VVSG Cybersecurity Working Group

Update to the TGDC
February 13, 2017

Auditability

The voting system is auditable.

- An undetected error or fault in the voting system's software is not capable of causing an undetectable change in election results.

- The voting system produces records that provide the ability to check whether the election outcome is correct, and to the extent possible, identify the root cause of any irregularities.

- Voting system records are resilient in the presence of intentional forms of tampering and accidental errors.

- The voting system supports efficient audits.

Auditable

The voting system is auditable.

- Auditability serves multiple purposes: transparency, public confidence, continuous quality improvement, cyber security.

- Evidence-based security: focus on measuring performance in field rather than testing in lab – save certification costs by trimming requirements.

- Working group: Auditability is the number-one most important and effective protection for cybersecurity.

What auditability means

The voting system is auditable.

- Auditability = An undetected error or fault in the voting system's software is not capable of causing an undetectable change in election results.

- This effectively requires voter-verified paper records.

- Why not all-electronic? Because of the risk of a security breach that modifies all of the electronic records. In contrast, electronic breaches can't retroactively change what's already printed on paper.

Efficiency

The voting system supports efficient audits.

- Today, audits typically involve selecting some precincts or machines and inspecting all ballots in them.

- Ballot-level and small-batch audits enable more efficient audits, where winner can be confirmed by auditing (typically) a few hundred ballots (depending on how close the contest is).

- Example: stamp a unique ID number on ballot as it is scanned.

Efficiency

The voting system supports efficient audits.

- Should we require that the voting system must be able to support efficient audits?

- There is debate within the working group. Some working group members argue that it should be required.

- Options: (a) omit efficiency from VVSG; (b) require support for efficient audits; (c) requirements that apply only to systems that opt into them.

WG Request to the TGDC

- Will auditability (voter-verified paper records) be required in the next VVSG? This decision deeply impacts much of the future work of the working group.