



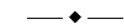
DEPARTMENT OF INFORMATION RESOURCES

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June 22, 2004

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Ms. Ann McGeehan
Deputy Assistant
Office of the Secretary of State
1019 Brazos Street
Austin, TX 78701

RE: Examination of AccuPoll Voting Systems

Dear Ms. McGeehan:

I attended a scheduled examination on May 27, 2004, at 1:30 pm, for the purpose of reviewing the voting system from Accupoll, Inc. The report below summarizes my findings.

Voting Systems Versions

Hardware/Software Version	Date Previously Certified
AccuPoll Direct Recording Electronic (DRE) Voting System 2.3.14	N/A

System description

This is a new system developed "from scratch" in the past two years. It is comprised of the following components:

- AccuVote Voting Station (AVS)
- Voting Administration Workstation (VAW)
- Central Count Server (CCS)
- Central Vote Consolidator (CVC)

The AVS is a self-contained voting station with a commodity personal computer (PC) with a touchscreen display on which voters cast their votes. It contains a commodity inkjet printer for jurisdictions that want to provide the voter with a paper record of the votes they cast. The unit also has a flash memory card, which contains a redundant copy of the ballots, and a backup power supply.

Although the system uses generic components throughout, making malfunctioning part replacement relatively inexpensive, this approach has some troubling aspects. The operating system and the basic input output system (BIOS) are part of the system as certified. If one of the components fails, it must be replaced by an identical part. This may not be possible even a year or two in the future because of the pace of technology change. Thus it is likely that the system will have to be recertified regularly with new generic components.

All the AVS units are networked with the VAW through Ethernet. The VAW is a laptop PC that administers the voting process on the AVS units. The VAW has a Compact Disk Read Only Memory (CD ROM) through which all the ballot definitions for the poll location all are downloaded to the administration workstation. Ballot definitions are then downloaded from the VAW to all AVS before the polls open. In addition, new versions of the voting system software can be downloaded from the VAW to the voting units.

The system provides audio headphones and special voting keypads to provide access for disabled voters. The system design also allows a machine to be unplugged from the network and carried to the voter, for instance to the voter's vehicle, for easier accessibility. When the unit is reconnected to the network, it downloads the votes and logs information to the VAW.

The polls are opened and closed from the VAW, and voter authorization cards (smart cards) are prepared at the VAW. After the polls close, the precinct tally is prepared by the VAW. The precinct tally cannot be completed unless all units are connected to the network and all voting logs and records are synchronized between the VAW and the voting units.

The vendor seems to have taken reasonable steps to ensure security and accountability of all voting units from the time the polls open to the time the final tally is taken. For instance, when the VAW is turned on, the software has security procedures that check the validity of the software to ensure that it has not been compromised.

To vote, a voter gets an authorization card at the judge's booth and inserts it into the smart card slot on the AVS. The card is programmed to bring up the proper ballot style for the voter. Races are presented to the voter as one race per page. Although this can be somewhat tedious to navigate through, it reduces the potential for ambiguity or confusion among races.

After the voter finishes voting and casts the ballot, the smart card is disabled and ejected. The voter returns the card to the judge's booth. The system optionally produces a printed record of the votes cast.

The vendor seems to have taken extraordinary steps to ensure that votes are captured correctly and redundantly so that no votes are lost. Votes are recorded in up to five places:

1. In the database on the voting station hard drive
2. On paper, if the voter receipt option is used
3. In a PostScript file from which the voter receipt is printed
4. In a compact flash media
5. At the VAW

The database is MySQL, and access is protected through the database password authentication process. The database itself is not encrypted. This lack of encryption is an area of particular concern and should be remedied as soon as possible.

Recommendations

The system as presented at this examination is the best first version this reviewer has seen. However, it still needs some work in the following areas before it can be recommended for certification.

- The final summary screen presented to the voter before casting the ballot should have some indication of "no vote" for races in which there is an undervote.
- The final summary screen needs improved navigation to go back to races the voter wants to change or review in detail.
- At the "cast/cancel" screen, it would be very helpful to have a "back" button that takes the voter back to the summary screen rather than canceling the entire ballot and forcing the user to start over from scratch.
- Straight party voting should be reported on the summary screen, even if the voter has crossed over in some races.
- The system as presented did not have a real-time log printer.
- Once provisional ballots are accepted, they can't be un-accepted. It might be useful or even necessary to be able to back out of mistakes.

The Department of Information Resources (DIR) cannot recommend certification of the system as presented at this examination.

Respectfully,

A handwritten signature in black ink that reads "Nick Osborn". The signature is written in a cursive style with a large, sweeping initial "N".

Nick Osborn
Systems Analyst

MM:NO:sk