances it will be extremely difficult for guidelines to be developed, for the guidelines to be incorporated into voting systems, for the systems to be certified and available by 2006."

Minnesota	**Current voting machines:** Optical scan and paper **Voting system certification:** State regulation requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** H.F. 1703 requiring the use of statewide optical-scan machines is under consideration by the legislature. The state is considering using new technology for disabled voters that would combine touch-screen and optical-scan technology. **In their own words:** This, "legislation, to which no one has objected, would avoid the whole [paper-trail] quagmire."
Mississippi	**Current voting machines:** Optical scan, punch card, lever and DRE **Voting system certification:** State law has no provision for voting system certification. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "In the state plan [to implement HAVA], we proposed a uniform statewide DRE voting system. In light of all the reports about the security of these devices, we are going to thoroughly evaluate all such information before we embark on our procurement effort to be sure that such matters have been addressed to our satisfaction. We do not anticipate procuring these devices until 2005."
Missouri	**Current voting machines:** Optical scan, punch card and paper **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** Secretary of State announced in February 2004 that all DREs must provide a VVPAT. **In their own words:** "State statute did not allow the use of electronic voting machines until changes were made during the 2002 legislative session. No DREs have been certified for use since."
Montana	**Current voting machines:** Optical scan, punch card and paper **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** There is, "a need for expediency at the federal level to develop standards for DREs."
Nebraska*	**Current voting machines:** Optical scan and paper **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** Did not respond to survey.
Nevada	**Current voting machines:** DRE **Voting system certification:** State law requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** The secretary of state is mandating all newly purchased Sequoia electronic voting machines have a voter-verified paper trail by the November election. The Nevada Gaming Control Board's security computer section issued a report critical of Diebold voting machine security while giving positive reviews to Sequoia's security of touch screens. **In their own words:** The secretary of state's office, "is reviewing applicable statutes and regulations and considering inclusion of more stringent measures for [voting system] security."
New Hampshire	**Current voting machines:** Optical scan and paper **Voting system certification:** State approves voting systems. **Current voting system security legislation/state directives/other activity:** A VVPAT has been required in the state since 1994. **In their own words:** "Generally, there appears to be a need for honesty and verifiability on the part of all parties involved in voting machine issues. This becomes increasingly important in maintaining legitimacy of elections. There is a clear need for a credible authority that can objectively track anomalies and attempt to resolve the facts in such cases – to avoid getting sidetracked, and keep people focused on the real issues. There is an obvious need to include in this process experts in the fields of software development, security and statistics. Many voters believe independent computer scientists and security experts have a place at the table. Their concerns deserve an attentive ear."
New Jersey	**Current voting machines:** Lever, DRE and optical scan **Voting system certification:** State approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "Due to federal deadlines in HAVA, New Jersey has moved forward with the planning and proposed purchase of new voting machines. If the federal [VVPAT] legislation becomes law, New Jersey will insure that voting machines are modified to comply with the new law."
New Mexico	**Current voting machines:** DRE and optical scan **Voting system certification:** State law requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "In nearly 18 years of use, neither voters nor poll workers have ever expressed security concerns with the [DRE] systems. I do not believe that anyone has successfully answered this question about the contemporaneous paper replica issue: If it is possible to program a voting machine to record an incorrect vote, is it not also possible to program the same machine to print out a misleading confirmation of that vote? Voting system security goes beyond the issue of machines alone. It is an entire process that begins and ends with the administration of elections."

New York*	**Current voting machines:** Lever and DRE (in two jurisdictions) **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** A 9725 requiring a VVPAT is under consideration by the legislature. **In their own words:** Did not respond to survey.
North Carolina	**Current voting machines:** Optical scan, punch card, lever, paper and DRE **Voting system certification:** State approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "North Carolina has had a very positive history with electronic voting systems. None of the county boards that purchased [DREs] have expressed any desire to return to a non-electronic voting system. We have had few complaints from voters in counties that use the electronic voting systems. North Carolina plans to study the voluntary voting system guidelines that will be produced by the Election Assistance Commission in regard to the electronic voting system debate."
North Dakota	**Current voting machines:** Optical scan, paper and DRE **Voting system certification:** 2004 is the first year North Dakota will use voting-system certification at the state level. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "The debate has been heard and considered in North Dakota; however, the state and county election officials agree due to the time constraints mandated by HAVA, there is no option other than to proceed with the procurement of the most effective and trustworthy election system available to the state. North Dakota will continue to use optical-scan [ballots] in every polling location, in addition to the accessible device which is provided in each polling location for any person choosing to utilize that technology."
Ohio	**Current voting machines:** Optical scan, punch card and DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** S.B. 167 and H.B. 358 requiring a voter-verified paper trail are under consideration by the legislature. The legislature's Joint Committee on Ballot Security recommended the state adopt VVPAT rules. The state has conducted two independent security reviews. **In their own words:** "The State of Ohio has conducted the most thorough studies of voting systems in the country. We are requiring each of the remaining three vendors involved in our process (Diebold Election Systems, Election Systems & Software, Maximus/Hart Intercivic) to make all of the changes suggested by [the independent security review] before new equipment will be purchased. Once these items are completed, the secretary of state believes we can confidently move forward with the purchase of new voting equipment"
Oklahoma	**Current voting machines:** Uniform optical scan **Voting system certification:** All voting machines were purchased by the state. There currently is no certification process since county Election Boards have no authority to purchase a new or different type of voting system. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "There is no indication that Oklahoma will abandon optical-scan technology in the near future. We currently are researching options for accommodating HAVA's disability provisions. The use of [DREs] is only one of the options being considered."
Oregon	**Current voting machines:** Optical scan **Voting system certification:** State requires that voting systems meet federal standards. **Current voting system security legislation/state directives/other activity:** Has voter-verified paper trail - state election law requires all recounts be done by hand. **In their own words:** "Because we have no polling places and conduct all of our elections by mail, Oregon has considered DREs only for the purpose of meeting the needs of voters with disabilities. Oregon decided early that any DREs used here needed the paper receipt because of our law requiring that all recounts be done by hand."
Pennsylvania	**Current voting machines:** Optical scan, punch card, lever, paper and DRE **Voting system certification:** State approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "Procurement of electronic voting equipment may change to some extent because Pennsylvania's state plan, as required by the HAVA, discusses the option for county boards of elections to purchase electronic voting systems through a state contract. Absent a definition of 'manual audit capacity' from the Election Assistance Commission, Pennsylvania plans to continue according to the state plan."
Rhode Island*	**Current voting machines:** Uniform optical scan **Voting system certification:** State purchases and maintains voting equipment; systems purchased must meet federal standards. **Current voting system security legislation/state directives/other activity:** None **In their own words:** Did not respond to survey.

South Carolina	**Current voting machines:** Optical scan, punch card and DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "South Carolina is currently in the process of selecting a statewide electronic voting system. Vendors were asked in the request for proposals to respond to security questions and provide a security plan. [The state has] used electronic voting machines since 1986 with absolutely no security breaches or known attacks."
South Dakota	**Current voting machines:** Optical scan and paper **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "Our entire election code is designed to ensure a secure voting system. [The paper trail] controversy has not impacted [the certification] process. The process has changed since 2000 - we changed it in order to have a certification process established for the DRE voting machines. "
Tennessee	**Current voting machines:** Optical scan, DRE, punch card and lever **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** S.B. 2499 and H.B. 2587 requiring VVPATs are under consideration in the legislature. **In their own words:** "The leading factor in the delay to replace equipment is the lack of funding from the federal government."
Texas	**Current voting machines:** Optical scan, punch card, lever, paper and DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "The Secretary of State believes that it is essential that the Technical Guidelines Development Committee created under HAVA move forward toward creating uniform standards for [DREs] used in federal elections, especially on the security issue, so that vendors are creating and modifying their systems within a uniform, defined framework."
Utah	**Current voting machines:** Optical scan, punch card and paper **Voting system certification:** State requires that voting systems meet federal standards. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "There are no electronic voting machines currently being used in Utah. We anticipate making a statewide purchase of voting equipment at the end of this year and/or early 2005 with full implementation in 2006. Before we make a purchase we intend to do security reviews, update our laws, etc. I'm sure we will be dealing with all the [security] issues as time goes on."
Vermont	**Current voting machines:** Optical scan and paper **Voting system certification:** State approves voting systems. **Current voting system security legislation/state directives/other activity:** S. 202 which states, "no voting shall occur in any general election which does not use printed ballots." **In their own words:** The VVPAT debate has no effect on the procurement process because, "Vermont had already made the decision to purchase Accuvote optical-scan vote tabulating machines for some of our municipalities that were using an older generation of optical-scan machines so that we would have uniformity for ballot preparation purposes."
Virginia	**Current voting machines:** Optical scan, punch card, lever, paper and DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** H.B. 1200, S.B. 102 and S.B. 137 did not pass. S.B. 457, which passed, originally required a VVPAT but was amended to remove this requirement and instead required that, "the system shall provide the voter with an opportunity to correct any error before a permanent record is preserved." H.J.R. 174 was passed to perform a study of voting equipment. In January 2004, the Board of Elections released a statement on voting system security, explaining security steps they have taken and stating they will not overreact to the controversy surrounding electronic voting machines. The Board of Elections also, "initiated a discussion in the Privileges and Election Committee regarding the potential for fraud if the voter is handed a paper receipt of their vote." **In their own words:** "Our frustration has been with what we consider to be unbalanced press coverage of the issue of voting equipment security. Articles by self-proclaimed security experts are given alarmist type headlines and little attempt is made to research security protection procedures that our state has in place. For example, our officers of election must be of both political parties, the code is very specific about procedures to follow in dealing with equipment, ballots, etc."

*Washington	**Current voting machines:** Optical scan, punch card and DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** S.B. 6420 and H.B. 2745 requiring a VVPAT failed. Secretary of State Sam Reed helped propose the legislation. **In their own words:** Did not respond to survey. In a press release about the legislation, Reed stated, "my priority is voter confidence in the election process. If this means adding another redundancy to new voting systems, such as a paper audit trail, you'd better believe I will pursue that option."
West Virginia*	**Current voting machines:** Optical scan, punch card, lever, paper and DRE **Voting system certification:** State policy requires that voting systems meet federal standards. **Current voting system security legislation/state directives/other activity:** S.B. 634 requiring a VVPAT, failed. **In their own words:** Did not respond to survey.
Wisconsin	**Current voting machines:** Optical scan, paper, lever, DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** A.B. 849, "discontinues the authorization for municipalities to use [DREs] at elections held in this state. Under the bill, if an electronic voting system is used, the system must be of a type in which printed ballots are distributed to electors." **In their own words:** "We are reviewing reports from other states in preparation for meeting the HAVA accessibility requirements. In March 2003, the State Elections Board directed that all new voting systems approved for use in the state be qualified to the 2002 voting systems standards established by the Federal Election Commission. This has effectively established a moratorium on the acquisition of new voting equipment until vendors are able to qualify their systems to the 2002 voting system standards with a National Association of State Election Directors-approved laboratory. In January 2002, the State Elections Board approved two touch-screen voting systems for use in Wisconsin. However, the Board revoked the approval of both systems before any municipality purchased either one because it wanted all new equipment qualified to the 2002 voting system standards. The Elections Board will not approve any new equipment for use in 2004."
Wyoming	**Current voting machines:** Optical scan, punch card, lever and DRE **Voting system certification:** State requires that voting systems meet federal standards; state approves voting systems. **Current voting system security legislation/state directives/other activity:** None **In their own words:** "Wyoming has received a waiver to 2006 for replacing voting systems. Thus, our procurement process for voting machines is not affected at this time. We are, however, paying close attention to the information being disbursed regarding security issues, but we also know that this task has been given to National Institute for Standards and Technology and we are patiently waiting for them to make some of these decisions."

Methodology

Information for "Securing the Vote" came from a number of different sources, including two surveys of state election officials, text of legislation, state code, news reports, memorandum, testimony and letters. See endnotes below for the use of sources.

The survey information was gleaned from three separate sets of questions. Current information on voting system usage came from a 2003 questionnaire distributed in conjunction with *electionline.org* publications, "What's Changed, What Hasn't and Why: Election Reform 2004." Information on each state's certification procedures came from a survey conducted in the latter half of 2002 for, "Election Reform Briefing 4: Working Together? State and Local Election Coordination." Information on current legislation and all other questions came from a March 2004 survey conducted in conjunction with this publication. A handful of states did not respond to numerous requests for survey responses. In those circumstances, *electionline.org* researchers used publicly available information from state sources to fill in missing data.

Those surveyed were chief election officials in each state, or their deputies as assigned by the chief election director. The "in their own words," were portions of direct quotes from state election officials.

The opinions expressed by election officials, lawmakers or other interested parties do not reflect the views of the nonpartisan, non-advocacy electionline.org or the Election Reform Information Project. All questions concerning research and research methods should be directed to Sean Greene, sgreene@electionline.org.

SURVEY FOR ELECTION REFORM BRIEFING #7:

1. Is there any legislation relating to voting-system security (e.g., legislation requiring voter-verified paper receipts for electronic voting machines) currently under consideration in your state? Does your state have any laws already in place regarding voting-system security?
2. Have there been any directives issued from the chief election official in your state regarding voting-system security? If so, please detail.
3. Have any state-issued reports or reports by outside groups or consultants concerning voting-system security issues been released since 2000?
4. Has the controversy over voting-system security had any effect on your state's procurement process of voting machines?
5. If your state has already used electronic voting machines, what has been the reaction of the voters – both official polls and anecdotal responses?
6. If your state has already used electronic voting machines, what has been your experience with them? What have state and local election officials said about these machines?
7. Has the controversy over voting-system security had any impact on the certification of new voting machines in your state? Have your voting machine certification procedures changed since the 2000 election?
8. Are there any other issues that you think need to be raised on the issue of voting-system security?

Endnotes

1 Correspondence from San Diego Chief Executive Officer Walter F. Ekard concerning touch-screen voting system. As published in *The San Diego Union Tribune*, March 10, 2004.

2 "Poll workers use the encoders, which are technically known as precinct control modules, to activate the smart cards that voters insert into touch-screen voting machines. The encoders load a specific ballot onto the voter card, based on a voter's residence in certain political districts and their party registration. The encoders had undergone testing by at least one laboratory but had never been federally certified. Based on its own consultant's testing of the devices, California's Secretary of State issued a one-time certification for the encoders, good only for Tuesday's primary." From the web log of Kim Alexander, executive director of the California Voter Foundation, March 3, 2004.

3 Data provided by Election Data Services. Percentages are determined using percentage of total voting age population.

4 Report of Walter F. Ekard, chief administration officer, San Diego County, as published in the *San Diego Union Tribune*, March 10, 2004.

5 "Super Tuesday puts electronic voting to test," *The Associated Press* as published on CNN.com, March 2, 2004.

6 Federal Election Commission, "Voting Systems Performance and Test Standards: An Overview." Available at: www.fec.gov/pages/vssfinal/vss.html.

7 Interview with Alfie Charles, Sequoia Voting Systems, conducted via e-mail, March 29, 2004.

8 *Election Reform Briefing 4:* "Working Together: State and Local Election Coordination," *electionline.org* and The Constitution Project's election reform initiative. September 2002.

9 "Electronic Voting Hits Glitches in California Debut," *Knight Ridder/Tribune Business News*, March 5, 2004.

10 Schneider, Mary Beth. "Election Panel OKs Illegal Software," *The Indianapolis Star*, March 11, 2004.

11 For the complete list of hardware and software certified by the National Association of State Election Directors, go to www.nased.org.

12 James March, Beverly Harris, et. al. v. Diebold Election Systems, Inc., Superior Court of the State of California, County of Sacramento. February 16, 2004.

13 Bushouse, Kathy. "Wexler: Avoid Vote Chaos," *The Sun-Sentinel*. March 29, 2004.

14 Grant, Alison. "Campaigning to Count Votes," *The Plain Dealer*, March 14, 2004.

15 ES&S Press Release, "New Ballot Marking Device from ES&S, AutoMARK Makes Optical Scan Voting Accessible to Voters with Disabilities," March 31, 2004.

16 From the company web site. For more information, see, http://www.vogueelection.com/products_automark.html

17 From the company web site. For more information, see, http://www.populex.com/DPB_Intro.htm

18 Avante Technology. "Avante is Participating in Connecticut's Pilot E-Voting Project," August 2003.

19 Town of Southington, "Registrars of Voters Summary of Experience: Avante Electronic Voting Machines." http://www.aitechnology.com/votetrakker2/News%20Releases/CONNECTICUT-FOR%20IMMEDIATE%20RELEASE.pdf

20 AccuPoll Press Release, "AccuPoll Receives Federal Qualification for Electronic Voting System," March 26, 2004.

21 Sequoia Press Release, "Sequoia Voting Systems Announces Plan to Market Optional Voter Verifiable Paper Record Printers for Touch Screens in 2004,"

22 Smith, Erika D. "Vote Paper Trail Sought," *Beacon Journal* March 5, 2004.

23 Tanner, Robert. "Doubts About E-Voting Drive Bilateral Push for Paper Backups," *Associated Press*, April 2, 2004.

24 Montandon, Emily. "The Price of Democracy," *Government Technology*, April 2004.

25 Available online at thomas.loc.gov/cgi-bin/bdquery/z?d108:h.r.02239.

26 Available online at www.house.gov/cha/dearcolleaguemarch3-04.htm

27 Help America Vote Act, P.L. 107-252, section 221 *et seq*.

28 Seligson, Dan "Federal Election Upgrade Money to Reach States in May" electionline Weekly, March 25, 2004.

29 Rucker, Teri .National Journal's Technolgy Daily, "Budget cuts curtail NIST cybersecurity work, other programs" (February 13, 2004) -- http://www.govexec.com/dailyfed/0204/021304tdpm1.htm .

30 "A New HAVA Implementation Plan for NIST", National Institute of Standards and technology, March 5, 2004. http://vote.nist.gov/NISTandHAVAUpdate030504.html .

31 The Honorable Kevin Shelley, Secretary of the State of California, Letter to Ann Reed, President, California Association of Clerks and Election Officials, November 21, 2003.

32 The Honorable Kevin Shelley, Secretary of the State of California, Draft Standards For Use of Accessible Voter Verified Paper Audit Trail Systems in Direct Recording Electronic Machines, March 18, 2004.

33 The Honorable Kevin Shelley, Secretary of the State of California, Memorandum to All County Clerks/Registrars of Voters, February 5, 2004.

34 Memorandum from Registrars of Voters for Counties Using DRE Voting Systems, "Response to CCROV Memo #04043 Dated 2/5/04," February 10, 2004.

35 San Bernardino County Registrar of Voters Scott O. Konopasek, "Response and Comment on the California Draft Standards for AVVPAT (VVPAT) and Proposed Decertification of Electronic Voting Systems," April 5, 2004.

36 Dennis, Stephen T. "Senate Expected to Support Paper Ballots," *The Montgomery Gazette*, March 30, 2004. Roll call vote from Maryland Legislature Web site - mlis.state.md.us.

37 "Senate Approves Delayed Paper Bill," *The Associated Press*, published in *Access North Georgia*, March 18, 2004.

38 Campos, Carlos. "Critics Punch at Touch-Screen Voting Security," *The Atlanta Journal-Constitution*, February 14, 2004.

39 *CBS Evening News with Dan Rather*, January 22, 2004.

electionline.org

electionline.org, administered by the Election Reform Information Project, is the nation's only nonpartisan, non-advocacy website providing up-to-the-minute news and analysis on election reform.

After the November 2000 election brought the shortcomings of the American electoral system to the public's attention, The Pew Charitable Trusts made a three-year grant to the University of Richmond to establish a clearinghouse for election reform information.

Serving everyone with an interest in the issue–policymakers, officials, journalists, scholars and concerned citizens–electionline.org provides a centralized source of data and information in the face of decentralized reform efforts.

electionline.org hosts a forum for learning about, discussing and analyzing election reform issues. The Election Reform Information Project also commissions and conducts research on questions of interest to the election reform community and sponsors conferences where policymakers, journalists and other interested parties can gather to share ideas, successes and failures.

electionline.org

Your first stop for election reform information

1101 30th Street, NW
Suite 210
Washington, DC 20007
tel: 202-338-9860
fax: 202-338-1720
www.electionline.org

Election Reform Information Project

A Project of the University of Richmond
supported by The Pew Charitable Trusts