Electronic Voting Raises New Issues

Security, Recount Questions Persist As States Adopt Paperless Balloting

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Electronic voting systems that were touted as the solution to the paper ballots and hanging chads of the 2000 presidential election have become a new source of controversy as experts debate the reliability of software that operates the new systems, whether local election officials have the technical competence to run them and how there can be a recount on machines that keep no paper record of votes cast on them.

In the days leading up to the Nov. 2 election, critics of the new systems are voicing their concerns about the integrity of the ATM-like machines that will be used by one-third of the nation's voters -- more than double the number that used them four years ago.

"There could be a subtle software error that resides in those machines for months and years, and no one would ever know. There could be an error only in a particular election, and no one would ever know. There would be a cloud hanging over any election that uses these unaudited, unverifiable electronic machines," said Rep. Rush D. Holt (D-N.J.), who sponsored legislation calling for a separate paper trail for electronic voting.

Many local election administrators have sided with the machines' manufacturers to
dismiss the complaints as paranoia. They said voters will benefit from the new machines because thousands of ballots will be saved from mistakes such as the hanging chad, which they said was a far greater problem than the possibility of a hidden error. They said receipts would lead to jammed printers, confused voters and the burden of handling tons of paper.

The machines will be used in the District and 28 states, many of which switched to the new systems after the problems with the Florida ballots in 2000. Coming at the peak of the high-tech bubble, computerized voting appeared to be the answer to worries about paper ballots.

Voters using screens similar to ATMs are guided step-by-step through a ballot. They cannot pick too many candidates or leave marks that would have to be scrutinized to guess their intent. Counts will be generated automatically and almost instantaneously. There will be no paper ballots to transport, store or pore over. Advocates said recounts will be a thing of the past.

But as the trend toward electronic voting machines accelerated -- Maryland and Georgia adopted the new systems statewide -- high-tech leaders and computer scientists began to raise concerns.

One of the biggest raised was the lack of a paper trail. For bank ATMs, customers receive a monthly statement to make sure the bank has not made errors or hackers have not...
stolen credit card numbers. Electronic voting provides no way to know if anyone made a mistake or hacked the system.

"Computer scientists want technical solutions, and the election supervisors just want to get rid of their paper," said Steve Ansolabehere, former co-director of the CalTech-MIT Voting Technology Project.

Spurred by the complaints, California, Maryland and Ohio pursued investigations into the security of the touch-screen systems. Consultants discovered software problems, security gaps and widespread use of software that had not been certified by independent testing labs.

The problems stopped Ohio in its tracks. The state had been aggressively pursuing electronic voting. Instead it decided to stick with its existing system, which means 72 percent of the voters there will use punch-card equipment of the sort that caused problems in Florida.

Maryland implemented new procedures intended to make its system more secure, while in California, Secretary of State Kevin Shelley told local election officials to increase training and tighten policies to minimize risks. Both states will use "parallel testing" -- taking random machines out of use Nov. 2 for test voting to make sure the system counts correctly and does not have a hidden software switch to steal votes on Election Day.

Election officials say the improved procedures are also intended to shore up the problem that everyone agrees on: The greatest threat in electronic voting comes from people rather than machines, especially volunteer poll workers being asked to handle new technology.

"How many openings and closings of the polls has the typical poll worker been through with the new equipment? Usually zero. It's just a new process for them in many places," political scientist Michael Shamos said.

Florida's first major election with electronic voting in 2002 showcased what can happen when new technology is unleashed on poll workers not prepared for the job. Polls did not open in Miami because volunteers could not get the machines started. Workers in Fort Lauderdale floundered getting tallies from the machines, leaving the results in chaos. Similar problems arose in Maryland and Virginia.

"We need to design and test our ballots and train our poll workers so..."
they know what they're doing," said Ted Selker of MIT, co-director of the ballot project. Selker said increased scrutiny, not new equipment, will lead to a better election.

"It's execution," he said. "It's not about the fancy toys. It's real unlikely that the machine will scam me. It's more likely that an election official will be so harried that they'll screw up procedures."

Selker has observed poll workers in Los Angeles, Chicago, Fort Lauderdale and Boston and said he has never been in a precinct more than 30 minutes before seeing volunteers break the rules.

Even if there are no mistakes, critics say that electronic voting leaves no way to double-check a close election. The lack of paper ballots for recounting was originally sold as a benefit of touch-screen equipment. But with the prospect of another close presidential race, some voters want a way to be sure that counts were correct.

Nevada rolled out systems from Sequoia Voting Systems that use a reel-to-reel paper cartridge that voters can review. They were used for the fall primary, and tests afterward showed that the paper totals and electronic totals matched perfectly. But Florida has resisted the move in part because there is no time to implement changes before Nov. 2.

"Change breeds uncertainty and that is always fertile ground for error," said Doug Chapin, director of Electionline.org, a nonpartisan clearinghouse that monitors election reforms. He said every tiny error is going to be dissected and publicized nationally. "There's no more room under the radar."