Election Systems and Software (ES&S) EVS 6.0.0.0

Elaine Kiang, SOS Texas Voting System Examiner

The examination of Election Systems and Software (ES&S) EVS 6.0.0.0 occurred in Austin on September 5 and 6 of 2018. Certification of EVS 6.0.0.0 is based on the following software version and firmware of its components being:
- Electionware 5.0.0.0
- ExpressVote 1.5.0.0 only as a marker and not a tabulator
- ExpressTouch 1.0.0.0
- DS200 2.17.0.0
- DS450 3.1.0.0
- DS850 3.1.0.0

I recommend certification on condition that the following two additions are met:
- A toggle setting where blank ballots cannot be used by voters on normal voting scenarios and be only turned on to be used for specific administrative scenarios.
- On the ExpressVote using the supervisor card voting that the supervisor is able determine the difference between a casted voting session and a cancelled voting session.

The systems has many user friendly and error handling features. As with all technologies the system does require the users to follow specified Standard Operating Procedure (SOP) and be trained on the proper use of the system. I provided many observations and enhancement suggestions to improve user experience, but those enhancements are not necessary to be implemented for the ES&S system to be certified on EVS 6.0.0.0.

Physical Security
- All systems had the necessary locks, physical deterrents, and the ability to add more security to prevent any unauthorized access.
- USB, power, printers, and peripherals are all connected behind panels that require specific keys to access.
- The hardware can be cleaned without granting the user access to the software or any of the results on the system.

Installation and loading software onto the systems
- The ability to use a single USB key to wipe and factory set all the systems (ExpressVote, ExpressTouch, DS200, DS450, and DS850) makes the system easier to reset, prepare the new election configuration, and reduce the training hours to operate the system.
- The proprietary certified USB key ensure extra security because the systems only communicate with them and not any generic USB key.

Markers
- ExpressTouch had audible notifications if the card is still inserted in the system and the voter has completed the voting session and has walked away.
- If a voter completes their session and forgets to remove the card, it is wiped once it is removed from the system, maintaining the secrecy of the voter's ballot.
- One of the disadvantages for ExpressTouch is the possibility of loss of cards and having enough cards to program at a Polling location. ES&S however has a bypass mode that does not require the cards to be used.

Tabulators
- DS200 jamming recognition was very useful. The system notified the voter whether their ballot was jammed and counted or jammed and not counted, so the necessary action could be performed.
- DS200 had flexibility to return ballots to the voters based on different criteria by ballot type.
- DS200 was able to easily notice if there were more than one ballot being submitted at a time.
- All tabulators could accept ballots in any orientation.
- All tabulators had photo recording of every ballot that had no exceptions. The photos were legible and able to be imported into Electionware for evaluation.
- A nice to have but not a requirement would be for the DS450 and DS850 to be able to run multiple ballot types through the tabulator at the same time then having to sort out the different sizes.

Electionware
- Flexibility of configuring an election for all ES&S machines reduces the time to configure elections and reduces the chances of inconsistencies between systems.
- Electionware utilizes a template to configure different languages for elections which allows for reuse of instructions from election to election.
- All results are loaded into Electionware oriented correctly and the user does not need to orient each ballot.
- Electionware provides the ability to do bulk edits for adjudication.
- Electionware can also filter ballots by certain field and allow them to be reviewed instead of having to search through all ballots.

Reporting/Audit Logs
* Reporting/Audit logs maintain the secrecy of the ballot. There was no information recorded on what selection a voter selected or if the voter performed a write-in.
* Some of the Tabulation machines naming conventions on the reports/audits are a little different from the other machine. Naming convention could be standardized. There was no error with the data, the data was correct.
* For easier auditing and reading of the logs, breaking up by day would make it easier for review.

Voting System Accessibility Testing and Observation
- As part of L&A testing there should be a similar test for the Universal Voting Console (UVC) as the Calibration testing that occurs for the touch screen. Currently there is no indicator to know that the UVC is seeded correctly or to identify if the UVC is working correctly. The UVC testing should ensure the correct key is pressed when requested and walk through all buttons on the UVC panel.
- Prior to inserting ballot into the ExpressVote the visual prompts/instructions did not always match the verbal instructions in language or direction. Was not able to verify if the same scenario was occurring on the ExpressTouch.
- For better user experience I suggest that the language selection prompt be moved up prior to inserting a voter card/ballot. Currently prior to inserting a voter card/ballot the visual and verbal prompts for insertion cycle through each language available for a polling location. While examining we only witnessed two languages but it can become quite cumbersome for locations that require multiple languages to be available.
- UVC buttons naming and position for the ExpressVote and ExpressTouch are a little different. Some issues that may arise are that the prompts may have to be coded differently for each machine within Electionware and require more translations as well. The flexibility for configuring one election for all machine is no longer valid.
- The UVC for the ExpressTouch is somewhat bulky and awkward for carrying for curbside voting.

- When performing write-in voting using the UVC there was a lack of instructions on what the voter should be performing after they started entering in the name. For example when the voter began to select letters for the candidate name and the voter presses the repeat button, the voter should expect to hear the instructions on what to do on the screen but what they hear is the last letter that was inputted. To receive the instructions again the user must navigate to the previous or next screen.
- The system should also mention the correct orientation of the UVC to know that the user has it positioned correctly.
- I have no comments on the sip and puff portion of ADA of the system since I did not participate in evaluation of that piece of hardware.