

Cybersecurity Requirement Test Development Methodology

This methodology document outlines the working group's path forward for analyzing and developing tests for the current iteration of the VVSG security requirements. With this methodology we hope to accomplish the following goals:

- Understand the scope of testing for the VVSG requirements
- Develop more security-focused and efficient testing efforts
- Analyze and apply all necessary testing strategies to the appropriate requirements.

Test Development Methodology

Review 2007 Test Methods

Analyze existing test methods in Part 3 of the 2007 VVSG and identify impediments to adoption and recommend new requirements as needed. Identify potential gaps in test methods that should be considered in new test methods

Understand Voting Specific Test Methodologies

Analyze existing test methodologies used within, and outside of, the EAC's voting system testing and certification program.

Understand General Testing Programs

Review other security testing programs that exist outside of the field of voting.

Identify Test Strategies for VVSG 2.0

Identify high-level testing strategies alongside important considerations for each VVSG 2.0 security and auditability requirements.

Ensure Applicable Information for Testing

Revise newly developed requirements ensure they include which part of the voting system to which a requirement is applied, test references, mappings to the appropriate principles and guidelines, and discussion sections providing any additional context for 3rd party assessors.

Test Strategies & Other Considerations

Test strategies are the overarching approach used to accomplish testing. Types of test strategies can be very granular with the various considerations that must be taken into account.

Example Test Strategies:

- Documentation Review
- Open Ended Vulnerability Testing (OEVT)
- Static Analysis
- Functionality Testing
- Source Code Review

Other Considerations:

- Independent Testing
- Automation
- Criticality or Level of Impact
- Vendor Attestation
- Prioritization