ES&S

The following ES&S systems were re-examined in Austin on May 26, 2004:

Unity - version 2.4.3 - an election setup, central-count accumulator and reporting system. Unity subsystems:

Hardware Programming Manager – v – 5.0.3.0b
Data Acquistion Manager – v – 5.0.3.1a
Election Reporting Manager – v – 6.4.3.0a

Model 150/550 – version 2.1.1.0a - optical central counting scanners
iVotronic - version 8.0.1.0 - DRE voting machine

The problems with the systems are as follows:

- The op-scan ballots marked with the pen (Bic Round Stic Medium which was on the vendor "approved pen list") handed out by the vendor were not read consistently by the same scanner. Marks that appeared acceptable to the eye where not detected correctly in all cases. This is a serious problem if the scanners do not correctly record the voters marks. The marks were not abnormal. It is not reasonable to expect the voters to fill in the blocks completely.

    In the previous examination of the Optech system, a much darker pen was used (Sharpie – also passed out by the vendor). The Sharpie caused the previously reported bleed-through problem. The vendor needs to determine which pen(s) should be used so that the ballot marks are read consistently.

- Results from the Optech scanners are stored on a diskette. The operator had difficulty uploading the results into Unity. An error message indicated that there was a problem reading the diskette. A call was made to the home office and the operator was told that a status flag in the database had to be cleared. Their explanation was that the precinct results were already read. When the diskette was read after the status was reset, it was able to be uploaded without the same error message. The explanation given was not satifactory because the operator should have been informed that the results were already loaded; as witnessed when results from the iVotronic were attempted a second time. Having to clear a "status" manually was not a normal operation required of an operator, hence the phone call to the home office.

- The audit log should indicate the iVotronic's unique ID when results are uploaded into Unity.

- The results from previous elections or testing should automatically zero-out upon entering election-day tabulation on any vote recording or accumulating system. A flag can be used to override this default behavior in the case where a system is used for early-voting (i.e. subsequent reboots will not clear the stored ballots).

    The ES&S systems require the operator booting the machines to manually zero the results. Sooner or later an election will be tainted because an operator forgot to zero the results.

I cannot imagine a senario where ballots or results should not be cleared upon starting election-day voting or tabulation. I have asked other vendors about this and they concur; their systems automatically clear ballots or results when entering election-day mode.

Conclusion

The problem mentioned for the Unity Election Reporting Manager (Optech diskette upload problem) and the Optech scanners (mark sensing inconsistency problem) are serious enough that I cannot recommend certification for those systems. Additionally, I strongly recommend that the vendor adopt the automatic zeroing recommendation or provide justification as to why not. As noted, this is standard practice by the other major election-system vendors.

I recomment certification for the iVotronic, Data Acquisition Manager, and Hardware Programming Manager systems.

Tom Watson
Examiner