Election Officials Roundtable

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EAC Offices
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Discussion Questions

Voting systems manufacturers today must design their products to fulfill a broad and ever-expanding list of requirements to meet the needs of an increasingly diverse voting public, while at the same time attempting to provide an efficient and cost effective product for election officials. Election administrators place additional value on other attributes of a voting system including ease of system setup, operation, and maintenance; configuration simplicity; reliability of operation; processing accuracy; ability to audit entire process; and high polling place throughput. The demographic makeup of the voting public itself also influences voting system design to a great extent. These demographic factors include age, educational level, language proficiency, manual dexterity, physical mobility, sensory functioning, and commuting distance from polling place. Finally, and perhaps most importantly, voting system design must also mitigate a variety of potential threats to the voting process.

The voting system design process needs to take all these factors into consideration and strive to strike an optimum balance. This is a difficult task because many of these factors conflict with each other. As the scope of requirements increases, satisfactory solutions become harder to define. This is an environment where the design process must be open to innovative approaches and unbound by technological constraints so the very best solutions can be implemented in a timely manner.

The next iteration of the VVSG will dictate the direction of voting system design for the next generation of voting systems. The challenge for this next iteration of guidelines is how to properly balance the need for improved security, audit ability and accessibility while also creating guidelines that are not so prescriptive that they stand in the way of innovation. Technology in and of itself has a neutral value scale and can only be evaluated in the context of its application. A voting system is an information processing system. The historical trend in information systems technology has been to supply ever greater capabilities with simpler configurations at lower cost. Information processing has moved from paper and electro-mechanical devices to fully electronic processing and from a host of special purpose devices to general purpose devices.

As the issuer of these guidelines the EAC has a duty to examine these proposed guidelines and decide what the next generation of voting systems must be capable of. Two of the driving forces behind the suggested security requirements in the TGDC draft VVSG are concerns about the integrity and trustworthiness of electronic voting systems and the difficulty of verifying that software only does what it is intended to do and does not harbor malicious code.

The 2007 VVSG recommendations introduce a number of design requirements and validation concepts for the purpose of improving the security of voting systems. These recommendations constitute a radical change from previous voting system standards. These concepts include Software Independence (SI), Independent Voter-Verifiable Records (IVVR), Open Ended Vulnerability Testing (OEVT), and usability benchmarks. Each of these will introduce additional complexity to system design and development and therefore increase the cost and risk for vendors. And all except OEVT will impact voters through changes in the voting process itself. The concepts of Software Independence and IVVR offer additional security but also lead to concerns as to the accessibility and usability of the voting systems.

Before imposing these changes on the election community, it is the EAC's responsibility to determine the best means for providing a sufficient level of voting system security without requiring disproportionate tradeoffs against other highly desirable voting system features. To this end the EAC is convening roundtable discussions for the purpose of carefully considering the VVSG recommendations. This discussion will be conducted in six segments:

1. The VVSG has more than one audience, including vendors and VSTLs. Do you consider county and state election officials as one of the stakeholders in the VVSG and therefore one of the intended audiences?
    a. If yes, is the document intelligible to you?
    b. If not, how could it be improved?

2. On October 7, 2005 the National Institute of Standards and Technology (NIST) held a "Risk Assessment Workshop" in order to evaluate threats to voting systems. The results of that workshop can be found at http://vote.nist.gov/threats/. In so doing NIST recognized the importance of evaluating threats when developing a secure voting system, but no formal risk assessment was developed. The EAC is now interested in learning how to best develop a risk assessment framework to provide context for evaluating the security implications of using various technologies in voting systems.
    a. What are the essential elements of a risk assessment?
    b. How can the EAC best create a risk assessment that recognizes all possible risks and assesses the plausibility and nature of such risks in an election environment?
    c. How do you evaluate what is an allowable level of risk?

3. Could you comment on the value of stability in the standard to your jurisdiction?
    a. Which is preferred, a standard with a short-shelf life that accommodates innovation and change or a stable standard that may discourage innovation, but creates longer certification lives of voting systems?

4. What is the value of the open-ended vulnerability testing (OEVT) model?

a. Would the current OEVT requirement in the standard reduce or decrease voter confidence in your system?
b. If the EAC were to require OEVT how could it best be included into the EAC's Testing and Certification Program?

5. Would component testing (the ability to test and certify components as they are modified or added to an existing system) be beneficial to your jurisdiction?

6. Are there any changes to the VVSG, in either scope or depth, which would significantly reduce the cost (time and/or expense) of compliance without adversely affecting the integrity of the VVSG or the systems that are derived from its implementation?
   a. What needs to be added or removed from this document in order for it to meet what is needed from future voting systems?
   b. How could the process of developing and vetting the VVSG be improved to ensure higher volume and higher quality input from election officials?