

AccuPoll

The AccuPoll voting system was examined in Austin on May 27, 2004.

The release of the system is 2.3.14. It is made up of the following sub-systems:

- AVS – AccuPoll Voting Station – a DRE voting machine
- VAW – Voting Administrative Workstation
- CVC – Central Vote Consolidator
- CCS – Central Count Server

This was the first examination of the AccuPoll system. The software was developed using the following technologies: HTML, Java, Linux, MySQL, Perl, X11, and XML. This is a solid and proven technology stack.

The system employs several techniques to maintain security. Passwords are used to login into each of the sub-systems. Additionally, the MySQL database is password protected with an internal password that is generated when the system is built. This is not known or changeable by any jurisdiction election worker. The passwords used to login to the sub-systems can be changed by the jurisdiction.

The machine BIOS is locked and set to allow booting only from the hard disk drive. When the machines are booted, they boot into the election system. Access to the operating system is prevented (this was verified). Another security feature worth noting is that the software is digitally signed to prevent unauthorized updates.

To activate the AVS (DRE) a voter is given a smartcard (“GoVote Key”) which has been enabled with the correct ballot by a precinct worker using the VAW. Once a voter has used the card, it is no longer viable until it is re-initialized by the VAW.

Precinct results are written to a CDROM disk using the VAW and therefore cannot be altered once they are written. The CDROMs are sent to the central counting location where they are read using the CVC and tabulated in the CCS. The precinct (CVC and multiple AVS) and central count (CVC and CCS) machines are connected (ethernet) in a closed network.

It would be very hard to compromise the system because of the foundation of the Linux operating system and the other aforementioned techniques.

Functionally, the system operated flawlessly with two exceptions: a write-in vote was not counted and the central count machine lacked a printed real-time audit log.

This is the first system that Texas has examined that provides the voter with a printed “receipt”. When the voter casts a ballot, a printout of the selections is presented to the voter on standard

paper using a laser printer mounted inside the AVS case. The printout clearly indicates the voter's selections. After reviewing the ballot, the voter deposits the "receipt" into a ballot box. A barcode is also printed on the paper which could be scanned quickly and accurately if a hand-count was required.

Conclusion

The system is very good, however, the failure to record/report the write-in vote and the lack of a central count real-time paper audit log keep it from meeting the requirements of the Texas Election Code. I do not recommend certification until the two problems are corrected.

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