United States
Election Assistance Commission

TGDC Meeting

High Level VVSG Requirements:

What do they look like?

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Section 2 of VVSG 1.0 "Functional Requirements"

This little "standard within a standard" is all of 22 pages:

"This section contains requirements detailing the functional capabilities required of a voting system. This section sets out precisely what a voting system is required to do. In addition, it sets forth the minimum actions a voting system must be able to perform to be eligible for certification."

Example #1

2.1.2 Accuracy

Memory hardware, such as semiconductor devices and magnetic storage media, must be accurate. The design of equipment in all voting systems shall provide for the highest possible levels of protection against mechanical, thermal, and electromagnetic stresses that impact system accuracy. Section 4 provides additional information on susceptibility requirements.

To ensure vote accuracy, all systems shall:

a. Record the election contests, candidates, and issues exactly as defined by election officials

b. Record the appropriate options for casting and recording votes

c. Record each vote precisely as indicated by the voter and produce an accurate report of all votes cast;

d. Include control logic and data processing methods incorporating parity and checksums (or equivalent error detection and correction methods) to demonstrate that the system has been designed for accuracy

e. Provide software that monitors the overall quality of data read-write and transfer quality status, checking the number and types of errors that occur in any of the relevant operations on data and how they were corrected

f. As an additional means of ensuring accuracy in DRE systems, voting devices shall record and retain redundant copies of the original ballot image. A ballot image is an electronic record of all votes cast by the voter, including undervotes.

Example #2

2.1.3 Error Recovery

To recover from a non-catastrophic failure of a device, or from any error or malfunction that is within the operator's ability to correct, the system shall provide the following capabilities:

> a. Restoration of the device to the operating condition existing immediately prior to the error or failure, without loss or corruption of voting data previously stored in the device
> b. Resumption of normal operation following the correction of a failure in a memory component, or in a data processing component, including the central processing unit
> c. Recovery from any other external condition that causes equipment to become inoperable, provided that catastrophic electrical or mechanical damage due to external phenomena has not occurred.

Moving Forward

Is this the level of detail we want?

If we want more detail, how much more?

Do we ever get into HOW a system must provide the stated capabilities?

What about for accessibility, usability, security??