



Commonwealth Club Address

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E-Voting Reform: The Voting Rights Struggle of Our Time

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A friend once said to me that reforming voting technology is like trying to turn the Queen Mary around. Some days it feels more like the Titanic, but either way, the good news is that today we are headed in a safer direction than we were just eighteen months ago.

California's e-voting debate is representative of the debate raging nationwide. California's political leaders and California-based organizations like the California Voter Foundation, the Electronic Frontier Foundation, and computer science professor Dave Dill's Verified Voting Foundation are at the forefront of the national, e-voting movement.

Progress made here in California makes an impact far beyond our state's borders. Most recently, just yesterday, there was a landmark ruling by a U.S. federal court judge that supports our Secretary of State's reform efforts. I'll get to that a little later, but first, I'll bring you up to speed on what the e-voting debate is all about...

BACKGROUND/HOW WE GOT HERE

Prior to 2000, few people ever bothered to look at the mechanics of voting. Elections were like the sausage factory -- people wanted to enjoy the end product without thinking too much about what went into making it.

The 2000 Presidential election vote counting fiasco in Florida brought a huge dose of sunlight and scrutiny into the nuts and bolts of our voting and vote counting processes. Basically lots of people started looking under the rock and we are

finding that oversight and security of our voting systems is miserably inadequate. We've also learned that election security is incredibly complex. There are 11,500 election jurisdictions in the United States and fifty different states, all with their own systems and procedures.

The 2000 presidential election also resulted in a huge infusion of federal money into state and local government coffers to fund the acquisition of newer, more modern voting systems. In 2002, Congress enacted the Help America Vote Act (HAVA), which included nearly \$4 billion in funding to improve the voting process and pay for new equipment. In California, voters enacted Proposition 41, the Voting Modernization Bond Act.

Although neither of these two acts required local governments to purchase electronic voting systems, many chose to do so, rather than upgrading to a paper-based, optical scan system despite the fact that such systems cost a fraction of what the touchscreens cost.

Voting equipment vendors weren't pushing optical scan systems in 2001 and 2002 -- they were selling touchscreens, and counties in California and other states throughout the country started buying.

THE PROBLEM WITH PAPERLESS E-VOTING SYSTEMS

The problem with electronic voting systems is that they produce results that cannot be verified. After a voter casts an electronic ballot on a touchscreen,

there is no paper record of that ballot that is produced which the voter can verify to ensure his ballot was accurately captured by the machine.

Not only is the voter unable to verify that his vote was accurately recorded, but the elections department is also unable to verify whether the votes that are counted and reported are the same as those that were recorded.

Voting systems must protect against two kinds of risks --

- 1) accidental errors that result in giving the race to the wrong candidate, and
- 2) deliberate vote fraud.

With e-voting systems, it's as if we're trying to eliminate fraud and error by eliminating the ability to detect it. It's like trying to solve your accounting problems by eliminating your accounting department.

The election officials who have purchased these systems and the vendors that supply them insist that e-voting is secure, and claim reformers and computer scientists are overreacting.

A WALK THROUGH THE LIFE OF AN ELECTRONIC BALLOT

So let's take a walk through the life of an electronic ballot and see just how perfectly everything must work for the final results to be accurate.

First, the voter casts a ballot on a computerized voting machine, which must correctly record and store that electronic ballot. All the machines are connected together at the end of the voting day and the ballots are transferred into one machine, where they are stored onto a cartridge. Pollworkers return the cartridges to a vote collection center where they are downloaded. Next the electronic ballots are transferred to the central counting center at the county election office, where they are tabulated using vote counting software. The tabulated data is then used to generate reports of election results.

Each of these steps must be glitch-free and perfectly programmed. Each step of the way every electronic ballot must be protected. If an electronic ballot is lost or altered along the way it would be difficult to detect and impossible to

determine what the correct ballot should be. And even if everything appears to go perfectly, we still can't verify the results.

COMPUTERIZED VOTING IS NOT A NEW PROBLEM

Computer risks in elections are not a new problem. This is actually an old problem that's been kicking around ever since we started using software to count punch card ballots. A generation ago, in the 1960's, computer experts warned that software could be programmed to defy pre- and post- election testing by being programmed to work differently in live mode than in test mode.

In California, we addressed such risks a long time ago when our Legislature enacted the manual count law in 1965. This law requires a subset of paper ballots to be selected at random and publicly counted by hand. The hand counted totals must be shown to match the software counted totals. If they don't match, you have paper ballots to fall back on to get the vote count right.

And in fact, California's manual count process has repeatedly shown software vote counts to be inaccurate. Let me give you some recent examples of paper ballots being miscounted by computer software in California:

- In Napa County, officials discovered that their Sequoia optical scanners had not been properly calibrated to detect the various types of ink with which Primary ballots were marked.
- In San Diego, Diebold's software awarded nearly three thousand votes cast on absentee paper ballots for Democratic Presidential candidate John Kerry to Dick Gephardt, who by that time had dropped out of the race.
- Last October, Alameda discovered that Diebold's optical scan software attributed 9,000 votes to a Socialist Recall candidate that should have gone to Cruz Bustamante.

We know about these miscounts because the counties were able to compare the paper absentee ballots to the software-counted results. When the numbers didn't add up, the counties were able to troubleshoot, diagnose and correct the vote counting problems.

Absentee ballots typically account for around 25 percent of a county's total vote. For the remaining 75 percent of the ballots that were cast on electronic voting machines in these three counties, there is no audit trail the registrars can use to verify the accuracy of the software vote count.

Officials from Alameda, San Diego and Napa were quick to assure the public that while they experienced vote counting problems with their paper absentee ballots, the vote count for their electronic ballots was accurate. But the truth is they really can't be sure and have no way to prove it, because they have no paper record that they can use to verify the accuracy of the software-counted electronic votes.

Whether such vote counting errors are accidental glitches or intentional efforts to tamper with election results is unknown. What we do know is that glitches have and will continue to occur in elections, regardless of what voting system is used.

E-VOTING SYSTEMS ARE NOT GLITCH-FREE

As we saw on March 2, computerized voting was a disaster in several large California counties. Thousands of California voters were disenfranchised on March 2 due to technical problems with computerized voting systems.

- In Alameda County, problems with Diebold's "smart card" encoders impacted 25 percent of the county's polling places, preventing voters from casting ballots on touchscreens during part of the day.
- In San Diego County, smart card encoder problems impacted 55 percent of that county's polling places.
- In Orange County, thousands of voters were given the wrong electronic ballots; many were unable to cast votes in contests for which they were eligible, while others were allowed to vote in districts in which they did not reside.

While the voting problems in Orange, Alameda and San Diego counties garnered the most attention in the weeks following the election, many other counties that use computerized voting systems also had their share of problems.

- In San Bernardino County, officials waited three hours for their new Sequoia vote counting computer to process the results before resorting to shutting down the computer and starting over.
- In San Joaquin County, a public radio reporter who selected a polling place at random to interview voters using the county's new Diebold touchscreen voting system arrived to find voters standing around, unable to vote because the machine being used to program smart cards was inoperable.
- In Merced County, ES&S equipment that had been delivered to one city had been programmed with the ballots of another.

Now, I realize that no voting system is perfect. But some systems are more imperfect than others. Not only do e-voting systems lack a voter verified paper audit trail, but the software that runs these voting systems is proprietary.

In essence, we have outsourced elections and handed the "keys to the kingdom" over to a handful of private companies. We've shifted from paper based systems that rely to a small degree on software that is verified to entirely paperless systems that rely solely on software that cannot be verified.

THE CASE FOR THE VOTER VERIFIED PAPER TRAIL

One key reform that has earned widespread endorsement is to implement a requirement that electronic voting machines produce a paper record summarizing the voter's choices that the voter can verify before leaving the polls. This record is not a receipt that the voter keeps -- it is a paper backup of that voter's choices which is collected at polling places and later used to verify the final results, and also for recounts.

Most election officials that have purchased e-voting systems insist the paper trail is not necessary and that government oversight can protect us from e-voting risks. I wish I could believe that. But the truth is that voting system oversight has been a failure at all levels of government.

OVERSIGHT FAILURES

Election officials who defend paperless e-voting systems insist that everything is tested and certified. Unfortunately, this is not true. Last December the Secretary of State conducted an audit of the 17 California counties using voting systems manufactured by Diebold Election Systems.

The audit found uncertified software or hardware being used in all 17 counties. Three of these counties were using software that had not been federally tested. Basically, no one had looked at it other than Diebold.

There is little reason for the public to trust the outcome of elections conducted on paperless, computerized voting systems run on secret software, but there's absolutely no reason to trust election results when the software being used has never been tested or inspected.

As Conny McCormack, Los Angeles County Registrar told the Los Angeles Times last November:

“All of us have made changes to our software - even major changes - and none of us have gone back to the secretary of state. But it was no secret we've been doing this all along.”

So, maybe this has been going on for a long time. With a paper based voting system, such as optical scan, which uses software to count ballots, at least you have an audit trail for every ballot, so if the software doesn't work properly you have a way to detect and recover from the problem.

Maybe it wasn't such a big deal that the systems weren't certified or corners were being cut. But those practices become totally unacceptable when you're talking about a paperless e-voting system. With e-voting systems, certification is the last line of defense against error and fraud.

FEDERAL VOTING SYSTEM STANDARDS

We do have federal voting system standards, but they are voluntary.

Federal qualification of voting systems has been managed over the past ten years by a handful of election officials through an organization called NASED (the National Association of State Election Directors) and a Texas-based

organization called the Election Center. NASED and the Election Center facilitate the testing of voting equipment by independent testing authorities, or ITAs.

LACK OF INDEPENDENCE

In recent months, it's come to light that some of these so-called independent labs make campaign contributions to political parties, and that the vendors contribute money to the organizations that oversee the federal testing process.

Some vendors are also politically active. Diebold CEO Wally O'Dell, for example, wrote a fundraising letter on behalf of President Bush to fellow Ohio Republicans urging them to donate to the President and stating he was committed to delivering Ohio's electoral votes to Bush. This fundraising letter was sent out at a time when Diebold was vying for favored vendor status to sell Ohio thousands of inauditable paperless touchscreen voting machines.

HAVA IS A BROKEN PROMISE

The Help America Vote Act, or HAVA, created the expectation that federal dollars spent on new voting systems would pay for systems that would meet the newer, 2002 federal voting system standards. The Election Assistance Commission, or EAC, a new federal agency created by HAVA to oversee the standards and disburse federal dollars only began holding hearings this year and is woefully underfunded.

Under HAVA, federal oversight of voting system standards was supposed to shift from NASED and the Election Center to NIST, the National Institute for Standards and Technology. But that funding has yet to be provided.

HAVA created the illusion that the more current, 2002 federal standards would be implemented, but they have not. Today all the voting systems in this country, including systems that are receiving federal funding, have only been qualified to the 1990 federal voting system standards, if at all.

The \$20 million earmarked in HAVA for research and development into newer, better voting systems has not been provided. In short, HAVA is a broken promise.

In May, DeForest Soaries, chairman of the EAC, went before a house appropriations committee to ask for more funding.

During the hearing, Representative John Olver of Massachusetts expressed surprise that the EAC was poised to distribute federal funds to the states without having conducted research on voting system guidelines.

Olver asked Soaries:

"We're going to distribute \$2.3 billion to them now and we haven't done a bit of the research, none of the research, that would have helped them make the best possible decision?"

"That's an accurate description," Soaries said.

"I don't know what else to say," Olver said.

"Welcome to our world," Soaries replied.

This is a classic example of government putting the cart before the horse.

CALIFORNIA AND THE FEDERAL STANDARDS

42 states, including California, claim to follow the federal voting system standards, but as we have seen in recent months, many of our counties have no problem using voting equipment that is not federally qualified. Four California counties -- Kern, San Diego, Solano and San Joaquin -- spent \$45 million in taxpayer money last year to acquire touchscreen voting equipment that was not federally qualified.

After all this country went through in 2000, after millions of Americans watched and waited as courts poured over Florida's sloppy and corrupt election mess, after the counting stopped when our Supreme Court halted it and proclaimed George W. Bush the winner, after the federal, state and local governments across the country threw in hundreds of millions of dollars to buy new voting machines, it was incredibly disappointing to learn that four of our counties took delivery of equipment that was not federally qualified.

KEVIN SHELLEY'S DECERTIFICATION ORDERS

On April 30, California Secretary of State Kevin Shelley banned the particular model in question -- Diebold's Accuvote TSx machine.

In addition, he imposed a moratorium on any new purchases of paperless e-voting systems. Shelley also decertified all other e-voting systems in California, but will allow these systems to be recertified if the counties using them do one of two things:

1) either retrofit the machines with a voter verified paper trail,

2) or use them without the paper trail if the counties agree to 23 security requirements.

The two most important recertification requirements are:

- that vendors provide their software source code to the Secretary of State for review, and
- that the counties using e-voting systems give voters the option of voting on a paper ballot if they choose to do so.

This was not a capricious decision. It came after months of piling evidence that shows how federal, state and local oversight of voting systems is rickety and inadequate, and after several days of public hearings where hundreds of people spoke, mostly in opposition to paperless, e-voting systems.

Shelley's decertification orders were hailed by e-voting reformers as a major victory and harshly criticized by several county registrars as burdensome and unnecessary. Four counties, led by Riverside, took the extraordinary step of suing the Secretary of State. Their lawsuit, filed in federal court, known as *Benavidez v. Shelley*, claims that the Secretary of State overstepped his authority when he decertified touchscreens.

A handful of groups advocating on behalf of disabled voters joined in the lawsuit, arguing that Shelley's restrictions on the use of e-voting machines reduces the ability for disabled and sight-impaired voters to cast a secret ballot without assistance. The California Voter Foundation, along with several other groups, filed

a friend-of-the-court brief in support of the Secretary of State, urging the judge to dismiss the case.

U.S. FEDERAL COURT DECISION

Yesterday, Judge Florence-Marie Cooper issued her ruling. She denied the plaintiffs' request for a temporary restraining order to prevent Shelley's decertification orders from taking effect.

In her decision, Judge Cooper wrote: "Nothing in the Americans with Disabilities Act or its Regulations reflects an intention on the part of Congress to require secret, independent voting" and that "the interest in the Secretary of State in fulfilling his statutory duties and the public interest in accurate, verifiable vote counts outweigh the Plaintiffs' interest in an unassisted, private vote."

Judge Cooper also dismissed the plaintiffs' claim that Secretary Shelley overstepped his authority. Her ruling cites several California statutes authorizing the Secretary to approve and regulate voting systems, and giving the Secretary the right to withdraw approval of a voting system if it is deemed by the Secretary to be defective, obsolete, or otherwise unacceptable.

In her decision, Judge Cooper said the Secretary is "therefore, not only authorized, but expressly directed to withdraw his approval of any voting system found to be defective or unacceptable."

Judge Cooper concluded,

"Plaintiffs have not demonstrated a likelihood of success on the merits as to any claim in this action. Defendant's decision to decertify touchscreen voting machines and to withhold further certification until he is satisfied that manufacturers and counties have complied with specified conditions is a reasonable one. It is based on studies conducted and information gathered which convinced him that the voting public's right to vote is not adequately protected by the systems currently in place."

This landmark ruling, which takes into account California laws as well as federal laws such as the ADA and HAVA, will have a reverberating impact on states across the country. This decision also reinforces the leadership our secretary of state is bringing to this critical issue. This court ruling is a major victory for paper trail

proponents, and clears a path for the reforms being implemented in California.

WHY IS THERE RESISTANCE TO REFORM?

What's standing in the way of reform? Why the resistance? It's possible the system was set to fail, create an opportunity for fraud. The idea of a conspiracy is popular. After all, people spend hundreds of millions of dollars and countless hours attempting to influence the outcome of elections. And let's face it, not everyone in this country is honest. So if you wanted to cheat in an election, eliminating the ability to audit the election would be a good way to be sure you could get away with it.

As tempting as these theories are, I think it's more likely that we are where we are with our voting equipment because of government atrophy. In the voting equipment business, we find all the ingredients that make up a typical government debacle. We've got:

- Regulatory capture -- this is what happens when the regulators and regulated become so closely intertwined that the regulators go exclusively to the regulated for information and ideas. This explains why many election officials who have purchased e-voting systems are ignoring the concerns of computer scientists
- Revolving door -- the revolving door swings very fast in the voting equipment business. At least five former California election officials, including the former California Secretary of State, Bill Jones, have worked for voting equipment vendors.
- Conflict of interest -- vendors that recruit former election officials to come work for them do so in order to parlay those former officials' relationships with current election officials in order to win favor and contracts.

In addition, we've got local government procurement scandals, with counties taking delivery of unqualified equipment, plus the failure of federal and state oversight. All of these conditions have festered due to a vacuum of sunlight.

Whenever such conditions are present in any area of government, it's a warning signal that all is not right.

CHANGE IS COMING

The good news is that change is coming. Last month California's Secretary of State introduced paper trail standards -- the first in the nation -- to guide the development of the voter verified paper trail. Next door in Nevada, the Secretary of State is implementing touchscreens with a voter verified paper trail this November. California's requirement doesn't take effect until 2006.

In the meantime, Kevin Shelley's recertification orders ensure that voters who live in counties that use touchscreens will have the option to cast a paper ballot at the polls -- what I call the "paper or plastic?" approach.

THE VOTER VERIFIED PAPER TRAIL AS ONE IN A SUITE OF REFORMS

The voter verified paper trail is no panacea. That paper record has little value if it isn't used as an audit tool to verify the final results. It must be implemented as part of a suite of reforms. Others include:

- 1) routine verification of results (manual count law);
- 2) independent inspection of voting software source code; and
- 3) fair recount laws.

California is one of only two states in the country that routinely verifies the software used to count paper ballots through a public, manual count of a subset of those paper ballots. West Virginia is the other state.

CONCLUSION

The sobering truth of the matter is that elections in other states could have been given to the wrong person by accident or through fraud over the past several decades and nothing was ever done about it.

People ask why is it that, four years after Florida, we still haven't fixed our voting systems? It's because this problem is bigger than anything that

can be solved in just one election cycle. It will take years to reform computerized voting and vote counting in the U.S.

In the meantime, we have a presidential election coming up in just four months.

The California Voter Foundation will be urging voters in e-voting counties to vote on paper, as we did in March, either by requesting an absentee ballot or requesting a paper ballot at their polling place. Our goal is to minimize the e-voting risks by increasing the percentage of ballots cast on paper.

We are also working in coordination with several other organizations to minimize e-voting risks in presidential election battleground states. Activists are educating themselves, making public records act requests, finding out if their local equipment is certified and tested, and monitoring and documenting everything they can. They're attending meetings, asking questions. They are Democrats, Republicans, Greens, Libertarians, old, young, rural, urban, online, offline.

There is a movement underway in this country for transparent and verifiable voting systems. It is movement made up of people who refuse to avert their eyes, who are willing to peer inside the sausage factory.

I believe we will win because the American people have a good track record of overcoming voting restrictions. But change takes time. The history of this nation has been one long struggle to expand and protect the right to vote. Sure, this is a tough fight -- most things worth fighting for are.

Ballots are the bright line between civility and chaos. Ballots are what distinguish free nations from enslaved ones. Ballots are what we use to transact our informed consent. As the U.S. works to foster democracy abroad in Iraq and Afghanistan, it's more important than ever that we set a good example of how to conduct elections here at home.

Those who fight for the paper trail do so out of a fierce love for democracy. Reliable election results, after all, are the heart of legitimate government. A government is only legitimate when it has won the consent of the governed. And that consent can only be won when elections are conducted not in secret, but in plain sight.