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UOCAVA Pilot Program Testing Requirements

Introduction

Since 2008, several states have enacted legislation enabling them to conduct electronic voting projects for UOCAVA voters. In July 2009 the EAC convened a UOCAVA Working Group to consider how to adapt the EAC's Testing and Certification Program to accommodate UOCAVA pilot systems. To support states with these projects, it was concluded that two products were needed: a modified set of system testing requirements; and a revised pilot program testing and certification process which Brian Hancock testified about earlier today.

In considering how to adapt the EAC's Testing and Certification Program to accommodate UOCAVA pilot systems, EAC has taken the same approach as states looking at UOCAVA pilot projects. EAC drew on source materials for this effort from the follow sources: the Voluntary Voting System Guidelines (VVSG) 1.0; the VVSG 1.1; the VVSG 2.0; the VOI, SERVE and Florida requirements documents; FIPS; and NIST Special Publications.

The Development Process

The drafting and development of the requirements was an iterative process. The EAC's UOCAVA working group provided EAC with opinions on the breadth and depth of the requirements. After receiving this information EAC staff worked to use those opinions to create a requirements document that would provide for rigorous and efficient testing of pilot systems. In the course of this drafting process EAC held three in-person meetings with the working group to further discuss the document and offer additional analysis. EAC also held numerous teleconferences with NIST, FVAP and various working group

members to further develop the document. In the end an estimated eighty-six drafts of the document were created before it was ready to go out for public comment.

The Standards

Pilot projects are small in scale and short in duration. Consequently, certification for pilot systems needs to be quicker and less expensive than the regular process currently used for conventional systems. Current systems have an expected life of more than 10 years. Nevertheless, since actual votes will be cast using the voting systems utilized in the pilot project, the certification process must retain sufficient rigor to provide reasonable assurance that the pilot systems will operate correctly and securely.

There is a fundamental dichotomy in complexity in remote voting architectures: those where the voting platform is controlled (e.g., provided by the election jurisdiction); and those where it is not controlled (e.g., the voter uses his own personal computer). Since the EAC planned to have the pilot certification process ready for implementation during the first half of 2010, it was decided that the EAC would focus its efforts on controlled platform architectures servicing multiple jurisdictions. This is a highly secure remote voting solution similar to that used for the Okaloosa Project in the 2008 election. Defining requirements for this class of system architecture was determined to provide a reasonable test case that could be completed within the available timeframe. In addition, most of the core system processing functions are the same for both types of architectures. This allows for a substantial number of requirements to carry over as this work is expanded to include other methods of remote electronic voting.

The requirements document contains testable requirements in the following areas:

1. Functional
2. Usability
3. Software
4. Security
5. Quality Assurance
6. Configuration Management
7. Technical Data Package
8. System Users Manual

There are a couple of areas that I would like to highlight for you because they are of particular importance for this type of voting system. First, the requirements document contains requirements for penetration testing. This means that an EAC accredited VSTL will put together an experienced penetration testing team to check the system for vulnerabilities. The requirements are very specific as to the scope of this testing and the nature of the vulnerabilities to be evaluated. Second, the document emphasizes the auditability of the system. A great deal of consideration was given to how auditability will be achieved for the Remote Electronic Voting process. These requirements require a higher degree of auditability than the 2005 VVSG.

Conclusion

The Certification division feels that the UOCAVA Pilot Requirements represent a solid set of testable requirements that will rigorously evaluate a system while creating enough efficiency to make testing of the system worthwhile for a pilot process. In addition, once finalized this requirements document will be given to the EAC's Technical Guidelines Development Committee to serve as an important first step as it begins the process of developing a full set of testable requirements for remote electronic voting systems as required by the 2002 and 2005 Defense Authorization Acts.

I would like to remind everyone here today and watching on the webcast that the UOCAVA Pilot Program Testing Requirements are currently out for public comment until April 15. The document and instructions for how to comment are available at www.eac.gov. I strongly encourage anyone interested in these requirements to please offer their comments on the document.

Finally, I would like to commend and thank James Long and Josh Franklin for their work on this project. Both James and Josh worked tirelessly on the requirements and I believe the result of that hard work shines through in the document. Thank you for the opportunity to testify today and I am happy to answer any questions you may have.