The Great American E-lecition
Is E-voting improving or impeding democracy?

The League of Women Voters of Northampton County
and
The American Association of University Women Easton Branch

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E-voting in the News

Electronic Voting Systems: the Good, the Bad, and the Stupid

Security Analysis of the Diebold AccuVote-TS Voting Machine

SECURITY ALERT: July 4, 2005
Critical Security Issues with Diebold Optical Scan Design

Pennsylvania voters: trust but verify
Poll finds most want ballot verification

Electronic Voting System Usability Issues

THE MACHINERY OF DEMOCRACY:
PROTECTING ELECTIONS IN AN ELECTRONIC WORLD

Hybrid Voting Systems
Security Issues with Electronic voting Systems

Hack-a-Vote: Security
Issues with Electronic voting Systems

Analysis of an Electronic Voting System

Privacy Issues in an Electronic Voting Machine

SECURITY ALERT: May 11, 2006
Critical Security Issues with Diebold TSx

Trusted Agent Report
Diebold AccuVote-TS Voting System
Main Take-Away Points

- E-voting systems are nothing more than general-purpose computers running specialized voting software.
- Same concerns arise as in any complex software/hardware system.
- Current certification process provides little or no assurance: it is incapable of identifying many critical vulnerabilities.
- Other states have banned e-voting systems still in use in PA.
- We can – and should – do better.

- Despite these concerns (or perhaps because of them) everyone should still actively participate in the democratic process. Vote!
E-voting Risks

While there are several DRE vendors, one truth holds: all computer hardware/software systems of this complexity have bugs.

Bugs can manifest themselves in different ways:
- cause system to be unreliable (crash, lose votes),
- create openings that allow an outsider to compromise election,
- create openings that allow an inside to compromise election.

Such attacks can be impossible to detect after-the-fact.
“E-voting machines are not computers.”
Diebold AccuVote System

Demo in Allentown:

Diebold AccuVote-TSx block diagram:

DRE systems are nothing more than specialized computers.

http://www.wfmz.com/cgi-bin/tt.cgi?action=viewstory&storyid=13711
http://www.bbvforums.org/forums/messages/1954/AccuVote-TSx_2_02_System_Overview-23267.pdf
E-voting Machines We Own

Danaher / Shouptronic 1242
(Bucks County)

Sequoia Advantage
(Northampton County)
E-voting Machines We Own

Circuit built by Lehigh undergrad to read EPROM (Danaher firmware)

Replacement EPROM cost is less than $3.00

EPROM programmer is $79.00
“E-voting machines have been tested by federal and state authorities, so they must be safe.”
CA and OH Toss Out DRE's

http://www.sos.state.oh.us/sos/info/everest.aspx

All of these machines were previously certified at the federal and state level. Some are still in use in PA counties.

http://www.sos.state.oh.us/sos/info/everest.aspx
“E-voting machines have never malfunctioned or lost votes in a real election.”
Nearly 200 votes are lost through a combination of vendor and pollworker mistakes in May 2005 primary in Berks County.

http://www.pollworker.us/articles%202005/kuznik_11-2-05_danaher.html
Case of the Sequoia Advantage

http://www.pollworker.us/articles%202005/kuznik_11-2-05_danahe.html

http://www.crn.com/government/206905445
E-Voting in Pennsylvania

AVS was decertified last year

ES&S iVotronic
ES&S Model 100/iVotronic
ES&S Model 100/AutoMark
Advanced WINvote
Premier (Diebold) TSX
Danaher 1242
Sequoia Edge
Hart InterCivic eSlate2
Sequoia Advantage
Hart InterCivic eScan / Hart InterCivic eSlate

http://www.dos.state.pa.us/voting/cwp/view.asp?a=1218&Q=446365