



Will Your Vote Count?

Concerns mount over possible breakdowns, voter confusion, and fraud.

By David Talbot

Next week's elections will reflect the biggest change in voting technology in U.S. history, with fully one-third of voters facing technology different from what they used in 2004. That continues a trend: 63 percent of voters will have seen a change in technology since the disputed presidential election of 2000. What's more, eligibility to vote is increasingly being confirmed at the polls by checking a voter's name against a database instead of against a printed list of registered voters.

With these changes, fears are running high that something will go wrong. "Everything we have found is that this has never happened before in our country. The concern is that a massive amount of change leads to the greater potential for problems," says Kim Brace, president of [Election Data Services, \(http://www.edssurvey.com/\)](http://www.edssurvey.com/) a consultancy in Washington, DC. "I think the jury is still out on how good making all this change is. Everybody thinks there is light at the end of the tunnel. We're just hoping it's not the train coming through."

Some of the new voting machines will use optical-scanning technology, which is well established. Most concerns center on a newer touch-screen method, called direct-recording electronic voting (DRE). All told, 37 states and 39 percent of voters will use this technology on Tuesday. And in 15 of those states, parts or all of the state is using no paper trail whatsoever to back up the electronic records. This troubles [Avi Rubin \(http://avirubin.com/vote/\)](http://avirubin.com/vote/), a computer scientist at Johns Hopkins University and author of *Brave New Ballot: The Battle to Safeguard Democracy in the Age of Electronic Voting*.

"I think those [systems] are unauditible and unrecountable, and are susceptible to all kinds of problems," he says. "It's possible someone could [commit fraud and rig the machine \(/read_article.aspx?id=17677&ch=infotech\)](/read_article.aspx?id=17677&ch=infotech) and we could never know it. Voting machines need to be designed so you are not trusting the software in them. In a system with no paper, you have no choice but to trust the software." Even without fraud, he adds, a power failure or other equipment malfunction could erase votes. Rubin says the best approach is optical scanning combined with spot auditing to ensure that the votes on scanned paper ballots match what was recorded electronically.

The other trend that voters will notice on Election Day, the use of so-called electronic poll books, could also cause problems. One major worry is that some voters will discover when they arrive at the polls that database glitches have left them ineligible to sign in and vote. "A lot of these systems were set up to find and eliminate people that maybe died or had moved, but [other] people could find themselves purged," says Ted Selker, an MIT computer scientist and codirector of the [Caltech/MIT Voting Technology Project. \(http://www.vote.caltech.edu/\)](http://www.vote.caltech.edu/) "So make sure you are still

registered before you go to the polls."

Both changes flow from the 2002 Help America Vote Act, federal legislation that funded states' efforts to modernize their voting systems in the wake of the 2000 Bush-Gore debacle in Florida. Brace says the suddenness with which the changes were implemented is as worrisome as the new technology. "A lot of things are happening at the last minute, with both the voting equipment and voting registration systems," he says. "Congress didn't listen--or wasn't told strongly enough--that it would take some time to put these two major changes into place." State election officials "had to swallow hard and take what [technology] they could find out there" and weren't able to wait for successive generations of equipment to reach market.

Roy Saltman, a former voting technology expert at the National Institute of Standards and Technology, shares some of these concerns, but he thinks the changeover is "strongly a move in the right direction." He says that voter distrust of new systems, along with lack of poll-worker training, may cause bigger problems than flaws in the technologies themselves.

"What we've done is increase public unease, and that has a lot to do with the failure to implement correctly the direct-recording systems," he says. "They require poll workers who are knowledgeable and capable, and we don't have enough of those. It may be that [e-voting] systems are too complex to implement with poll workers we've got available."

The flurry of concern may be to the good, says Selker, because it has heightened alertness: "We are absolutely better off than we have been, for a lot of reasons. The scrutiny is what's going to make all elections better." He notes that in 2000, between four million and six million ballots cast for president had to be discarded for one reason or another. In 2004, thanks to training and new equipment, the number of lost votes was reduced by an estimated one million, he says.

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