

# The State of Texas



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Secretary of State

## MEMORANDUM

TO: Keith Ingram, Director of Elections, Texas Secretary of State

FROM: Christina Adkins, Legal Director, Elections Division, Texas Secretary of State

DATE: January 4, 2023

RE: Election Systems & Software – EVS 6.2.0.0 Voting System Examination

In accordance with my appointment by the Texas Secretary of State as a voting system examiner under Tex. Elec. Code §122.067, I present my report on the voting system examination which took place on June 22-23, 2022, in the offices of the Texas Secretary of State at the James E. Rudder Building, 1019 Brazos, Austin, Texas 78701.

On June 22-23, 2022, the examiners appointed by the Texas Secretary of State and the Texas Attorney General examined EVS 6.2.0.0, a voting system that was presented by Election Systems & Software (“ES&S”) for certification in Texas. The following hardware and software components were examined at the Office of the Secretary of State:

Component	Version	Previous Texas Certification Date
ExpressTouch	4.2.0.0	01/08/2021
DS200 (HW 1.2)	2.40.0.0	01/08/2021
DS200 (HW 1.3)	2.40.0.0	01/08/2021
DS450	4.1.0.0	01/08/2021
DS850	4.1.0.0	01/08/2021
DS950	4.1.0.0	N/A
ExpressVote (HW 1.0)	4.2.0.0	01/08/2021
ExpressVote (HW 2.1)	4.2.0.0	01/08/2021
ElectionWare	6.2.0.0	01/08/2021
ExpressLink	3.0.0.0	01/08/2021
Event Log Service	3.0.0.0	01/08/2021
ExpressVote Activation Card Printer	N/A	01/08/2021

ExpressVote Previewer	4.2.0.0	01/08/2021
PaperBallot	6.2.0.0	01/08/2021
Removable Media Service	3.0.0.0	01/08/2021
Toolbox	4.2.0.0	01/08/2021
Regional Results	1.4.0.0	N/A

For the reasons outlined below, I recommend that this system be certified by the Texas Secretary of State under Tex. Elec. Code §§122.031 and 122.039.

### **Background**

ES&S previously received certification in Texas for the Unity voting system and previous versions of EVS. The most recent version of their software, EVS 6.1.1.0, was presented by ES&S in August 2020, and was certified on January 8, 2021.

The voting system that was the subject of this examination, EVS 6.2.0.0, was certified by the U.S. Election Assistance Commission (“EAC”) on December 23, 2021.

### **Summary of the Examination**

The examination of EVS 6.2.0.0 took place on June 22-23, 2022.

The exam began with the decryption of the trusted build from the hard drive provided to our office by the testing lab. We then performed the installation of the software and firmware for EVS 6.2.0.0 off of the trusted build. After completing the installation, we performed a hash validation on each piece of equipment using the procedures provided by the vendor. We compared the generated hashes from each device to the trusted hashes provided to our office by the EAC. That hash validation was successful.

On June 23, 2022, the vendor conducted their presentation of the system and the updates involved in the current version of EVS. The vendor’s presentation included one new piece of hardware, the DS950 central scanner, and one additional component module for the system, the Regional Results module.

After the vendor presentation, the in-person examiners tested the equipment by voting a series of test ballots and comparing the results of those test ballots. The test election was successful and did not identify any issues. The examiners also asked questions of the vendor regarding various components of the system and the nature of the updates included in this version of the system.

We also conducted accessibility testing on each of the voting devices included with the system, and verified that those devices are in compliance with the accessibility requirements of Texas law.

## **Analysis**

The standards for a voting system in Texas are outlined in Texas Election Code Chapter 122. Specifically, the system may only be certified for use in Texas if it satisfies each of an enumerated list of requirements contained in Texas Election Code §122.001. Because the system satisfies each of those requirements, I would recommend that this system be certified.

In general, EVS 6.2.0.0 is an excellent voting system that operates efficiently and effectively. The technical examiners identified concerns regarding the hash validation process and the regional reporting process. Those concerns do not affect the reliability, accuracy, or security of the system if proper procedures are followed, and therefore they do not impact my recommendation regarding certification. I would recommend that the vendor make adjustments to these procedures based on the feedback of the examiners.

### Hash Validation Procedures

In the two prior exams for the EVS system (EVS 6.1.0.0 and EVS 6.1.1.0), the technical examiners noted that the process for conducting the hash validation of the EMS module was overly complicated and difficult to understand.

For this exam, the technical examiners noted that these procedures had been simplified and improved in this version of the system. However, the examiners indicated that the process is still cumbersome and requires additional improvement.

The current hash validation process complies with Texas law. However, I recommend that the vendor review the technical examiner's reports and follow their recommendations to improve this process. In particular, I agree with our examiner's recommendation that the vendor seek an engineering change order ("ECO") to update the operating system used in the verification process to a more modern version of Ubuntu.

Texas jurisdictions are required to successfully complete this process during the Logic and Accuracy testing for each election under Texas Election Code 129.023(c-1), so the hash validation process should be implemented in a way that can be understood by jurisdictions with low technical knowledge, while maintaining the accuracy and integrity of the process.

### DS950 Central Scanner

This version of the system includes one new piece of hardware, the DS950 central scanner, which was demonstrated and tested in the course of this exam.

According to the vendor, the purpose of the DS950 is to combine the speed of the DS850 with the enhanced sorting options of the DS450. The vendor indicated that the DS850 will eventually go end-of-life due to parts, so the DS950 is also designed to be the long-term replacement for the DS850. However, the vendor did indicate that they will continue to offer ongoing support for the DS850 and will include that device in future versions of the system.

The DS950 performed well and did not exhibit any issues during the exam.

### Regional Results Documentation

In the course of the exam, the examiners expressed concerns about whether the Regional Results module had been adequately documented in the TDP documentation that was submitted to the EAC and included in the certified documentation that was submitted to our office.

In response, ES&S submitted an engineering change order (“ECO”) to the EAC to seek approval of a minor modification to the certified documentation for the EVS 6.2.0.0 system, which consisted of additional documentation relating to the Regional Results module. That ECO was approved by the EAC on November 21, 2022.

The examiners were provided with the updated documentation so that it could be considered in their final reports on this exam.

### Regional Results Module

This version of the EVS system includes an additional module, the Regional Results module, which is designed to allow jurisdictions to transmit unofficial results via a secure network protocol from regional substations to the central counting station. Official results would still be delivered through the traditional method without any connection to a network.

Functionally, this module would allow geographically large jurisdictions to report unofficial election night returns in a timely manner while still ensuring the integrity of the official results. This process would involve creating a backup media drive from the individual tabulation devices, using the backup media drive to transmit the unofficial results over a secure network using equipment that is wholly segregated from the rest of the voting system, and having the original media drive containing the official results physically delivered to the central counting station without any network interaction.

In order for this process to be used in a secure manner that complies with Texas law, jurisdictions using this module will have to be diligent about segregating the backup media containing the unofficial results that are electronically transmitted and the original media containing the official results that are physically delivered without network interaction. Jurisdictions using this module should closely follow existing guidance (and any future guidance) from the Secretary of State’s Office relating to the secure transfer of unofficial results in this manner.

The Regional Reporting module complies with the standards for transmission of unofficial results for ENR purposes outlined in Texas Election Code 127.1231(b) and Advisory 2019-23. I would recommend certification of the system with this module, with the recommendation that the vendor provide detailed best practices for use of this module and that jurisdictions follow the guidance from the Secretary of State’s Office relating to this process.

### RLA Audit ID

This version of the system also includes an optional functionality to include an Audit ID number to assist in identifying specific ballots when conducting a risk-limiting audit (“RLA”).

If the option is enabled, the Audit ID is generated and printed on the ballot by the ballot marking device after the voter has made their selections on the device and when the ballot is printed. The Audit ID is then linked to the cast vote record for that ballot when the ballot is read by the scanner. Because this process does not create a direct link between a voter’s identity and a voter’s ballot, it does not raise ballot secrecy concerns on its own.

However, jurisdictions should be cautious about using this feature in a manner that would allow voters or other individuals to track the choices made by a specific voter on their ballot, and the vendor should refrain from marketing this feature in such a manner.

### **Conclusion and Recommendation**

Because EVS 6.2.0.0 with the necessary requirements for a voting system under Texas law, I would recommend certification of this system.