

Overview of NIST and TGDC Activities

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<http://vote.nist.gov>

Outline

- NIST/TGDC activities
- UOCAVA workshop
- Summary of July 8/9 TGDC Meeting

NIST Activities

- UOCAVA research and workshop
- Research on standard ballot markings
- NIST-developed test suites for VVSG 1.1
- Common data format
- Determining skills and qualifications in usability and accessibility for test lab contractors

NIST UOCAVA Activities

- UOCAVA Roadmap
- NIST research documents on UOCAVA
 - *Accessibility and Usability Considerations of Remote Electronic UOCAVA Voting*
 - *Security Considerations for Remote Electronic UOCAVA Voting*
 - *Security Best Practices for the Electronic Transmission of UOCAVA Election Materials*
 - *Information System Security Best Practices for UOCAVA Supporting Systems*

NIST UOCAVA Activities (cont)

- EAC kiosk remote voting pilot project
- UOCAVA workshop – Aug 6-7, 2010, Washington, DC
 - Sponsors: EAC, FVAP, NIST

TGDC items in UOCAVA roadmap

- TGDC will focus on working on 4 nearer term items to achieve the milestones by the due dates:
 - Assisting with update to EAC UOCAVA best practices
 - High-level guidelines for UOCAVA voting systems
 - Risk management framework for making risk-based decisions
 - Common data format for ballot distribution systems

Nearer-term TGDC items in Roadmap

- **December 2010** - EAC UOCAVA Best Practices: EAC and the TGDC, with technical support from NIST, will *update their existing document on UOCAVA best practices* for election jurisdictions to use in their efforts to better serve UOCAVA voters.
- **Spring 2011** - High-Level Guidelines: EAC and the TGDC, with technical support from NIST, and input from FVAP, will *identify high-level, non-testable guidelines for remote electronic absentee voting systems*. This effort will focus on the desirable characteristics of such systems and serve as a needs analysis for future pilots and research; and for the purposes of driving industry to implement solutions.

Nearer-term TGDC items in Roadmap

- **Spring 2011** - Risk Management: EAC will coordinate with its advisory boards (Board of Advisors, Standards Board, and Technical Guidelines Development Committee), and get technical input from NIST (coordinating with the Department of Defense and the National Intelligence Community, where possible), to ***apply the NIST Risk Management Framework and other methods in identifying security controls and technologies to mitigate security concerns***. EAC will use this information to compare the current process UOCAVA voters use to vote with potential remote electronic absentee voting processes and assess the desired security protocols for both. This analysis will be used to guide future pilots and guidelines development.
- **Fall 2011** - Common Data Format Development: For electronic transmission of blank ballots to be successful, they should be implemented in a manner that allows multiple states to participate. To assist in this the TGDC, with technical support from NIST, will ***develop common data format specifications for ballots and ballot definition*** that can be used by FVAP and the states. FVAP is also planning on assisting States in 2010 with data conversion services and tools to Common Data Formats.

UOCAVA Workshop

- August 6/7, 2010, Washington DC
- Sponsored by EAC, FVAP, NIST
- To explore the technical issues associated with remote electronic absentee voting systems for military and overseas voters.
- Format
 - Day 1: invited talks and panels
 - Day 2: breakout sessions

UOCAVA Workshop Topics

- Desired/required functional properties of UOCAVA voting systems
- Advantages and disadvantages of different UOCAVA remote voting system architectures
- Ways to express and compare risks, including using metrics
- Risks with using the Cyber Infrastructures such as the Internet
- Risks with domestic and UOCAVA mail-in absentee voting
- Risks associated with remote electronic voting
- Domestic and UOCAVA mail-in absentee voting and remote electronic voting risk comparisons
- Experiences with remote electronic absentee voting systems

TGDC Activities and Meeting

- Engaged with researchers through Working Group discussions
- Recent meeting on July 8/9, 2010
 - Video at <http://vote.nist.gov>
- Next meeting January 2011 timeframe

TGDC Working Groups Formed

- UOCAVA
 - Auditability
 - Accessibility and Usability Requirements
 - Marginal Marks Benchmark Research
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- Significant interactions and discussions have occurred thus far

Summary of July 8/9 Meeting

- Report out on UOCAVA activities
 - Report by FVAP on 2010 election activities
 - UOCAVA Roadmap
 - NIST research documents
 - EAC Kiosk pilot program
 - NIST Risk Management Framework

Summary of July 8/9 Meeting (cont)

- Discussions on SI and auditability
- Marginal marks
- Logging requirements
- VVSG 1.1 revision status
- NIST-developed test suites
- Other resolutions from December TGDC meeting

Auditability WG Discussion

- NIST attempted to move forward with a definition for auditability – voting systems be able to produce records that can be independently recounted for correctness
- This definition would be independent of the technology needed to produce such records, e.g., paper or other electronic means
- Security and accessibility experts on TGDC were not able to reach agreement
- After much debate, a proposal was made to have the WG find the required functionality, e.g., be able to recover from records being lost, be able to reconstruct the election, be able to conclusively prove the correctness of the election

Proposed Auditability Resolution

- The TGDC charged the auditability WG with drafting a definition of auditability and the characteristics an auditable system would possess
- This should be developed independently of specific technology and even a consideration of whether or not the technology exists
- Also a request that the WG prepare a report that evaluates SI, and alternative technology, including strengths and weaknesses for meeting the auditability objectives.

Proposed Logging Resolution

- Recent California study shows that logs do not contain sufficient detail and are sometimes not even available to audit
- Determination that voting systems should log additional items and the logs should be in a common format and easily extracted
- Logging requirements in VVSG 2.0 will be re-examined and possibly updated to require additional items to be logged and for the log files to be easily accessible by election officials

See vote.nist.gov