



## U.S. ELECTION ASSISTANCE COMMISSION

Voting System Testing and Certification Program

1201 New York Avenue, NW, Suite 300

Washington, DC. 20005

## Notice of Clarification

### NOC 12-02: Clarification of System Identification Tool Functionality

Issued by Program Director, 4/19/12

#### Section of Manual to Be Clarified:

**5.8. System Identification Tools.** The Manufacturer shall provide tools through which a fielded voting system may be identified and demonstrated to be unmodified from the system that was certified. The purpose of this requirement is to make such tools available to Federal, State, and local officials to identify and verify that the equipment used in elections is unmodified from its certified version. Manufacturers may develop and provide these tools as they see fit. The tools, however, must provide the means to identify and verify hardware and software. The EAC may review the system identification tools developed by the Manufacturer to ensure compliance. System identification tools include the following examples:

**5.8.1.** Hardware is commonly identified by model number and revision number on the unit, its printed wiring boards (PWBs), and major subunits. Typically, hardware is verified as unmodified by providing detailed photographs of the PWBs and internal construction of the unit. These images may be used to compare with the unit being verified.

**5.8.2.** Software operating on a host computer will typically be verified by providing a self-booting compact disk (CD) or similar device that verifies the file signatures of the voting system application files AND the signatures of all nonvolatile files that the application files access during their operation. Note that the creation of such a CD requires having a file map of all nonvolatile files that are used by the voting system. Such a tool must be provided for verification using the file signatures of the original executable files provided for testing. If during the certification process modifications are made and new executable files created, then the tool must be updated to reflect the file signatures of the final files to be distributed for use. For software operating on devices in which a self-booting CD or similar device cannot be used, a procedure must be provided to allow identification and verification of the software that is being used on the device.

**Purpose:**

This notice of clarification is to clarify the required functionality of the system identification tools used to validate the software of EAC certified systems.

**Clarification:**

The system identification tools shall:

1. Create hashes of the static and semi-static files of all voting system components, including EMS and COTS components and software;
2. Automatically compare the static and semi-static hashes of voting components to a list of known/good hashes; and
3. Be easily accessible and usable by election officials. (Manufacturers shall assume a limited working knowledge of computer hardware and software when developing these tools.)

Per VVSG Volume 1 7.4.6.d.i, the hashing algorithm shall be FIPS validated.

Additionally, the list of known /good hashes shall be produced and verified by the VSTL and provided to the EAC in a usable format (e.g., csv, excel, xml).

**Conclusion:**

System validation is an extremely important pre-election and post-election activity. The system identification tools required by the manual are intended for Federal, State, and local officials to identify and verify that the equipment used in elections is unmodified from its EAC certified version.