Electronic Voting Machine Information Sheet

Diebold Election Systems — AccuVote-TSx

Name / Model: AccuVote / TSx[1]
Vendor: Diebold Election Systems, Inc. (DESI)
Federally-Qualified Voter-Verified Paper Audit Trail Capability: Yes.[2]

Brief Description: The AccuVote-TSx is a smart-card activated multilingual touchscreen system that records votes on internal flash memory. Voters insert a "smart-card" into the machine and then make their choices by touching an area on a computer screen, much in the same way that modern ATMs work. AccuVote-TSx offers a summary page once the voter has sequenced through the entire ballot, giving the voter an opportunity to verify their choices and to vote in any race they missed. The votes are then recorded to internal electronic memory. If the optional AccuView Printer Module is attached, voters have the opportunity to view a printed ballot under a transparent screen, and compare this paper ballot with the adjacent electronic summary screen . When polls close, the votes for a particular machine are written to a "PCMCIA card,"which is removed from the system and either physically transported to election headquarters or their contents transmitted via computer network. Paper ballots are removed from their enclosure in the Accuview housing and likewise transported to election headquarters.

Detailed Voting Process: When the voter enters the precinct, he or she is given a "smartcard" by a poll worker after confirming the voter is registered. A "smart-card" is a card the size and shape of a credit-card which contains a computer chip, some memory and basic data such as the voter's voting language and political party. The voter then takes the smart-card to a voting machine and inserts the smart-card into the machine to allow voting. After using the touchscreen to vote, 1) the record of the vote is directly recorded electronically to multiple, internal flash memory cards and 2) the voter's smart-

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[1] See http://www.diebold.com/dieboldes/solutions_management_tsx.asp
[2] With the optional AccuView Printer Module™

card is reset to ensure that it can only be used to vote once. The smart-card pops out of the machine with a loud "click" and the voter returns it to a poll worker.

If the optional AccuView printer module is in use, voting takes place as described above however, at the conclusion of voting, a paper ballot is printed and displayed under a transparent screen in the AccuView housing so that the voter can verify their selections before the ballot is deposited into a container within the printer module to await retrieval by poll workers.

When the polls close, a poll worker or election official inserts a different-type of smartcard, an *administrator* card, into each voting machine and puts the machine into a postelection mode where it will no longer record votes. At this point, the machine writes the votes from its internal memory to flash memory on a "PCMCIA card". The PCMCIA card is merely a removable form of flash memory. A printed tape of all votes cast or vote totals for the voting machine can also be printed out at this time depending on local procedure and regulations.

The PCMCIA cards are taken out of each machine and either taken to a central tabulation facility or to remote tabulation facilities. At the tabulation facility the votes are read out of the PCMCIA cards and into a central computer database where precincts are combined to result in an aggregate vote. For remote facilities, the votes are transmitted to the central tabulation facility via a closed "Intranet", the Internet or modem. The PCMCIA cards and any printouts from the voting machines can then become part of the official record of the election.

Past Problems

May 2006: *Ohio.* Voter access card failures, paper jams, and even a missing electrical adapter on the touch screen machines caused election problems. Screen review doesn't match ballot printout. Electronic ballot boxes were lost in two counties.[3]

July 2005: *California.* California. After testing 96 touch screen machines and finding a 10% error rate, Secretary of State Bruce McPherson rejected Diebold's application to certify the AccuVote TSx touch screen with AccuView printer module.[4]

April 2004: *California.* Secretary of State Kevin Shelley decertified all electronic touch-screen voting machines in the state due to security concerns, primarily caused by Diebold.[5]x

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[3] See: http://www.votersunite.org/info/dieboldinthenews.pdf
[4] Id.
[5] Id.

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NASED Qualification Status:[6]
10/03/05: AccuVote TSx Precinct Counter with AVPM (Touch Screen with Printer Module) Firmware version 4.6.3 & 4.6.4
09/21/05: AccuVote-TSx Precinct Counter Bootloader BLR7-1.2.1 running WCER7-410.2.1 Firmware version4.6.4
05/16/05: AccuVote TSx precinct count (touchscreen) with AccuView Printer Module (AVPM) Bootloader BLR7-1.2.1 running WCER7-410.2.1 Firmware version 4.6.2
09/29/04: AccuVote TSx Precinct Counter Firmware Version 4.5.2
05/20/04: AccuVote TSx Precinct Counter Firmware Version 4.4.5

References:

"Security Analysis of the Diebold AccuVote-TS Voting Machine ," Center for Information Technology Policy, Princeton University, September, 2006. See http://itpolicy.princeton.edu/voting/. Diebold's response may be found at http://www.diebold.com/dieboldes/pdf/princetonstatement.pdf.

Tadayoshi Kohno, Adam Stubblefield, Aviel D. Rubin, and Dan S. Wallach, "Analysis of an Electronic Voting Machine", *IEEE Symposium on Security and Privacy 2004*. IEEE Computer Society Press, May 2004. See: http://avirubin.com/vote.pdf

"DRE Security Assessment, Volume 1, Computerized Voting Systems, Summary of Findings and Recommendations," InfoSENTRY, 21 Nov. 2003. See:
http://www.sos.state.oh.us/sos/hava/files/InfoSentry1.pdf

"Direct Recording Electronic (DRE) Technical Security Assessment Report," Compuware Corporation, 21 Nov. 2003. See: http://www.sos.state.oh.us/sos/hava/files/compuware.pdf

"Risk Assessment Report: Diebold Accuvote-TS Voting System and Processes (redacted)", Science Applications International Corporation SAIC-6099-2003-261, Sept. 2, 2003. See:
http://www.dbm.maryland.gov/SBE

"Trusted Agent Report -- Diebold AccuVote-TS Voting System," RABA Technologies, Jan. 20, 2004. See:
http://www.raba.com/text/press/TA_Report_AccuVote.pdf

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[6] *NASED Qualified Voting Systems (11/18/2005).* National Association of State Election Directors. See: http://www.nased.org/certification.htm.