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REPORT OF THE SECRETARY OF STATE ON THE EXAMINATION AND EVALUATION OF AN DIRECT RECORDING ELECTRONIC VOTE TALLYING SYSTEM

In February 2004 Hart InterCivic, Inc. of Layfayette, Colorado requested the review and examination of their system's Rally and Servo components under RCW 29.33.041 and 29.33.300, as well as, a review of the revisions made to the previously certified components of their eSlate Direct Recording Electronic Voting System. The Rally component (v1.2.0) is a remote voting results accumulation system and the Servo component (v2.0.10) is a voting devices/recount management system. Both can be integrated with Hart InterCivic's eSlate Direct Recording Electronic Voting System. The System's Hardware components include: the Mobile Ballot Box (MBB), Judges Booth Controller (firmware upgraded to v2.0.13), and the eSlate electronic voting device (firmware upgraded to v2.0.13). The Software that provides the administrative function of the system is defined in five modules; the Ballot Origination Software System (upgraded to BOSS v3.4.0), Tally (upgraded to v3.2.0), Rally (v1.2.0), SERVO (v2.0.10), Ballot Now (upgraded to v2.1.0).

Hardware Description

The eSlate (firmware v2.0.13) is a poll-site based device using a direct recording electronic voting interface. The eSlate device uses a rotary wheel interface that allows the voter to select their ballot choice and an "enter" button to record their selection. In addition, the eSlate offers a variety of interfaces that allow physically-challenged voters to vote independently including: audio feedback, touch pads, and an interface for "sip and puff" devices.

The Mobile Ballot Box (MBB) is a reusable, portable FLASH memory device used for storing and transporting election information to and from the polling places and Ballot Now computer workstations. The election information includes the election definition for the entire election and the accumulated set of cast ballot images.

The Judges Booth Controller (JBC, firmware v2.0.13) is a poll-site based device that is directly connected to between one and maximum of twelve eSlate devices. The JBC provides administrative functions, including; activating the correct ballot for each voter and accumulating the cast ballot images. Redundancy is provided by storing the cast ballot records in three locations; on the MBB (primary copy), JBC (backup), and the eSlate (original).

The JBC can be initialized as an 'in person absentee' system with access to all the precincts and ballot styles for an election when any MBB is installed. Alternatively, the JBC can be initialized for a specific polling place with a specified subset of precincts and ballot styles at the time the MBB is installed.

Software Description

The BOSS software (v3.4.0) is menu driven and allows the user to describe all aspects of an election. In preparation for ballot counting, the user enters office descriptions, positions, precinct combinations, ballot types, and any statistical information such as registered voter totals. The BOSS software is also used to produce and download the election definition including the precinct specific programming for the entire county onto the MBB.

Ballot Now (v2.1.0) is software that features a means for election officials, using the election and ballot definition burned on the MBB to either produce paper ballots "on-demand" at a desktop printer or create files which can be used to print high volumes of ballots at a print shop. The ballots are voted by filling boxes next to the candidate of choice. The voted ballots are scanned using off-the-shelf scanners which produce electronic facsimiles of the original ballots. Ballot Now in conjunction with the ballot definition on the MBB is then used to interpret the digitized ballot images and resolve ambiguities such as over votes, blank ballots, and write-ins.

On Election Day, the cast vote records, also known as cast ballot images, stored on the MBB are transferred to the computer workstation running the Tally software. The Tally software (v3.2.0) serves as the central accumulator for county wide results. Tally will accumulate results via reading and counting the cast ballot images stored on the MBBs that came from both the Direct Recording Electronic devices used at polling locations and from the Ballot Now paper ballot process.

Alternately, the cast vote records stored on the MBB may be transferred to a computer workstation running the Rally software (v1.2.0). The Tally system will poll all the Rally devices and collect the cast vote record data from each Rally Station. This allows the user to gather cast vote record data on election night from Rally devices distributed geographically throughout the local jurisdiction.

SERVO (v2.0.10) is a software system that may be used to manage the system's voting devices and archive election results by logging in each device used in an election. It allows the user to verify that all devices have been returned as well as verify that the cast record data from each device that stores the data is consistent with the tally of the central accumulation system (Tally).

An electronic vote tallying system must meet the following requirements (as set forth in RCW 29.33.320) in order to be approved for use in Washington State:

(1) It must correctly counts votes on ballots on which the proper number of votes have been marked for any office or issue;
(2) It must Ignore votes marked for any office or issue where more than the allowable number of votes have been marked, but correctly counts the properly voted portions of the ballot;
(3) It must accumulate a count of the specific number of ballots tallied for each precinct, total votes by candidate for each office, and total votes for and against each issue of the ballot in that precinct;
(4) It must accommodate rotation of candidates' names on the ballot in accordance with the provisions of RCW 29.30.040;
(5) It must produce precinct and cumulative totals in printed form; and
(6) Except for functions or capabilities unique to this state, it must have been tested, certified, and used in at least one other state or election jurisdiction.

On April 12, 2004 a public hearing was held to demonstrate the Hart InterCivic's eSlate Direct Recording Electronic Voting System. Representing the Office of the Secretary of State was Pam Floyd, Voter Registration Manager and Paul Miller, Election Information Manager, as well as several SOS staff members. The meeting was also attended by The Honorable Mike Garvison, Skamania County Auditor, The Honorable Vern Spatz, Grays Harbor County Auditor, The Honorable Norma Brummett, Skagit County Auditor, staff members of the Thurston County Auditor's office, and representatives from Hart InterCivic. The vendor made an explanatory presentation of the Rally and Servo components and a test election was conducted. A review of the DRE devices and Ballot Now component was also conducted. The vendor answered questions from the Secretary of State staff and the public.

FINDINGS OF THE SECRETARY OF STATE

Based upon the staff evaluation of the eSlate Direct Recording Electronic Voting System (NASED N-1-04-22-12-002 and 011001-11305), the presentation by the vendor, the evaluation of the system conducted by the Wyle and Ciber laboratories in 2003 and the results of the tests performed on this system, the Secretary of State finds that the system satisfies the requirements of RCW 29.33.300 when used in the manner described below.

The user county will not use the system's provisional voting features and will continue to provide a paper ballot to voters in situations that call for a special ballot. Special ballots are part of a 'fail-safe' process that allows an individual to cast a ballot in situations where poll-workers are unable to determine the individual's eligibility. The ballot is only counted after election staff is able to determine that the individual is in fact eligible to vote on the ballot contests. The eSlate provides a feature of convenience that allows the ballot to be cast on the eSlate and optionally included in the election results after review by election staff. The test and materials review could not establish that the feature functions in a manner consistent with RCW and state practice.

SPECIAL MANUAL PAPER BALLOT INSPECTION PROCEDURE:

The user county may employ the Ballot Now system as an extension of their manual inspection of absentee ballots, provided, the county meets the requirements of Washington State law by using the following procedures. 'Manual inspection' refers to the process of inspecting absentee ballots as defined in WAC 434-240-225(1) prior to final processing of the ballot (WAC 434-240-225(2)).

The procedures are:

The Ballot Now system may be used as an extension of the manual inspection of absentee ballots if the security safeguards applied to the cast ballot images on the system are consistent with those used to protect the returned physical absentee paper ballots. Access to the Ballot Now system must be controlled. The system must reside on a stand-alone computer or LAN solely dedicated to Ballot Now use. The computer(s) must remain in plain view of the staff processing absentee ballots at all times during working hours and under lock and seal after business hours. It is also recommended that the user county keep a record of the batches processed each day when they shut down the Ballot Now system and confirm the number of batches and their status on the Ballot Now system when restarting the system the next work day. It is further recommended that the Mobile Ballot Box (MBB) be stored separately from the Ballot Now system after hours.

The Ballot Now system may be used to "enhance" or interpret the cast ballot images if the procedures applied to ambiguous markings on the images are consistent with those applied to absentee paper ballots under WAC 434-261-075 and WAC 434-261-080. The audit log created by the Ballot Now system must be preserved. Since that audit log contains the credentials for only one user, the user county must also maintain a log of the date/time and initials of the two or more members of each enhancing team that worked on the system. If a serial number is not printed on the ballot then the enhancing team must also pull the original paper ballot out of the scanned batch and write the batch number and sequence number on the face of the ballot. The auto-resolve feature should be set to allow Ballot Now to automatically resolve under-votes without operator review but both over-votes and blank ballots must be reviewed by the canvassing board or its delegated representatives prior to confirming or over-riding Ballot Now's interpretation of the ballot.

SPECIAL IN-PERSON ABSENTEE VOTING PROCEDURE:

The design of the eSlate, and the requirements of Washington State law, necessitate the use of the following procedures on the part of the user county to use the eSlate as an 'in-person absentee voting' system. 'In-person absentee voting' refers to voters who cast a ballot on the eSlate prior to the election date. Conceptually this is the same as a voter picking up and casting an absentee paper ballot at the county elections office prior to an election.

The procedures are:

The system may be used as an 'in-person absentee voting' system if the security safeguards applied to the eSlate are consistent with those used to protect returned absentee ballots. Access to the Judges Booth Controller (JBC) and eSlate must be controlled. The device must remain in plain view of the office at all times during working hours and under lock and seal after business hours. The eSlate voter must sign the same oath an absentee voter does and the user county must maintain a log of all 'in-person absentee' voters with the voters' signatures. The poll books must be marked with an indicator that warns the poll worker not to issue a ballot to a voter who has voted early. It is also recommended that the user county keep a record of the number of votes cast each evening when they close the Judges Booth Controller (JBC) and confirm the number of votes on the device when opening the device the next morning. It is further recommended that the Mobile Ballot Box (MBB) and/or eSlate be kept separate from the Judges Booth Controller (JBC) after hours.

CONCLUSION

On this date, the Office of the Secretary of State hereby certifies the *"The eSlate Voting System, Release 3.1"*, submitted by Hart Intercivic, Inc., and approves it for purchase or use by County Governments of the State of Washington.

This version of the system consists of:

- *Hardware* version 1.16 , NASED 011001-11305, comprised of:
  - *eSlate 3000*, Precinct Voting Machine (DRE)
  - Judges Ballot Counter (JBC 1000) device,
  - Mobile Ballot Box (MBB); PCMCIA flash memory card
- *Software Version 3.1*..NASED N-1-04-22-12-002 (1990) comprised of:
  - Ballot Now; software version 2.1.0
  - BOSS; software version 3.4.0
  - Rally; software version 1.2.0
  - Tally; software version 3.2.0
  - SERVO; software version 2.0.10
  - JBC 1000 device; firmware version 2.0.13
  - eSlate 3000 device; firmware version 2.0.13.

Under the provisions of RCW 29.33.041, the eSlate Voting System is approved for use in Washington State, as a direct recording electronic vote tabulation system, when used in compliance with the procedures contained in this certification and Washington State law.

Certified on this April 16, 2004

SAM REED
Secretary of State