

Technical Guidelines Development Committee
April 20, 2005 Plenary Meeting

**Overview of Voluntary Voting
System Guidelines, Version 1**

April 20, 2005 TGDC Plenary
Mark Skall, Chief, Software Testing Division
National Institute of Standards and
Technology

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Background

- Voluntary Voting System Guidelines (VVSG) Version 1 constitutes the initial set of recommendations mandated by HAVA
 - Intended to assist states to prepare for 2006 election
 - Augments the VSS-2002 to address the critical areas of security, accessibility and usability
- VVSG Version 2 will be a redesign, will be more comprehensive and will re-write existing VSS-2002 requirements, when necessary, to make them more precise and testable
- Changes required by VVSG Version 2 cannot be implemented and tested in time for 2006 election

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New Areas Addressed/Enhanced in VVSG Version 1

- Conformance Clause
- Human Factors
- Security
 - Overview
 - VVPAT
 - Wireless
 - Software Distribution and Setup Validation
- Glossary
- Error Rates
- Best Practices for Voting Officials
- Voting Process
- Structure of Requirements

Conformance Clause

- VSS 2002 did not contain a conformance clause
- Conformance is defined as fulfillment by a product, process or service of specified requirements
- Conformance clause is a high-level description of who shall conform and what is required

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Human Factors

- VSS 2002 section 2.2.7 addressed accessibility and section 3.4.9 addressed human engineering
- VSS 2002 also contained Appendix C on usability and two NASED technical guides
- VVSG contains a new section 2.2.7, addressing human factors, which replaces the old sections 2.2.7 and 3.4.9, as well as Appendix C

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Security Overview

- VVSG contains a new security section as section 6.0 containing:
 - Overview
 - VVPAT
 - Wireless
 - Software distribution and setup validation
- Overview is an informative (non-normative) section
- Overview explains the VVSG approach to security
- Future versions of the VVSG will require independent verification

Voter Verified Paper Audit Trails

- VVSG does not require or endorse VVPAT
- VVPAT is one method to achieve independent verification – other methods exist
- Requirements are provided so that states that choose to implement VVPAT can implement them effectively

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Wireless

- TGDC concluded that wireless technology introduces severe risk and should be approached with extreme caution
- VVSG includes a special section on wireless that augments the general telecommunications guidelines in Section 5

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Software Distribution and Setup Validation

- VSS 2002 contained requirements to support validation of software and setup of voting systems
- This section augments the VSS 2002 and also includes use of the NSRL as well as other mechanisms

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Glossary

- New glossary contains terms from the VSS 2002 as well as many new terms needed to understand voting and related areas
- Each term contains a definition and its source, as well as an association
- Glossary is also available on-line and allows searches by term, by source (e.g., VSS, HAVA), by association (e.g., testing, security, accessibility)
- Web site - www.nist.gov/votingglossary/

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Error Rates

- Volume II, Appendix C in the VSS 2002 set certain error rates for voting systems
- Appendix C has been modified in the VVSG to revise the procedures to test that systems meet the indicated error rates
- Applies to errors introduced by the system, defined as a ballot position error rate, and not by a voter's action
- Research is needed to develop standards for error rates that account for human error

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Best Practices for Voting Officials

- VSS 2002 contained requirements for voting systems and testing entities
- Requirements in VVSG for wireless, VVPAT, human factors, etc. depend on voting officials developing and carrying out appropriate procedures
- VVSG contains best practices for voting officials
- These requirements are not testable and conformance can not be determined
- Best Practices for Voting Officials are contained in Appendix C of Volume I

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Voting Process

- VSS 2002 defined three major stages of voting
 - Pre-voting
 - Voting
 - Post-voting
- New sections designate which stage the requirements pertain to
- VVSG Version 2 will contain a more detailed voting process model

Structure of Requirements

- New sections of the VVSG contain a more structured approach
- Each requirement is numbered according to a hierarchical scheme
 - Higher level requirements are supported by lower level requirements
 - Higher level requirements may not be directly testable but can be “indirectly” tested via their lower level requirements

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“Grandfathering” Issue

- When drafting our recommendations, should we be sensitive to the current and planned practices of the various states? Examples:
 - VVPAT
 - Good accessibility introduces new requirements
- Three sub-committee Chairs all agree that the TGDC should develop the best technical guidelines possible
- The EAC can handle any difficulties that arise during a transition to the new guidelines by issuing appropriate "grandfathering" rules
- This is not a one-time issue. Technology changes and thus specs change over time
 - Municipalities may always be out of spec