NIST and the Help America Vote Act

The 2002 Help America Vote Act (HAVA) has given NIST a key role in helping to realize nationwide improvements in voting systems. To assist the Election Assistance Commission with the development of voluntary voting system guidelines, HAVA established the Technical Guidelines Development Committee (TGDC) and directs NIST to chair the TGDC. NIST research activities include:

- Security of computers, computer networks, and computer data storage used in voting systems
- Methods to detect and prevent fraud
- Protection of voter privacy
- The role of human factors in the design and application of voting systems, including assistive technologies for individuals with disabilities (including blindness) and varying levels of literacy
- The recommendation of testing laboratories to the U.S. Election Assistance Commission (EAC)

Technical Guidelines Development Committee (TGDC)

The TGDC is charged by the U.S. Election Assistance Commission (EAC) to provide technical guidance on implementing election-related technologies and to foster the development of voluntary, consensus guidelines. The NIST Director chairs the TGDC and NIST staff conducts the committee's technical work in accordance with HAVA.

National Voluntary Laboratory Accreditation Program (NVLAP)

NIST's NVLAP has established an accreditation program for laboratories that perform testing of voting systems, including hardware and software components. This program provides for the accreditation of laboratories that test voting systems using standards determined by the Election Assistance Commission (EAC). The EAC, not NIST, certifies voting systems for use in elections.

National Software Reference Library (NSRL)

NIST's National Software Reference Library collects software from various sources and incorporates file profiles computed from this software into a Reference Data Set of information. This concept assists in addressing voting systems needs in several areas. Officials could determine that the software used during elections is the expected software. Verification that the software remains the same during distribution, installation, setup, or use is possible, supporting a "chain of custody."

NIST's Role in Producing Voluntary Voting System Guidelines (VVSG)

The VVSG have a tremendous impact on voting system development, design, and testing for practically every voting system sold within the United States. The new requirements in the VVSG are responsible for significant improvements in voting system usability both for voters and election officials, and for the accessibility of voting

systems for people with disabilities. The requirements are also responsible for significant upgrades to voting system quality in general, including reliability and security. The involvement of NVLAP in potential voting systems testing laboratory certification is now responsible for significantly improved voting system testing and resultant performance. Overall, NIST's work on this project will greatly improve the quality of electronic voting systems and their performance in conducting national, state, and local elections

In order to assist the TGDC in producing VVSG, NIST researchers coordinate with other voting standards organizations, industry, academia, and federal and state government agencies. In particular, NIST researchers:

- Coordinate with academic researchers to investigate newer voting technologies and advances in usability, accessibility, and security
- Coordinate with voting system vendors to gain common understanding of issues and desired approaches
- Draft study papers, reports, and requirements, and vet them as appropriate with the TGDC
- Coordinate with voting officials to better understand their needs
- Develop tests for requirements
- Assist the EAC in its research needs and in presentations and tutorials on the voting system standards and related research

Timeline of Significant Events

1. **July 2004 -** First TGDC meeting

2. **May 2005 -** TGDC sends initial voting system guidelines to EAC (adopted as VVSG 2005)

3. **September 2007 -** TGDC sends second set of guidelines to EAC (the New VVSG)

4. **December 2008 -** NIST issues report Threat Analysis to UOCAVA Voting Systems

5. **March 2009 -** NIST posts test suites for requirements in the New VVSG

6. **April 2009 -** NIST sends draft revision of VVSG 2005 (VVSG 1.1) to EAC

7. **October 2009 -** NIST holds Common Data Format and End-to-End Voting Systems workshops

8. **December 2009 -** TGDC resumes development of New VVSG

For More Information

Please see http://vote.nist.gov, or

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