

TGDC Meeting

Sub-Committee Work Process **January 18, 2005**

Mark Skall

**Chief, Software Diagnostics and Conformance Testing
Division**

National Institute of Standards and Technology

mark.skall@nist.gov



Sub-Committee Coordination

- **TGDC resolution established 3 sub-committees to gather and analyze information**
 - Security and Transparency
 - Human Factors and Privacy
 - Core Requirements and Testing
- **Sub-Committees meet at least every two weeks via teleconference**
 - NIST staff participates in telcons
 - Occasional face-to-face meetings
 - Work done in-between meetings
- **Due to interdisciplinary nature, there is a need to coordinate among the sub-committees**
 - Need to develop common framework for all sub-committees to adhere to
- **Sub-committees don't vote**
 - Strategy was to develop framework and discuss within each sub-committee

How Do We Organize Voting?

- By function?
- By process?
- Both are necessary
- Chose to organize by function
 - Then relate functions to stages in the voting process
- Developed high level organizing principles
- Developed process model

High Level Organizing Principles

- Need to convey to people both inside and outside the election community how the requirements we're defining were derived
- Need for the public to understand

High Level Organizing Principles

- All eligible and potentially eligible voters shall be allowed access to the voting process without discrimination.
- The voting process must ensure: (1) that each and every legitimate voter has exactly one ballot counted, and (2) that no other ballots are counted.
- Each cast ballot shall capture the intent of the voter who cast that ballot.
- The voting process shall accurately accumulate, count, and report legitimate votes.
- The voting process shall preserve the secrecy of the ballot and not allow the voter or the voting process to reveal their votes.
- Equipment and associated procedures shall be fit for the purpose of carrying out the voting process and shall be appropriate for use by voting officials.
- The voting process shall be resilient to disruptions.
- Independent observers shall be able to verify the correct operation of the voting process.

High-Level Organizing Principles

- They are being reviewed and revised
- Question about viability of some of the principles
 - Some may be primarily procedural rather than resulting in technical requirements
 - Some may be distributed across the other principles
 - Some may be related to election administration and not the voting system
- We welcome comments and suggestions

Strategy for Developing Requirements

- Requirements need to be at a sufficient level of specificity to enable the determination of whether or not the requirement has been implemented correctly
 - Must be precise, unambiguous, consistent, and testable
 - Must use normative language
 - Ideally requirements would be defined in a formal language – not English
- We will drill down from our high-level organizing principles to develop precise, testable requirements
- A conformance clause is needed to specify what must conform and how (i.e., what has to be done)
- We will start with the 2002 VSS and use those requirements whenever feasible
 - If requirement is not sufficiently specified we will re-write it
 - HAVA puts additional emphasis on computer security and human factors, including assistive technologies for individuals with disabilities (including blindness) and varying levels of literacy . Many of these requirements can not be extracted from the 2002 VSS.

Need to Prioritize Tasks

- Initial focus will be on the most important aspects of voting systems and what is most helpful to the community
- Each sub-committee's initial focus will be on one of the organizing principles
 - #3: Each cast ballot shall capture the intent of the voter who cast that ballot. (Human Factors and Privacy)
 - #4: The voting process shall accurately accumulate, count, and report legitimate votes. (Core Requirements and Testing)
 - #8: Independent observers shall be able to verify the correct operation of the voting process. (Security and Transparency)