STATE OF COLORADO
Department of State
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Three Levels of Testing

Federal Testing

The federal voting systems standards currently in effect are the 2002 Voting Systems Standards developed by the Federal Election Commission (FEC). All voting systems purchased for use in Colorado after May 28, 2004 must be tested and recommended for certification by a nationally approved Voting System Testing Laboratory (VSTL – formerly Independent Testing Authorities or "ITAs").

During federal certification, the VSTL will create a "trusted build" of the voting system.

The "trusted build" creates a chain of evidence from the technical data package and source code to the actual computer programs and firmware that are being evaluated for certification.

The trusted build provides an audited reference package that meets legal rules of evidence in the form of a documented chain of custody. The trusted build may be used by technical reviewers for certification at the state level and will be sufficient to provide assurance that:

- The system was built as described in the technical data package;
- The reviewed and approved source code was actually used in building the system; and
- Elements that are not included in the technical data package are not introduced in the system build.

State Testing

The Secretary of State adopted new procedures in March 2007 for the state testing of electronic voting systems.

The Secretary of State will review the VSTL reports for compliance with federal and state regulations. The state will create a trusted build for systems undergoing state certification in Colorado where the VSTL or EAC has not already created a trusted build.

- Each system will undergo more than 400 functional tests;
- A five-member testing board will review documentation in a "Triple Check" system;
- The testing process for each system will generate more than 1,200 pages of documentation, photographs and video footage;
- The documentation will be evaluated by outside experts;

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- The testing board will present its recommendations, and the recommendations of the outside experts, to the Secretary of State, who personally will decide whether to certify a particular system.

The Secretary of State's office will install, witness, or document the trusted build software and firmware on all devices in the state once the chain of evidence for the supporting documentation is established.

See the additional information on the State Certification process provided on the Secretary of State's website.

County Testing

The Secretary of State will use the Colorado trusted build and shall install, witness or document the verification of the build for all equipment in Colorado's 64 counties.

The Secretary of State will provide the counties with tools to verify hash values (the software digital fingerprint) to perform software audits. Counties will conduct routine software checks to ensure a proper chain of custody for county voting equipment.

Upon validation of software and firmware, the county is required to perform acceptance testing with certification election data to ensure that field units match results found by the testing board. This procedure provides an additional level of trust in the equipment before the county conducts an election.