

Summary: Utah Voting Equipment Selection Advice

Date: October 20, 2004

Note: This letter primarily addresses direct recording electronic (DRE) voting machines because Utah's state election reform plan and its original July 9th RFP required DRE voting machines. If by any chance bids for optical scan voting systems have been submitted and are under consideration by Utah's Election Office, then this letter may be less relevant. Utah must implement Help America Vote Act (HAVA) provisions by its June 2006 election.

The voting equipment arena is currently in such great turmoil that delaying the acquisition process would greatly reduce the state's risks and probably its costs. Available equipment, its costs, the standards, the laws, judicial rulings, and public opinion are all in great flux. It is in the interests of no one, including the disabled, to have to revisit the selection, or to be stuck with an inaccurate or insecure system by rushing in too early.

Utah has the time to do the right thing and benefit from other states' collective experience and research. The (voting equipment) RFP is an invitation for vendors to tell the State what it needs. That is a poor way to do purchasing in general, but in the case of something as important as voting equipment, it is downright dangerous.

(Utah's state election reform plan and the original July 9) RFP stated: "The proposed voting solution must include at least one DRE (*direct recording electronic* voting machine) per polling place .." This requirement may have discouraged other presently available voting systems that meet HAVA (Help America Vote Act)'s accessibility requirements from submitting bids.

DREs require a much higher level of security than machines that don't actually record the votes, because if an unauthorized (or even authorized) person were to access the code, he or she could impact the results reported by the DREs. The same is not necessarily true for (precinct-based) optical scan and ballot marking and generating systems.

Errors of (purely) electronic voting machines may often be undetectable and there are many instances of (purely) electronic voting systems reporting highly improbable outcomes, forcing the relevant voting officials to explain the seemingly impossible results with comments that boil down to "the computer says it's true, so it must be." Problems as simple as a computer bug or configuration error by election workers can and have caused serious errors in recording votes. Over 2000 technologists endorsed Verified Voting's resolution saying "Computerized voting equipment is inherently subject to programming error, equipment malfunction, and malicious tampering..."

Expert computer scientists can help to create specific criteria for all aspects of our voting systems. (The Utah Election Office) can ask computer security experts about computer security questions, not end users, who may like the look and feel of the machines but have no way of knowing if they are really secure. The State has the opportunity to amend the RFP to ... provide time and resources for a complete and independent review of proposals, given the present state of DRE security and reliability. Security evaluation of voting machines is entirely inadequate under this RFP.

The current generation of electronic (DRE) voting machines are not secure, do not provide voters with a way to know that their votes are being tabulated correctly, and do not provide a mechanism for effective recounts when errors arise. As such, they represent an unacceptable technical risk, regardless of how people feel about them. The only way to effectively guard against errors is to have a redundant system for counting votes. The authors of this response strongly feel that the only technology currently available that provides this necessary redundancy is Voter Verifiable Paper Ballots (VVPB). In fact,

security is so hard to achieve that most Computer Scientists who have looked at the problem have concluded that the only way to prevent problems is to ensure that you provide a method for auditing the results, provide for independent recounts.

The present RFP does not sufficiently specify how those costs (for storage, transportation, set up, connectivity, physical security, cleaning, maintenance, and upgrades) are to be identified and calculated.

The State has the opportunity to make the entire process as open as possible in order to avail itself of public resources, and look to share costs and form partnerships with other governmental and non-governmental entities. Open Source solutions by their very nature:

- a) inspire greater public confidence, as they are open for the world to review and critique,
- b) due to that broad review, have a much better record of security and correctness.

Utah can join multi-state open source development efforts and write a more specific RFP that details the State's real requirements, including a VVPB, and allow sufficient time for a thorough review, including outside experts, to ensure that Utah's voting system is the most secure and trustworthy in America.

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This document was condensed from our previous submissions to Utah's Election Office:

July 19, 2004 http://utahcountvotes.org/Voting_systems.pdf
September 24, 2004 <http://utahcountvotes.org/response.pdf>

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