Auditing Approaches for VVSG 2007

Presentation for the
Technical Guidelines Development Committee (TGDC)

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Overview

- Independent Audits

- Independent Verification (IV)

- Paper-based systems

- Recommendations

Decision Point for the TGDC

- Question: What types of voting systems should be required in VVSG 2007?

- STS Conclusion: Systems that can be <u>readily</u> and <u>independently</u> audited

Audit Capability is Needed

- Voting systems are computers that are by nature buggy and difficult to secure

- The absence of an independent audit capability in DREs requires reliance on getting the software 'right' and keeping it that way

- With an (A) independent audit capability and (B) by performing routine audits, bugs and security problems will be easier to detect

Audit Capability Is Built-In

- An independent audit capability is preferable for security-critical environments

- Building in an audit capability from the ground up helps to assure that the software is indeed correct

- The audit capability is designed to be used readily

IDV -> IV

- In VVSG 2005, there is discussion about "Independent (Dual) Verification"

- The electronic record can be audited against another <u>independent</u>, unchangeable record that the voter has <u>verified</u>

- Current paper IV implementations use Voter-Verified Paper Records (VVPR)

VVPR Systems

- VVPR systems provide for independent audits

- Op scan, EBM, EBP, VVPAT

- 35 states will use VVPR systems state-wide, more may be on the way

- Federal legislation is being considered

There are Issues with Paper

- It has known usability and accessibility issues
  - This impacts voters and election officials
  - This can make handling and auditing more difficult

- But, improvements can be made

- STS is recommending many improvements to VVPR systems in VVSG 2007

Future Systems w/o Paper?

- Goal: to draft requirements for paperless approaches that are independently verifiable

- NIST developed several approaches (to be discussed in subsequent presentations)

- Ultimately, STS concluded it is premature to pursue testable requirements for these approaches in VVSG 2007

STS Recommendations

■ Include only approaches that are independently auditable

This means, for VVSG 2007, VVPR systems

■ Include improvements to paper-based systems
- Improved usability and accessibility
- Better reliability
- Easier to audit

■ Development of new, secure, possibly paperless approaches could result in systems that are more usable, accessible, and easier to audit