Minutes
State Election Commission Meeting
July 10, 2023

The State Election Commission meeting was called to order by Chairman Jimmy Eldridge at 12:02 p.m., Central Daylight Time, July 10, 2023.

The following members and staff were present: Commissioners Barrett, Blackburn, Eldridge, McDonald, Meadows, Smith and Younce; Coordinator of Elections Mark Goins, Kathy Summers, Elections Specialist.

Commissioner Barrett made a motion to move agenda item "Public Comment Policy" out of order, seconded by Commissioner McDonald. (Aye votes: Barrett, Blackburn, Eldridge, McDonald, Meadows, Smith and Younce; No votes: None; Abstention: None.)

Coordinator Goins discussed the requirement for the commission to set a public comment policy. Public comment is limited to items on the agenda and should be the first item on the agenda so individuals may comment before items are discussed. Coordinator Goins provided a sample policy for the State Election Commission to consider. **(See attached sample Public Comment Policy.)**

Commissioner Barrett made a motion to limit the number of speakers to six (6) with each person having three (3) minutes to speak. If there are more than six (6) requested speakers, their names will go in a box, names will be drawn randomly to determine who speaks, and the process must ensure all viewpoints are fairly heard, seconded by Commissioner Younce. (Aye votes: Barrett, Blackburn, Eldridge, McDonald, Meadows, Smith and Younce; No votes: None; Abstention: None.)

Commissioner Smith discussed the additional language in the policy should be incorporated into the signup form.

Commissioner Barrett made a motion to accept the State Election Commission Public Comment Policy with a maximum of six (6) people added in section B, and to add the following sentence in section B, "In the event more than six (6) individuals signup, a lottery will be utilized to determine the speakers.", item C will be a maximum of three (3) minutes, and to add in item D the following sentence, "The lottery process be defined on the signup sheet.", seconded by Younce. (Aye votes: Barrett, Blackburn, Eldridge, McDonald, Meadows, Smith and Younce; No votes: None; Abstention: None.)

No one signed up for Public Comments for the July 10th meeting.

Commissioner McDonald made a motion to adopt the May 1, 2023, minutes, seconded by Commissioner Blackburn. (Aye votes: Barrett, Blackburn, Eldridge, McDonald, Meadows, Smith and Younce; No votes: None; Abstention: None.)

Commissioner Younce made a motion pursuant to TCA. § § 2-12-101 and 2-12-106 to approve any nomination(s) for county election commission appointments submitted, and to leave the nomination process open until 4:30 p.m. Central Daylight Time, Monday, July 10, 2023, seconded by Commissioner McDonald. (Aye votes: Barrett, Blackburn, Eldridge, McDonald, Meadows. Smith and Younce; No votes: None; Abstention: None.) **(See attached county election commission appointments made.)**

Old Business
- State Election Commission Disclosure Form

Coordinator Goins discussed the State Election Commission Disclosure form which was adopted at the last meeting. Coordinator Goins understood there was an outstanding question about a time period and whether that information should be placed on the form. The question was at what timeframe does disclosure kick in. At a prior meeting staff responded during the time of your term as commissioner. Coordinator Goins added if someone provided services before becoming a commissioner and continued to provide services while they are a commissioner, the commissioner would be responsible for reporting that information. Coordinator Goins stated the State Election Commission self-governs this disclosure form, but ultimately the final monitor would be the General Assembly. The disclosure is due within thirty (30) days once the activity takes place.

Commissioner Smith works with a show in New York, and he works with several boards in Arizona, the former Secretary of State of Arizona and wants to know if that work would be considered in-kind as he does not have any kind of agreement with these individuals.

Coordinator Goins stated the law is broad and states "receives services related to elections." Coordinator Goins stated if a commissioner is receiving compensation or something of value such as travel reimbursement that would require disclosure.

Commissioner Barrett stated if you breakdown section (3)(a), it says three (3) separate things. State Election Commission member shall disclose (1.) any employment, or (2.) the receipt of a fee or commission, or (3.) other form of compensation including in-kind contributions for services related to elections.

New Business
- ES&S – Demonstration of EVS 6.3.0.0 and Request for Approval

Ben Swartz, Senior State Certification Manager for ES&S gave the presentation. Also, in attendance for the presentation from ES&S were Tim Hallett and Chris Wlaschin. **(See attached presentation and Voting System Reference Questionnaires.)**

Commissioner Barrett inquired whether all the equipment brought for demonstration was up for approval.

Commissioner Smith pointed out firmware was mostly upgraded. Counties might have to spend for the firmware upgrade.

Coordinator Goins asked ES&S what the cost of the upgrade would be for the counties, as there is a concern that ES&S has recently raised their cost of services to the counties, and services have not gotten better due to fewer Tennessee ES&S staff that provides support to the counties. Coordinator Goins believes if there is a security upgrade on a system, the counties should be provided the upgrade without cost.

Mr. Swartz advised he would discuss these concerns with the sales team for ES&S. Tim Hallett stated most counties sign up for a hardware maintenance agreement and any upgrade is usually done when the maintenance is scheduled.

Coordinator Goins is concerned because maintenance is going on currently and several counties will have missed out on the upgrade which will require the county to pay for the upgrade separately.

Coordinator Goins asked if this upgrade would affect the watermark in any manner. ES&S assured there would be no issues with the watermark.

Commissioner Smith asked about ADA functionality. Mr. Swartz stated functionality has improved.

Commissioner Smith pointed out the software upgrade was an improvement but still expressed concern about any potential costs to the counties. Commissioner Smith asked Mr. Swartz if cast vote records (CVR) were a public record. Mr. Swartz stated that was outside of his purview.

Commissioner Younce made a motion to approve ES&S EVS 6.3.0.0, seconded by Commissioner Blackburn. Prior to the vote, Commissioner Smith stated he would prefer to see the cost to the counties prior to voting.
(Aye votes: Blackburn, Eldridge, McDonald, Younce; No votes: Meadows and Smith; Absent: Barrett; Abstention: None.)

Coordinator Update

- Coordinator Goins informed the commission there have been several special elections this year.

- Coordinator Goins advised ninety-two (92) counties have been awarded funds for voting machines with a voter verified paper audit trail. There are three (3) counties still going through the process to obtain new machines.

- Coordinator Goins discussed the commissions concern regarding the current process for vendors to send user questionnaires to users and for the voting machine vendor to supply the completed user questionnaire information to our office. Coordinator Goins believes it is a good idea for the vendor to supply our office with a list of counties and for the Division of Elections to reach out

to the jurisdictions to complete the questionnaire. Coordinator Goins suggested this item be added to the next agenda for further review.

Commissioner Younce asked about the number of counties currently served by ES&S.

Coordinator Goins stated ES&S serves about twenty-five (25) counties.

Commissioner Blackburn asked what the average cost is for voting machines per county.

Commissioner McDonald requested ES&S to provide costs and cost increases in writing to the State Election Commission.

Commissioner Smith requested ES&S to confirm if there is a security vulnerability that any upgrade addressing the vulnerability would be an automatic part of the county's preventative maintenance.

Commissioner Younce made a motion to adjourn, seconded Commissioner McDonald. (Aye votes: Blackburn, Eldridge, McDonald, Meadows. Smith and Younce; No votes: None; Absent: Barrett; Abstention: None.)

Meeting was adjourned at 1:24 p.m. Central Time.

The next regularly scheduled meeting is set for October 9, 2023, at 12:00 Noon, Central Standard Time in the Nashville Room of the William R, Snodgrass – TN Tower Conference Center.

Respectfully submitted,

Mike McDonald - Secretary
State Election Commission

State of Tennessee

State Election Commission
312 Rosa L. Parks Avenue, 7th Floor
Nashville, Tennessee 37243-1102

Vacant Status

July 10, 2023

Cocke   R Judy Blackburn / D Secondra Meadow

    R

Hancock   R Judy Blackburn / D Secondra Meadow

    D

Total Vacancies: 2

State of Tennessee

State Election Commission
312 Rosa L. Parks Avenue, 7th Floor
Nashville, Tennessee 37243-1102

New Appointment Status

July 10, 2023

Appointment

Cocke   R Judy Blackburn / D Secondra Meadow

R   Maci Goddard-Shults   7/10/2023

Total New Commissioners: 1

SERVICES RELATED TO ELECTIONS DISCLOSURE FORM
TENNESSEE STATE ELECTION COMMISSION

This form must be used to disclose to the Tennessee State Election Commission employment or monies received for election related services other than from the State of Tennessee for service on the State Election Commission. Failure to properly and timely submit the form may constitute removal pursuant to T.C.A. § 2-11-113. Services related to elections shall include, but not be limited to, work conducted on behalf of a campaign, solicitations of donations to entities related to elections, speaking engagements, and consulting work in the field of elections.

CHECK THE APPLICABLE BOXES
☐ New Disclosure Form   ☐ Update

DISCLOSURE OF EMPLOYER OR PAYER
A. Name of individual or entity paying a fee, commission, or another form of compensation, including in-kind contributions:
B. Mailing Address:
C. Telephone:

DISCLOSURE OF PERSON RECEIVING COMPENSATION
A. Name of State Election Commission member receiving a fee, commission, or another form of compensation, including in-kind contributions:

DISCLOSURE OF AGREEMENT AND COMPENSATION	
A. Amount of fee, commission, or another form of compensation, including in-kind contributions (in-kind contributions include gas, mileage, lodging, etc.):	B. Dates(s) of services rendered:
C. General description of services rendered:	

By my signature below, I attest to the following:

- **The information contained in this Services Related To Elections Disclosure Form is true and correct to the best of my knowledge, information, and belief. See T.C.A. § 2-11-113 and T.C.A. § 2-19-105.**

_____   _____

Commissioner Signature   **Date**

PROCEDURES FOR CERTIFYING VOTING MACHINES
BY THE TENNESSEE STATE ELECTION COMMISSION

All voting machines/vendors must receive certification from the state election commission and the coordinator of elections before any voting machines or systems may be sold in the State of Tennessee.

First Step:

Any interested vendor should submit a written request to the coordinator of elections and the state election commission requesting certification of your company together with the EAC certification number, a financial report and a list of all states that have already bought your voting machines or systems. If you would like to demonstrate your product at a meeting of the state election commission, please make that request in your letter. You will be notified of the date, time, and place of the meeting where you may make your presentation.

Second Step:

A. Voting Machine Procedure

Following verification of EAC certification and an initial presentation of your product and/or services, you would need to arrange for at least two (2) State Election Commissioners (of opposite parties) and the coordinator of elections (or designee) to view your machines or system in use in an election of a substantial size in another state. An election of a substantial size involves at the minimum the following characteristics:

- The jurisdiction has a population of at least 10,000 persons;

- The jurisdiction has at least two (2) or more district races on the ballots; and

- There are at least two (2) contested races involving both at large and district races on the ballot.

B. Voting Machine Software or Hardware Upgrade

- EAC Certification;

- Presentation of upgrade before State Election Commission at a meeting; and

- Viewing of upgrade in another state (In lieu of viewing machine in another state, at the discretion of the State Election Commission, letters of recommendation from users in other jurisdiction may be used as support for approval.)

C. De Minimis Voting System Changes

- Any De Minimis change to an EAC certified voting system shall be submitted to the state election commission and coordinator of elections to be approved. For purposes of approval of the de minimis change to the voting system, all that will be required is a letter from the EAC stating the change is de minimis, unless further information is requested by the state election commission or coordinator of elections.

Third Step:

The State Election Commission must vote to certify the machine in order for the machines to be used in an election in Tennessee.

You may send any correspondence for both the state election commission and the coordinator of elections to the following address:

> 312 Rosa L.Parks Avenue, 7th Floor
> William R. Snodgrass Tower
> Nashville, Tennessee 37243
> (615) 741-7956

If you have any further questions regarding certification of your company, please feel free to contact the office of the state election coordinator at the phone number listed above.

Tennessee Secretary of State
Tre Hargett

Elections Division
312 Rosa L. Parks Avenue, 7th Floor
Nashville, Tennessee 37243-1102

Mark Goins
Coordinator of Elections

615-741-7956
Mark.Goins@tn.gov

August 7, 2023

Ben Swartz
Sr. State Certification Manager
11208 John Galt Boulevard
Omaha, NE 68137

Dear Mr. Swartz:

On July 10, 2023, you came before the State Election Commission (SEC) and presented the ES&S EVS 6.3.0.0, an upgrade to EVS 6.1.1.0. The SEC reviewed the questionnaires provided by jurisdictions currently using the ES&S EVS 6.3.0.0 voting system.

This letter is to inform you that the SEC and I certified the ES&S EVS 6.3.0.0 voting system on July 10, 2023.

As you know, the State Election Commission requires the use of ballot tote bins to be used with optical scanners.

Thank you for your cooperation in the certification process.

Sincerely,

Mark Goins
Coordinator of Elections

Attachment: EAC Certification – ESSEVS6300

COF

United States Election Assistance Commission

Certificate of Conformance

ES&S EVS 6.3.0.0

The voting system identified on this certificate has been evaluated at an accredited voting system testing laboratory for conformance to the *Voluntary Voting System Guidelines Version 1.0 (VVSG 1.0)*. Components evaluated for this certification are detailed in the attached Scope of Certification document. This certificate applies only to the specific version and release of the product in its evaluated configuration. The evaluation has been verified by the EAC in accordance with the provisions of the EAC *Voting System Testing and Certification Program Manual* and the conclusions of the testing laboratory in the test report are consistent with the evidence adduced. This certificate is not an endorsement of the product by any agency of the U.S. Government and no warranty of the product is either expressed or implied.

Mark A. Robbins

Interim Executive Director

Scope of Certification Attached

Product Name: EVS

Model or Version: 6.3.0.0

Name of VSTL: Pro V&V

EAC Certification Number: ESSEVS6300

Date Issued: 11/17/2022

ES&S

Presentation

and

Request for Approval

EVS 6.3.0.0

July 10, 2023

- Ben Swartz, Senior State Certification Manager

  - Questionnaire from Columbiana, OH
  - Questionnaire from Pettis County, MO
  - Questionnaire from Camden County, NJ

ELECTION
Systems & Software

June 7, 2023

Sent via UPS and Email

Mr. Mark Goins
Division of Elections
Tennessee Department of State
312 Rosa L. Parks Avenue
7th Floor, William R. Snodgrass Tower
Nashville, TN 37243

RE: Request for State Certification of Election Systems & Software's EVS 6.3.0.0 Voting System

Dear Mr. Goins:

Election Systems & Software (ES&S) is pleased to present this request to the Tennessee State Election Commission for state certification consideration of our most recent Election Assistance Commission (EAC) Certified *EVS 6.3.0.0 Voting System*.

On November 17, 2022, the EAC granted certification of EVS 6.3.0.0 for conformance to the *Voluntary Voting System Guidelines (VVSG) v 1.0* standards and is an upgrade to the EVS 6.1.1.0 release certified by the Tennessee State Election Commission on July 12, 2021. In addition to EAC Certification, 10 states have state certified the EVS 6.3.0.0 release. Those states are Arizona, Delaware, Iowa, Idaho, Missouri, New Jersey, Ohio, Pennsylvania, Utah, and Virginia.

The table below represents the major components of the EVS 6.3.0.0 voting system version numbers in comparison to the EVS 6.1.1.0 voting system version numbers.

Tennessee State Certification of EVS 6.3.0.0 EAC Certified: 11/17/2022 VVSG v. 1.0 Compliant		EVS 6.1.1.0	EVS 6.3.0.0
Election Management System	Electionware	6.0.1.0	6.3.0.0
ES&S Tabulators	DS200 Precinct Tabulator (HW 1.2, 1.3)	2.30.0.0	3.0.0.0
	DS300 Precinct Tabulator (HW 1.0)	NA	3.0.0.0
	DS450 Central Tabulator (HW 1.0)	3.4.0.0	4.2.0.0
	DS850 Central Tabulator (HW 1.0)	3.4.0.0	4.2.0.0
	DS950 Central Tabulator (HW 1.0)	NA	4.2.0.0
Universal Voting System	ExpressVote (HW 1.0/2.1)	4.0.0.0	4.2.1.0

Below is a brief summary of the enhancements since EVS 6.1.1.0 that are being submitted for State Certification consideration. Please refer to the System Overview for additional details pertaining to the products within the EVS 6.3.0.0 voting system.

- ➤ **New Hardware**

    - DS300 Precinct Scanner – similar menu structure as the DS200 Precinct Scanner, current customers can easily train poll workers and staff.

    - DS950 Central Scanner – similar menu structure as the DS450 and DS850, current customers can easily train poll workers and staff.

- ➤ **Beneficial Enhancements on the Election Management System (EMS)**

    - Performance improvements
    - Addition of USB 3.0 (4GB, 8GB, 16GB, 32GB, and 256GB) election drives

- ➤ **Beneficial Enhancements on the ExpressVote:**

    - Cross out boxes for unused candidate selection barcode locations
    - Ability to print an audit number on the ExpressVote summary card that can be used for Risk Limiting Audits
    - Ability to print English and a second language that is selected by the voter on the ExpressVote summary card

- ➤ **Beneficial Enhancements on the DS200**

    - Performance improvements – new operating system (Yocto) provided quicker load, reload, and close polls timings

- ➤ **Beneficial Enhancements on the DS450/DS850**

    - Ability to print batch level results from the scanner
    - Ability to print audit number (RLA) on the ballot

Included with this cover letter is an enclosed CD-ROM that contains the Pro V&V EVS 6.3.0.0 VSTL Test Report, the EAC Scope of Certification for EVS 6.3.0.0, and ES&S' Technical Data Package which includes the system overview, system operation manuals, and security documents.

In pursuant of item B under the Second Step of the Tennessee procedures for certifying voting systems, ES&S respectfully request the examination and approval of EVS 6.3.0.0 be scheduled at the July 10, 2023 Tennessee State Election Commission meeting.

At this time, the completed surveys required for certification approval will be available to send to the Tennessee Secretary of State in the upcoming week(s). The handful of counties that we were planning to complete the survey are running elections on June 6, 2023. ES&S will provide them prior to the Tennessee State Election Commission meeting.

If you require additional documentation or clarification, please do not hesitate to contact me via telephone at 402-970-1143 or email at ben.swartz@essvote.com.

Sincerely,

Benjamin Swartz
Sr. State Certification Manager
Election Systems & Software, LLC

Encl: Product Brochures, EAC Scope of Certification, CD Rom Containing Technical Data Package (TDP)

United States Election Assistance Commission

Certificate of Conformance

ES&S EVS 6.3.0.0

The voting system identified on this certificate has been evaluated at an accredited voting system testing laboratory for conformance to the *Voluntary Voting System Guidelines Version 1.0 (VVSG 1.0)*. Components evaluated for this certification are detailed in the attached Scope of Certification document. This certificate applies only to the specific version and release of the product in its evaluated configuration. The evaluation has been verified by the EAC in accordance with the provisions of the EAC *Voting System Testing and Certification Program Manual* and the conclusions of the testing laboratory in the test report are consistent with the evidence adduced. This certificate is not an endorsement of the product by any agency of the U.S. Government and no warranty of the product is either expressed or implied.

Interim Executive Director

Scope of Certification Attached

Product Name: EVS

Model or Version: 6.3.0.0

Name of VSTL: Pro V&V

EAC Certification Number: ESSEVS6300

Date Issued: 11/17/2022

EAC CERTIFIED
VVSG 2005 VER. I

Manufacturer: *Election Systems & Software*
System Name: *EVS 6.3.0.0*
Certificate: *ESSEVS6300*

Laboratory: *Pro V&V*
Standard: *VVSG 1.0*
Date: *11/17/2022*

Scope of Certification

This document describes the scope of the validation and certification of the system defined above. Any use, configuration changes, revision changes, additions or subtractions from the described system are not included in this evaluation.

Significance of EAC Certification

An EAC certification is an official recognition that a voting system (in a specific configuration or configurations) has been tested to and has met an identified set of Federal voting system standards. An EAC certification is **not**:

- An endorsement of a Manufacturer, voting system, or any of the system's components.
- A Federal warranty of the voting system or any of its components.
- A determination that a voting system, when fielded, will be operated in a manner that meets all HAVA requirements.
- A substitute for State or local certification and testing.
- A determination that the system is ready for use in an election.
- A determination that any particular component of a certified system is itself certified for use outside the certified configuration.

Representation of EAC Certification

Manufacturers may not represent or imply that a voting system is certified unless it has received a Certificate of Conformance for that system. Statements regarding EAC certification in brochures, on Web sites, on displays, and in advertising/sales literature must be made solely in reference to specific systems. Any action by a Manufacturer to suggest EAC endorsement of its product or organization is strictly prohibited and may result in a Manufacturer's suspension or other action pursuant to Federal civil and criminal law.

System Overview

The ES&S EVS 6.3.0.0 voting system is a modification of the EVS 6.2.0.0 voting system, certified on December 23, 2021. The EVS 6.3.0.0 voting system contains modifications to Electionware, ExpressVote versions 1.0 and 2.1, ExpressVote XL, ExpressTouch, DS200, and DS950. It also introduces the DS300, a polling place scanner and tabulator. EVS 6.3.0.0 is composed of software applications, central count location devices and polling place devices with accompanying firmware, and COTS hardware and software:

Electionware® election management software is an end-to-end election management software application that provides election definition creation, ballot formation, equipment configuration, result consolidation, adjudication, and report creation. Electionware is composed of five software groups: Define, Design, Deliver, Results, and Manage.

ExpressVote® XL is a hybrid paper-based polling place voting device that provides a full-face touch screen vote capture interface that incorporates the printing of the voter's selections as a cast vote record and tabulation scanning in a single unit.

ExpressTouch® is a DRE voting system which supports electronic vote capture for all individuals at the polling place.

ExpressVote® Hardware 1.0 is a hybrid paper-based polling place voting device that provides touch screen vote capture that incorporates the printing of the voter's selections as a cast vote record to be scanned for tabulation in any one of the ES&S precinct or central tabulators.

ExpressVote® Hardware 2.1 is a hybrid paper-based polling place voting device that provides touch screen vote capture that incorporates the printing of the voter's selections as a cast vote record to be scanned for tabulation in any one of the ES&S precinct or central tabulators. There are two separate versions of ExpressVote HW2.1: version 2.1.0.0 and version 2.1.2.0.

DS200® is a polling place paper-based voting system, specifically a digital scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card in any of four orientations for conversion of voter selection marks to electronic cast vote records (CVR).

DS300® is a polling place paper-based voting system, specifically a digital scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card in any of four orientations for conversion of voter selection marks to electronic cast vote records.

DS450® is a central scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card in any of four orientations for conversion of voter selection marks to electronic CVRs.

DS850® is a central scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card in any of four orientations for conversion of voter selection marks to electroniç CVRs.

DS950® is a central scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card in any of four orientations for conversion of voter selection marks to electronic CVRs.

Event Log Service (ELS) monitors and logs users' interactions with the election management system. Events that happen when a connection to the database is not available are logged to the Windows operating system log through the ELS.

Removable Media Service (RMS) is a utility that runs in the background of the Windows operating system. RMS reads specific information from any attached USB devices so that an ES&S application such as Electionware can use that information for media validation purposes.

Electionware® Regional Results (Regional Results) is a standalone application that is deployed at Regional Sending Sites. For more efficient results reporting, the Regional Results software

then securely transmits the encrypted unofficial results collection files over a customer dedicated network.

System Diagram

EVS 6.3.0.0 System Overview
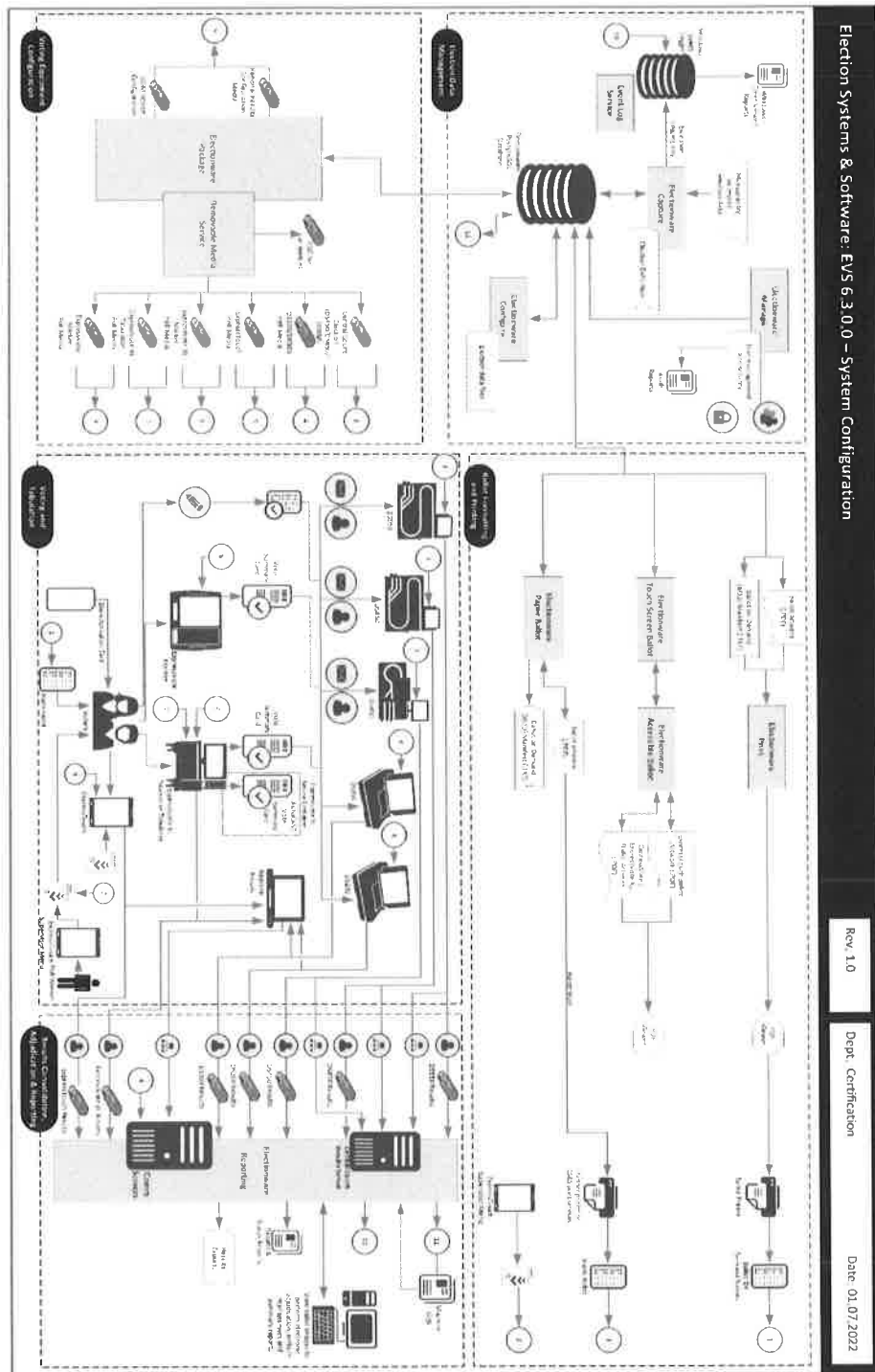
Certified System before Modification (If applicable):

EVS 6.2.0.0

Changes addressed by modification

Hardware

New Hardware
- DS300: introduced the new polling place scanner and tabulator.
- DS300 Ballot Box: introduced for use with the DS300 tabulator only.

Hardware Modifications
- ExpressVote XL: added/updated the following components:
    - Added one-way printer roller
    - Updated Paper Path Module (PPM) firmware
- DS450: added/updated the following components:
    - Updated monitor with new video control board
    - Added reverse belt assembly
    - Added output tray stops to allow more room for 19" ballots
- DS950: added/updated the following components:
    - Updated monitor with new video control board
    - Added risk-limiting audit number printer
    - Added cutout with filler plate for future location of imprinter

New Configuration Options
- DS450/DS950 Printer. The Brother printer is a new laser report printer configuration option.
- DS450/DS950 UPS. The CyberPower uninterruptible power supply is a new UPS configuration option.
- DS450/DS950 network cable. The Ethernet network cable is now optional in the certified configuration.
- DS450 Cart. The DS450 is now configured on the Central Count cart.

Software/Firmware Changes
- Customize Write-in Cells
  Added the ability to customize Write-in cells in Electionware Touch Screen Ballot to fit more offices on a page for the ExpressVote XL.
  Impacted products:
    - Electionware
    - ExpressVote XL
- Park the Vote Summary Card

Added the ability to park the vote summary card under glass when the printed card is reinserted into the ExpressVote XL.
Impacted products:
- o Electionware
- o ExpressVote XL

- Reduce Poll worker Intervention
Implemented an option on the ExpressVote XL to allow the voter to quit the vote session after printing the vote summary card without poll worker intervention:
  - o Electionware
  - o ExpressVote XL

- Multi-Language Vote Summary Card
Added configurable options for printing the contest and candidate names in English and the voter's selected language on vote summary cards.
Impacted products:
  - o Electionware
  - o ExpressVote HW1.0
  - o ExpressVote HW2.1
  - o ExpressVote XL

- Team Write-in Contest Type
Added the ability to enter two write-in names for contests where two candidates use one voting target.
Impacted products:
  - o ExpressVote HW1.0
  - o ExpressVote HW2.1
  - o ExpressTouch
  - o ExpressVote XL

- DS200 Label Change
Renamed "DS200" labels to "Poll Place Count".
Impacted products:
  - o Electionware
  - o Regional Results

- Security
Implement a Cisco firmware update to address security vulnerabilities on the Cisco RV340 VPN Router.
Impacted products:
  - o Election Management System

DS200
- Operating System
  - o Upgraded the DS200 operating system to Linux (Yocto).

DS950

- Risk limiting Audit
  - o Implemented DS950 imprinter functionality for risk limiting audits.

Electionware
- System Limit
  - o Increased Precinct ID limit from 9900 to 9999.
- Adjudication
  - o Enabled adjudication of write-ins on the vote summary card in Ballot Review in the Electionware Reporting module.

ExpressVote XL
- Side by Side Review
  - o Introduced the ability to display the full on-screen ballot during voter review when the printed vote summary card is reinserted into the ExpressVote XL, which allows a side-by-side comparison.

Mark Definition

ES&S' declared mark recognition for the DS200, DS300, DS450, DS850 and DS950 is a mark across the oval that is 0.02" long x 0.03" wide at any direction.

Tested Marking Devices:

Bic Grip Roller Pen

Language Capability

System supports English, Spanish, Chinese, Korean, Japanese, Hindi, Bengali, Vietnamese, Tagalog, Creole, Russian, French, Gujarati (not supported by poll place tabulators), Punjabi (not supported by poll place tabulators)

Proprietary Components Included

This section provides information describing the components and revision level of the primary components included in this Certification.

System Component	Software or Firmware Version	Hardware Version	Model	Comments
Electionware	6.3.0.0			Election management software that provides end-to-end election management activities
ES&S Event Log Service (ELS)	3.0.0.0			Logs users' interactions with EMS
Regional Results	1.5.0.0			Standalone application that is deployed at Regional Sending Sites.
Removable Media Service	3.0.0.0			Utility that runs in the background of the Windows operating system

System Component	Software or Firmware Version	Hardware Version	Model	Comments
DS200	3.0.0.0	1.2, 1.3		Precinct count tabulator that scans voter selections from both sides of the ballot simultaneously
DS300	3.0.0.0	1.0		Precinct count tabulator that scans voter selections from both sides of the ballot simultaneously
DS200/DS300 Ballot Box		1.0, 1.1	98-00009	Collapsible ballot box
DS200/DS300 Ballot Box		1.0	98-00110	Collapsible ballot box
DS300 Ballot Box		1.0	57300	DS300 plastic ballot box
DS200/DS300 Ballot Box		1.2, 1.3, 1.4, 1.5	57521	Plastic ballot box
DS200/DS300 Tote Bin		1.0	00074	Tote bin ballot box
DS200/DS300 Ballot Trolley			212516	Ballot Trolley Ballot Box
DS200 Metal Ballot Box		1.0, 1.1, 1.2	76245	Metal Tote Bag
DS200 Ballot Tote Bag			60	Ballot Tote Bag
DS200/DS300 Carrying Case			90282	Soft sided carrying case
DS200/DS300 Carrying Case			98-00045	Hard sided lid/carrying case with wheels and extendable handle
DS200/DS300 Carrying Case			94052	Hard sided carrying case (suitcase)
DS450	4.2.0.0	1.0		Central count scanner and tabulator
DS450 Cart			3002	
DS850	4.2.0.0	1.0		Central count scanner and tabulator
DS850 Cart			6823	
DS950	4.2.0.0	1.0		Central count scanner and tabulator
Central Count Cart			7898	Cart for DS450 and DS950
ExpressVote XL	4.2.1.0	1.0		Hybrid full-face paper-based vote capture and selection device and precinct count tabulator
ExpressTouch	4.2.1.0	1.0		DRE
ExpressVote HW1.0	4.2.1.0	1.0		Hybrid paper-based vote capture and selection device
ExpressVote HW2.1	4.2.1.0	2.1.0.0 2.1.2.0		Hybrid paper-based vote capture and selection device
ExpressVote Rolling Kiosk		1.0	98-00049	Portable Voting Booth
ExpressVote Carrying Case			98-00050	

System Component	Software or Firmware Version	Hardware Version	Model	Comments
Voting Booth			98-00051	Stationary Voting Booth
ExpressVote Ben Franklin Booth			00380, 00381 (adaptor)	Sitting and Standing Voting Booth
ExpressVote Dual Express Cart			41402	Portable Voting Booth
Voting Booth Workstation			87035	Stationary Voting Booth
Quad Express Cart			41404	Portable Voting Booth
MXB ExpressVote Voting Booth			95000	Sitting and Standing Voting Booth
ExpressVote Single Table			87033	Voting Table for One Unit
ExpressVote Double Table			87032	Voting Table for Two Units
ADA Table			87031	Voting Table for One Unit
Universal Voting Console (UVC)		2.0	98-00077	Detachable ADA support peripheral
ExpressVote Audio-Tactile Keypad	1.0.0.0		97-00168	Audio-Tactile Keypad
Tabletop Easel			14040	
ExpressTouch Voting Booth			98-00081	Stationary Voting Booth
ExpressTouch Carrying Case			14041	Soft sided carrying case
SecureSetup	6.3.0.0			Proprietary Hardening Script

COTS Software

Manufacturer	Application	Version
Microsoft Corporation	Windows Server 2016	WIN2016_6300.iso
Microsoft Corporation	Windows 10 Enterprise LTSC	WIN10_6300.iso
Microsoft Corporation	Windows Server 2016 DataComm (ISO)	WIN2016DC_6300.iso
Microsoft Corporation	Windows Updates (Software updates included in the OS image)	Package date: WIN10_6300.iso-01/24/2022 WIN2016_6300.iso-01/20/2022 WIN2016DC_6300.iso-01/20/2022
Microsoft Corporation	Windows Defender Antivirus (Configured within the OS image)	N/A
Dell	TPM Utility	DellTpm2.0_Fw1.3.2.8_V1_64.exe
Cisco	Rommon	ASA 5506-X (1.1.18) ASA 5508-X (1.1.18) ASA FPR-1010 (N/A)
Cisco	ASA Firmware	ASA 5506-X (9.16.1) ASA 5508-X (9.16.1) ASA FPR1010 (9.16.1)
Cisco	RV340 Firmware	1.0.03.26
SolarWinds / Kiwi Syslog Server	Remote Event Log Monitoring	9.6.7
Amyuni	Amyuni PDF Generator	5.5

Manufacturer	Application	Version
Cerberus	Cerberus FTP Server – Professional	12.1 (64-bit)
Sumatra	Sumatra PDF Viewer	3.1.2 (64-bit)
Legion of the Bouncy Castle Inc.	Bouncy Castle FIPS Java API	1.0.2.1
Yubico Login for Windows	Dual Factor Authentication YubiKey USB keys for dual factor authentication (optional)	Yubico-Login-for-Windows- 2.0.3- win64.msi
Progress File Transfer / WS FTP	Secure file transfer	12.7.0

COTS Hardware

Manufacturer	Hardware	Model/Version
Dell	EMS Server	PowerEdge T430, T440, T630, R540
Dell	Regional Results Data Comm Server	PowerEdge T430, T440, T630, R540
Dell	EMS Client or Standalone Workstation	Latitude 5520, 5580 (32GB Ram), OptiPlex 5040, 5050, 7020, XE3
Dell	Trusted Platform Module (TPM) Chip 2.0 (optional)	Security device (optional)
Dell	Regional Results Client	Latitude 5520, 5580
Toshiba	Regional Results Client	Tecra A50-C
Innodisk	USB EDC H2SE (16GB) for ExpressVote 2.1	DEEUH1-16GI72AC1SB
Delkin	2.0 USB Flash Drive (512MB, 1GB, 2GB, 4GB, 8GB)	N/A
Delkin	3.0 USB Flash Drive (4GB, 8GB, 16GB, 32GB)	6206, 6207, 6208, 6209
Delkin	3.0 USB Flash Drive (256GB) data transfer	6210
Delkin	USB Embedded 2.0 Module Flash Drive for ExpressVote HW1.0	MY08TQJ7A-RA000-D (8 GB) MY16TNK7A-RA042-D (16 GB)
Delkin	USB Embedded 2.0 Module Flash Drive for ExpressVote HW2.1	MY16TNK7A-RA042-D (16 GB)
Delkin	Compact Flash Memory Card (1GB)	CE0GTFHHK-FD038-D
Delkin	Compact Flash Memory Card (4GB)	CE04TQSF3-XX000-D
Delkin	Secure CF Card (2GB)	CE02TLQCK-FD000-D
Delkin	CFast Memory Card (4GB)	BE04TRSJG-3N042-D
Delkin	Compact Flash Memory Card Reader/Writer	6381
Delkin	CFAST Card (2GB, 4GB)	380-00006 – 2GB 380-00007 – 4GB
Delkin	CFAST Card Reader/Writer	67417
Delkin USB Flash Drive	BitLocker 32.2 MB (optional)	Storage for security key (Model 10004)
Cisco Firewall	Regional Results Security Firewall	ASA-5506-X, ASA-5508-X, ASA FPR-1010
Cisco Router	Regional Results VPN Router	RV340
D-Link	network switch (1 GB Min)	DSG-1005G
YubiKey USB drive	Multi factor Authentication (optional)	5A series
Lexar	CFAST Card Reader/Writer	LRWCR1TBNA
CardLogix	Smart Card	CLXSU128kC7/ AED C7
SCM Microsystems	Smart Card Writer	SCR3310
Avid	Headphones	86002
Zebra Technologies	QR code scanner (Integrated)	DS457-SR20009, DS457-SR20004ZZWW
Symbol	QR Code scanner (External)	DS9208
Brother	DS450 and DS950 Report Printer	B6400
Dell	DS450 Report Printer	S2810dn
OKI	DS450, DS850, and DS950 Report Printer	B431dn, B431d, B432DN
OKI	DS450 and DS850 Audit Printer	Microline 420

Manufacturer	Hardware	Model/Version
APC	DS450 UPS	Back-UPS Pro 1500, Smart-UPS 1500
APC	DS850 UPS	Back-UPS RS 1500, Pro 1500
CyberPower	DS950 UPS	OR1500PFCLCD
CyberPower	DS450 and DS950 UPS	CP1500PFCLCD
Tripp Lite	DS450 Surge Protector	SPIKECUBE
Seiko Instruments	Thermal Printer	LTPD-347B
NCR/Nashua	Paper Roll	2320
Fujitsu	Thermal Printer	FTP-62GDSL001, FTP-63GMCL153
HP	Ink cartridge for DS450/DS850 ballot number imprinting	87002
HP	Ink cartridge for DS950 ballot number imprinting	HP C6195A
TDS	Ink cartridge for DS200/DS300 ballot stamping	2278
HP	Ink cartridge for DS300 risk-limiting audit number imprinting	370-00538
Pivot	Vote Summary Card Only Suppression Tray	97-00359

System Limitations

This table provides the system limits that have been verified during testing.

System Characteristic	Boundary or Limitation	Limiting Component
Max. precincts allowed in an election	9,999	Electionware
Max. candidates allowed per election	10,000	Electionware
Max. contests allowed in an election	10,000	Electionware
Max. contests allowed per ballot style	500 or # of positions on ballot	N/A
Max. candidates (ballot choices) allowed per contest	230	Electionware
Max. number of parties allowed	General election: 75 Primary election: 30 (including nonpartisan party)	Electionware
Max. 'vote for' per contest	230	Electionware
Ballot formats	All paper ballots used in an election must be the same length. Voteable paper ballots must contain the same number of rows	Ballot scanning equipment
Max. ballot styles	15,000	Electionware
Max. ballots per batch	1,500	DS450/DS850/DS950
Max. precinct types/groups	25 (arbitrary)	Electionware
Max. precincts of a given type	250 (arbitrary)	Electionware
Max. reporting groups	14	Electionware
Max. connections	18 client connections	Electionware

Component Limitations

ExpressVote

1. Capacities exceed all documented limitations for the ES&S election management, vote tabulation and reporting system. For this reason, election management system and

ballot tabulator limitations define the boundaries and capabilities of the ExpressVote system as the maximum capacities of the ExpressVote are never approached during testing.

2. Does not offer open primary support based on the ES&S definition of Open Primary, which is the ability to select a party and vote based on that party.
3. ExpressVote vote summary cards using the high-capacity barcode are limited to 630 or fewer oval positions.
4. Does not support Massachusetts Group Vote.
5. Does not support Universal Primary Contest.
6. Does not support Multiple Target Cross Endorsement.
7. Does not support Judges Initials boxes.
8. ExpressVote does not support 19-inch cards with ballot stubs.

ExpressVote XL

1. Capacities exceed all documented limitations for the ES&S election management, vote tabulation and reporting system. For this reason, election management system and ballot tabulator limitations define the boundaries and capabilities of the ExpressVote XL system as the maximum capacities of the ExpressVote XL are never approached during testing.
2. Does not offer open primary support based on the ES&S definition of Open Primary, which is the ability to select a party and vote based on that party.
3. ExpressVote XL vote summary cards using the high-capacity barcode are limited to 630 or fewer oval positions.
4. Does not support Massachusetts Group Vote.
5. Does not support Universal Primary Contest.
6. Does not support Judges Initials boxes.
7. In a general election, ExpressVote XL screen can hold 32 party columns if set up as columns or 16 party rows if set up as rows.
8. ExpressVote XL does not support 19-inch cards with ballot stubs.
9. ExpressVote XL does not support 17-inch cards with ballot stubs.

ExpressTouch

1. Capacities exceed all documented limitations for the ES&S election management, vote tabulation and reporting system. For this reason, election management system limitations define the boundaries and capabilities of the ExpressTouch system as the maximum capacities of the ES&S ExpressTouch are never approached during testing.
2. Does not offer open primary support based on the ES&S definition of Open Primary, which is the ability to select a party and vote based on that party.
3. Does not support Massachusetts Group Vote.
4. Does not support Universal Primary Contest.
5. Does not support Multiple Target Cross Endorsement.

Electionware

1. Electionware software field limits were calculated based on an average character width for ballot and report elements. Some uses and conditions, such as magnified ballot views or combining elements on printed media or ballot displays, may result in field limits (and associated warnings) lower than those listed.
2. Ballot Images function is limited to 250 districts per export.
3. Supports the language and special characters listed in the System Overview, Attachment 1. Language special characters other than those on this list may not appear properly when viewed on equipment displays or reports.

Electionware Paper Ballot

1. The paper ballot code channel, which is the series of black boxes that appear between the timing track and ballot contests, limits the number of available ballot variations depending on how a jurisdiction uses this code to differentiate ballots. The code can be used to differentiate ballots using three different fields defined as: Sequence (available codes 1-16,300), Type (available codes 1-30), or Split (available codes 1-18).
2. For paper ballots, if Sequence is used as a ballot style ID, it must be unique electionwide and Split code will always be 1. In this case, the practical style limit would be 16,300.
3. The ExpressVote activation card has a ballot ID consisting of three different fields defined as: Sequence (available codes 1-16,300), Type (available codes 1-30), or Split (available codes 1-18).
4. Grid Portrait and Grid Landscape ballot types are New York specific and not for general use.

DS200

1. Configured for an early vote station does not support precinct level results reporting. An election summary report of tabulated vote totals is supported.
2. Storage limitation for write-in ballot images is 3,600 images. Each ballot image includes a single ballot face, or one side of one page.
3. Write-in image review requires a minimum 1GB of onboard RAM.
4. To successfully use the write-in report, ballots must span three or more vertical columns. If the column is greater than 1/3 of the ballot width (two columns or less), the write-in image will be too wide to print on the tabulator report tape.

DS300

1. Configured for an early vote station does not support precinct level results reporting. An election summary report of tabulated vote totals is supported.
2. Storage limitation for write-in ballot images is 3,600 images. Each ballot image includes a single ballot face, or one side of one page.

3. To successfully use the write-in report, ballots must span three or more vertical columns. If the column is greater than 1/3 of the ballot width (two columns or less), the write-in image will be too wide to print on the tabulator report tape.

Functionality

VVSG 1.0 Supported Functionality Declaration

Feature/Characteristic	Yes/No	Comment
Voter Verified Paper Audit Trails		
VVPAT	No	
Accessibility		
Forward Approach	Yes	
Parallel (Side) Approach	Yes	
Closed Primary		
Primary: Closed	Yes	
Open Primary		
Primary: Open	Yes	ExpressVote, ExpressVote XL and ExpressTouch do not offer open primary support based on the ES&S definition of Open Primary, which is the ability to select a party and vote based on that party.
Partisan & Non-Partisan:		
Partisan & Non-Partisan: Vote for 1 of N race	Yes	
Partisan & Non-Partisan: Multi-member ("vote for N of M") board races	Yes	
Partisan & Non-Partisan: "vote for 1" race with a single candidate and write-in voting	Yes	
Partisan & Non-Partisan "vote for 1" race with no declared candidates and write-in voting	Yes	
Write-In Voting:		
Write-in Voting: System default is a voting position identified for write-ins.	Yes	
Write-in Voting: Without selecting a write in position.	Yes	
Write-in: With No Declared Candidates	Yes	
Write-in: Identification of write-ins for resolution at central count	Yes	
Primary Presidential Delegation Nominations & Slates:		
Primary Presidential Delegation Nominations: Displayed delegate slates for each presidential party	Yes	
Slate & Group Voting: one selection votes the slate.	Yes	
Ballot Rotation:		
Rotation of Names within an Office; define all supported rotation methods for location on the ballot and vote tabulation/reporting	Yes	
Straight Party Voting:		

Feature/Characteristic	Yes/No	Comment
Straight Party: A single selection for partisan races in a general election	Yes	
Straight Party: Vote for each candidate individually	Yes	
Straight Party: Modify straight party selections with crossover votes	Yes	
Straight Party: A race without a candidate for one party	Yes	
Straight Party: "N of M race (where "N">1)	Yes	
Straight Party: Excludes a partisan contest from the straight party selection	Yes	
Cross-Party Endorsement:		
Cross party endorsements, multiple parties endorse one candidate.	Yes	ExpressVote and ExpressTouch do not support Multiple Target Cross Endorsement.
Split Precincts:		
Split Precincts: Multiple ballot styles	Yes	
Split Precincts: P & M system support splits with correct contests and ballot identification of each split	Yes	
Split Precincts: DRE matches voter to all applicable races.	Yes	
Split Precincts: Reporting of voter counts (# of voters) to the precinct split level; Reporting of vote totals is to the precinct level	Yes	It is possible to list the number of voters.
Vote N of M:		
Vote for N of M: Counts each selected candidate, if the maximum is not exceeded.	Yes	
Vote for N of M: Invalidates all candidates in an overvote (paper)	Yes	
Recall Issues, with options:		
Recall Issues with Options: Simple Yes/No with separate race/election. (Vote Yes or No Question)	No	
Recall Issues with Options: Retain is the first option, Replacement candidate for the second or more options (Vote 1 of M)	No	
Recall Issues with Options: Two contests with access to a second contest conditional upon a specific vote in contest one. (Must vote Yes to vote in 2nd contest.)	No	
Recall Issues with Options: Two contests with access to a second contest conditional upon any vote in contest one. (Must vote Yes to vote in 2nd contest.)	No	
Cumulative Voting		
Cumulative Voting: Voters are permitted to cast, as many votes as there are seats to be filled for one or more candidates. Voters are not limited to giving only one vote to a candidate. Instead, they can put multiple votes on one or more candidate.	No	
Ranked Order Voting		

Feature/Characteristic	Yes/No	Comment
Ranked Order Voting: Voters can write in a ranked vote.	Yes	Ballots can be formatted for Ranked Order Voting and the system supports export of CVR data for processing of Ranked Order Voting Rounds
Ranked Order Voting: A ballot stops being counted when all ranked choices have been eliminated	Yes	Ballots can be formatted for Ranked Order Voting and the system supports export of CVR data for processing of Ranked Order Voting Rounds
Ranked Order Voting: A ballot with a skipped rank counts the vote for the next rank.	Yes	Ballots can be formatted for Ranked Order Voting and the system supports export of CVR data for processing of Ranked Order Voting Rounds
Ranked Order Voting: Voters rank candidates in a contest in order of choice. A candidate receiving a majority of the first choice votes wins. If no candidate receives a majority of first choice votes, the last place candidate is deleted, each ballot cast for the deleted candidate counts for the second choice candidate listed on the ballot. The process of eliminating the last place candidate and recounting the ballots continues until one candidate receives a majority of the vote	No	
Ranked Order Voting: A ballot with two choices ranked the same, stops being counted at the point of two similarly ranked choices.	Yes	Ballots can be formatted for Ranked Order Voting and the system supports export of CVR data for processing of Ranked Order Voting Rounds
Ranked Order Voting: The total number of votes for two or more candidates with the least votes is less than the votes of the candidate with the next highest number of votes, the candidates with the least votes are eliminated simultaneously and their votes transferred to the next-ranked continuing candidate.	No	
Provisional or Challenged Ballots		
Provisional/Challenged Ballots: A voted provisional ballots is identified but not included in the tabulation, but can be added in the central count.	Yes	
Provisional/Challenged Ballots: A voted provisional ballots is included in the tabulation, but is identified and can be subtracted in the central count	Yes	
Provisional/Challenged Ballots: Provisional ballots maintain the secrecy of the ballot.	Yes	
Overvotes (must support for specific type of voting system)		
Overvotes: P & M: Overvote invalidates the vote. Define how overvotes are counted.	Yes	
Overvotes: DRE: Prevented from or requires correction of overvoting.	Yes	

Feature/Characteristic	Yes/No	Comment
Overvotes: If a system does not prevent overvotes, it must count them. Define how overvotes are counted.	Yes	
Overvotes: DRE systems that provide a method to data enter absentee votes must account for overvotes.	Yes	
Undervotes		
Undervotes: System counts undervotes cast for accounting purposes	Yes	
Blank Ballots		
Totally Blank Ballots: Any blank ballot alert is tested.	Yes	
Totally Blank Ballots: If blank ballots are not immediately processed, there must be a provision to recognize and accept them	Yes	
Totally Blank Ballots: If operators can access a blank ballot, there must be a provision for resolution.	Yes	
Networking		
Wide Area Network – Use of Modems	No	
Wide Area Network – Use of Wireless	No	
Local Area Network – Use of TCP/IP	No	
Local Area Network – Use of Infrared	No	
Local Area Network – Use of Wireless	No	
FIPS 140-2 validated cryptographic module	Yes	
Used as (if applicable):		
Precinct counting device	Yes	DS200, DS300, ExpressTouch, ExpressVote XL
Central counting device	Yes	DS450, DS850, DS950

Baseline Certification Engineering Change Orders (ECO)

This table depicts the ECOs certified with the voting system:

Change ID	Date	Component	Description	Inclusion
ECO 1141	06/08/22	Windows 10, Windows Server 2016	This ECO addresses the Critical Vulnerability CVE-2021-34527, also known as PrintNightmare, in the Windows Operating System. It also updates antivirus definitions for the applicable EVS systems.	De minimis

Voting System Reference Questions

Reference Name and Contact Information: Bryce Miner, bminer@columbiana.boe.ohio.gov.

Jurisdiction Name: Columbiana County Board of Elections.

Quantity, type and version of voting equipment and software installed: 80 DS200, 70 Expressvote, 1 DS950, 1 DS 450, 6300.

How many voters are in your jurisdiction? 65,000.

When did your jurisdiction purchase the system? Spring 2021.

How many elections have you used the system? 4.

Have any upgrades been made to the system since you purchased it? Why? Yes. Software updates due to DS950 purchase.

Are you still using the same system? Yes.

Describe your overall impression of the system based on experiences in your jurisdiction. We have had only positive experiences with our current equipment.

Are you satisfied with the training provided to your staff? Yes.

Are you satisfied with the training provided for poll officials? Yes. We used ES&S materials plus in house developed materials.

Are you satisfied with the support the vendor has provided for early voting (if applicable), Election Day, and post-election activities? Yes. We get support for coding, L&A, Election Day and Official Canvass.

Are you satisfied with the cost of support? Do you feel the cost of support is competitive or too expensive? Yes, but it has increased over the years.

Describe any issues the vendor has had meeting your jurisdiction's requirements, if any. N/A.

Describe any issues your jurisdiction has had regarding equipment availability, if any. N/A.

Describe any issues your jurisdiction has had regarding the accuracy of election results, if any. N/A.

Describe any other issues your jurisdiction has had with the system, if any. N/A.

Has the vendor been responsive in addressing issues? Yes, we have never had a customer service issue.

Describe any feedback (positive or negative) received from poll officials about the system. Our poll official like the new equipment and accustomed very quickly.

Describe any feedback (positive or negative) received from voters about the system. N/A.

Do you feel like you have gotten your money's worth for the system? Yes.

Would you recommend this system for use in other jurisdictions? Yes.

Voting System Reference Questions

Reference Name and Contact Information:

Nick La Strada
Pettis County Clerk
Election Authority/CERA
215 East 5th Street,
Sedalia, Mo 65301
Work: 660-826-5000 Ext.918
Fax: 660-829-0717
Cell: 660-281-7767

Jurisdiction Name:

County of Pettis

Quantity, type and version of voting equipment and software installed:

Quantity: We have acquired a total of 16 DS-300 Tabulators. These tabulators are used for scanning and counting paper ballots.

Type and Version: The DS-300 Tabulator is a specific model of optical scanner tabulator manufactured by our trusted vendor ES&S. The version installed is the latest available version (v 3.0.0.0).

Quantity: To ensure accessibility for voters with disabilities, we have provided 15 Express Vote ADA Ballot Marking Devices. These devices are designed to assist voters with special needs in marking their ballots accurately.

Type and Version: The Express Vote ADA Ballot Marking Device is a specialized electronic voting machine that provides various accessibility features. The version installed is the latest version recommended by our manufacturer ES&S (v. 4.2.1.0).

Software: For election night reporting and result dissemination, we will be utilizing Electionware Election Night Reporting software. This software allows for real-time reporting of results and provides efficient data management capabilities. (v. 6.3.0.0)

How many voters are in your jurisdiction?

27,000 to 28,000

When did your jurisdiction purchase the system?

December 2022

How many elections have you used the system?

1

Have any upgrades been made to the system since you purchased it? Why?

I would like to inform you that NO upgrades have been made to the system since its initial purchase. The decision to not make any upgrades is primarily based on ensuring the stability and security of the voting system.

Introducing upgrades to the system involves potential risks and uncertainties, such as compatibility issues, software glitches, or vulnerabilities that could compromise the integrity of the election process. Therefore, it is a common practice to maintain the system in the State Of Missouri after thorough testing and certification to minimize any potential risks.

However, it's important to note that routine maintenance, security patches, and updates recommended by ES&S or the State of Missouri to ensure the continued performance and security of the voting system. These updates are typically aimed at addressing any identified vulnerabilities or improving the overall system functionality without altering the fundamental components of the system.

Are you still using the same system?

Yes

Describe your overall impression of the system based on experiences in your jurisdiction.

The ES&S team did a phenomenal job with Pettis County.

Are you satisfied with the training provided to your staff?

Training satisfaction: Yes, we are satisfied with the training provided to our staff.

Are you satisfied with the training provided for poll officials?

Yes

Are you satisfied with the support the vendor has provided for early voting (if applicable), Election Day, and post-election activities?

ES&S has been a significant player in the voting technology industry for many years and has provided services to numerous jurisdictions across the country. Their products and support play a crucial role in facilitating the election process.

When it comes to early voting, ES&S has generally demonstrated a satisfactory level of support. Their systems have been designed to accommodate early voting processes, including early voting machines and associated software. The vendor has provided training and assistance to election administrators and poll workers to ensure smooth operations during this period.

On Election Day, ES&S has often delivered reliable support, with their voting machines and equipment functioning adequately in most cases. Their technical staff has been available to troubleshoot any issues that arise, and they have promptly addressed critical concerns to minimize disruptions. However, like any complex technological system, occasional challenges and glitches can occur, but ES&S has typically been responsive to rectify such issues swiftly.

Regarding post-election activities, ES&S has offered valuable assistance to election administrators in the tabulation and certification of results. Their software and reporting tools have aided in the efficient compilation and analysis of election data. They have also worked closely with election officials to address any post-election inquiries and provide the necessary documentation and support during audits or recount processes.

However, it's important to note that the satisfaction level with any vendor's performance can vary across jurisdictions and specific instances. Factors such as local infrastructure, training of poll workers, and unique circumstances in each election can influence the overall experience.

In conclusion: ES&S has done a phenomenal job for our Voters here in the County of Pettis!

Are you satisfied with the cost of support?

Absolutely!

Do you feel the cost of support is competitive or too expensive?

No, Democracy is an invaluable and intangible asset that encompasses the principles of freedom, equality, and the power of the people. Its worth cannot be measured in currency, for it is beyond material possessions. Democracy stands as the cornerstone of modern civilizations, allowing individuals to express their opinions, participate in decision-making, and shape their collective destiny.

In conclusion, "There is no price on democracy"!

Describe any issues the vendor has had meeting your jurisdiction's requirements, if any.

Describe any issues your jurisdiction has had regarding equipment availability, if any.

Describe any issues your jurisdiction has had regarding the accuracy of election results, if any.

Describe any other issues your jurisdiction has had with the system, if any.

Has the vendor been responsive in addressing issues?

We encountered no difficulties whatsoever during our interactions with ES&S. Whenever we required assistance, they provided us with care and attention,

treating us with the highest level of hospitality. In fact, they went above and beyond to ensure that we were comfortable and satisfied with their services, treating us as if we were VIPs.

Describe any feedback (positive or negative) received from poll officials about the system.

Describe any feedback (positive or negative) received from voters about the system.

Do you feel like you have gotten your money's worth for the system?

Our poll workers have provided us with nothing but positive feedback, which we are incredibly grateful for. Their hard work and dedication have undoubtedly contributed to the highly successful election in Pettis County. It is worth noting that the small details, such as the ease of sealing the blue tote with the voted ballots, have played a significant role in the overall success of the election. The fact that the workers did not have to take the ballots out of the box and put them in another box before sealing them made the process much smoother and more efficient.

Would you recommend this system for use in other jurisdictions?

YES!!!

Voting System Reference Questions

Reference Name and Contact Information: Sarah Booker, Republican Administrator, 856-01-8693, sarah.booker@camdencounty.com

Jurisdiction Name: Camden County New Jersey

Quantity, type and version of voting equipment and software installed: ES&S DS300 tabulators, ExpressVote for ADA & DS950 for Mail In Ballot tabulation.

How many voters are in your jurisdiction? 300,000

When did your jurisdiction purchase the system? December 2022

How many elections have you used the system? 1

Have any upgrades been made to the system since you purchased it? Why? None

Are you still using the same system? Yes

Describe your overall impression of the system based on experiences in your jurisdiction. We were very satisfied with the system.

Are you satisfied with the training provided to your staff? Yes

Are you satisfied with the training provided for poll officials? Yes

Are you satisfied with the support the vendor has provided for early voting (if applicable), Election Day, and post-election activities? Yes, the support is excellent.

Are you satisfied with the cost of support? Do you feel the cost of support is competitive or too expensive? The cost of support is fair.

Describe any issues the vendor has had meeting your jurisdiction's requirements, if any. We did not experience any issues.

Describe any issues your jurisdiction has had regarding equipment availability, if any. The only issue was getting in our extra ballot bins. ES&S made sure we had enough for this election but we want extra on hand for future elections.

Describe any issues your jurisdiction has had regarding the accuracy of election results, if any. We had no issues.

Describe any other issues your jurisdiction has had with the system, if any. None

Has the vendor been responsive in addressing issues? We had a few minor issues with the equipment and ES&S has been very responsive in addressing them.

Describe any feedback (positive or negative) received from poll officials about the system. Feedback was mostly positive. Some concern over going to paper ballots but not with the equipment itself.

Describe any feedback (positive or negative) received from voters about the system. This was our first election going to all paper ballots. Some voters loved it, but some also were not happy with the change.

Do you feel like you have gotten your money's worth for the system? So far, we are happy with the system.

Would you recommend this system for use in other jurisdictions? Yes

DS950®

High-Speed Scanner and Tabulator

No Rescanning

If scanning is interrupted, there's no need to rescan all the ballots. Green lights indicate a ballot has been tabulated and red lights indicate it has not been tabulated.

Less Adjudication

Intelligent Mark Recognition (IMR®) and Positive Target Recognition & Alignment Compensation (PTRAC®) technologies reduce the number of ballots requiring time-consuming manual adjudication.

Easy to Use

Touch-screen interface walks the user through the tabulation process step by step. Monitor position is adjustable for different heights and convenient storage.

Superior Ballot Feeding

Smart Pick technology auto-adjusts reverse belt tension reducing the opportunity for misfeeds.

Customizable, Full-Speed Sorting

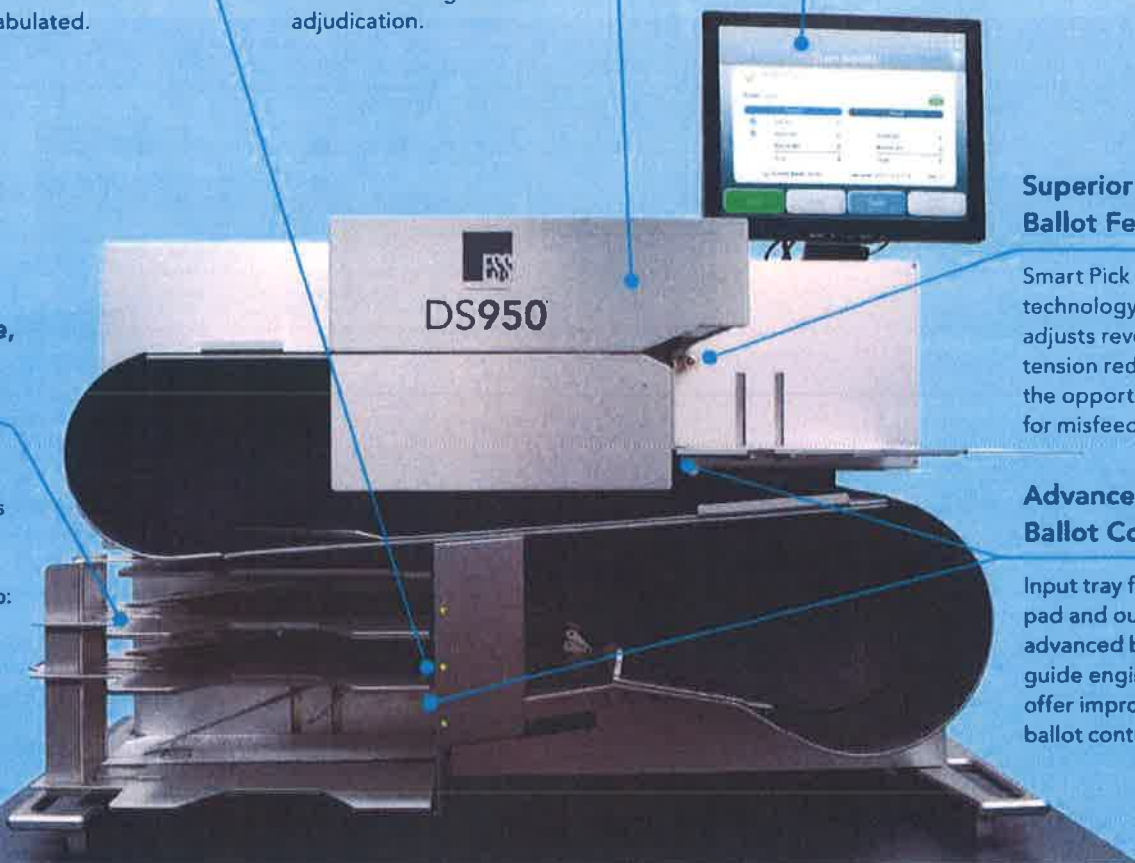No scanning interruptions for damaged ballots or ballots with exceptions.
Sorts ballots into:

- Requires further review
- Write-ins
- Counted

Advanced Ballot Control

Input tray friction pad and output tray advanced ballot guide engineering offer improved ballot control.
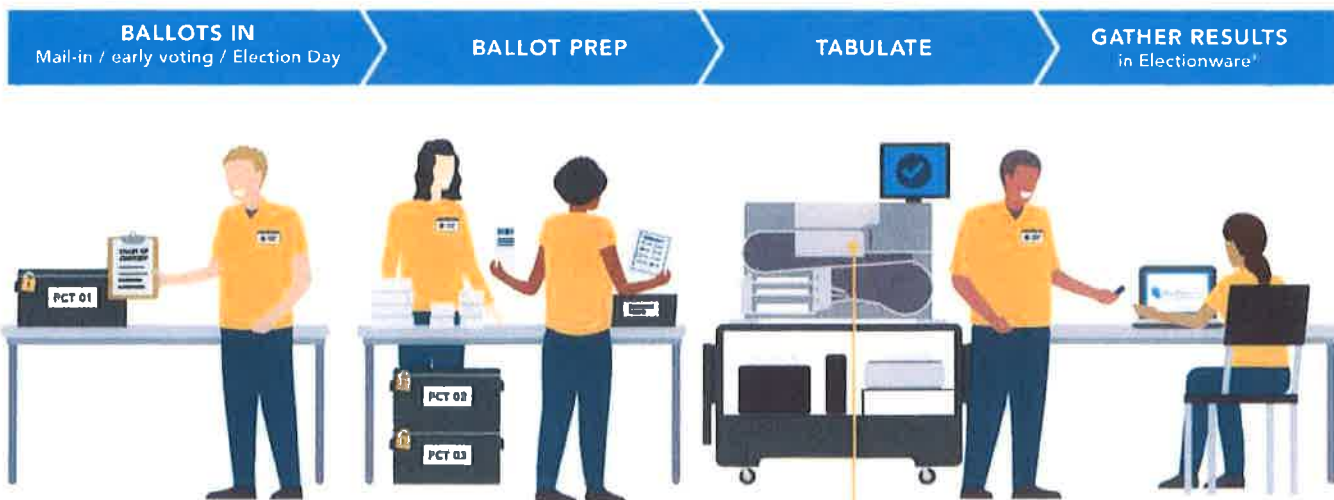
DS950

Complete Ballot Control From Start to Finish

Let the DS950 handle scanning, separating and sorting ballots all without missing a beat. All ES&S tabulators scan ballots in any orientation – no need to make sure ballots are face up and top edge first before scanning.

PROCESS MORE BALLOTS IN LESS TIME

BALLOTS IN Mail-in / early voting / Election Day	BALLOT PREP	TABULATE	GATHER RESULTS in Electionware®

WHAT YOU **DON'T** GET WITH COMMERCIAL-OFF-THE-SHELF (COTS) TABULATORS:

- **Purpose-built equipment.** Election experts designed ES&S tabulators specifically for elections.

- **No scanning interruptions.** ES&S tabulators scan and tabulate previously folded and damaged ballots.

- **Customizable sorting.** ES&S tabulators allow for user-definable, real-time sorting, including both physical and digital ballot management.

- **Longer product life.** ES&S products are engineered with industrial-grade components, ensuring a 5-7 year production and service parts supply. Our parts manufacturers are dedicated to maintaining form, fit and functional equivalents when an inevitable change comes. This allows ES&S to support our products typically 10+ years.

280
14-inch flat ballots
processed per minute

SECURITY YOU CAN COUNT ON®

The DS950 offers so many security features, we couldn't include them all here. To learn more about the great lengths we go to protect our systems and data, visit **essvote.com/feature/security.**

YOUR COMPLETE VOTING SOLUTION

ExpressPoll® + **ExpressVote® Printer** + **ExpressVote®** + **DS200®**
Electronic Pollbook   Activation Card Printer   Universal Voting System   Precinct Scanner and Tabulator

A complete solution for early voting, vote centers and in-person absentee environments.
This solution provides an unbeatable experience for voters and poll workers.

1. Check in
ExpressPoll finds the voter in the electronic pollbook, identifies the voter's correct ballot style and sends the information to the ExpressVote Printer.

2. Receive ballot
The voter's correct ballot style is printed onto an ExpressVote activation card that is then given to the voter.

3. Vote
The voter inserts the card into the ExpressVote to make her selections.

4. Tabulate
She reviews her selections on her printed card. Once she's satisfied with her selections, she inserts the card into the DS200

DID YOU KNOW?
The ExpressVote can present up to 15,000 different ballot styles.

The ExpressVote Printer prints the voter's ballot style onto an activation card.

When the card is inserted into the ExpressVote, it automatically displays the contests for the voter's specific ballot style.

ExpressPoll + ExpressVote Printer
- Increases the accuracy of voters' personal information by finding them by name, DOB or voter ID.
- Reduces waiting time for voters by quickly seeing if a ballot has been issued for a voter.
- Identifies the correct ballot style specific to the voter's party and precinct.
- Eliminates ballot picking and pulling and reduces paper ballot inventory by printing the voter's ballot style onto an activation card.
- Shares real-time data with the ExpressPoll Connect, a web application that allows election administrators to monitor polling locations and proactively address issues.

ExpressVote + DS200
- Produces an independent voter-verifiable paper record.
- Reduces costs by eliminating the need for traditional pre-printed paper ballots.
- Eliminates unclear marks and the need for voter mark interpretation.
- Stores each voter-verifiable paper record once it is cast.

ExpressVote®

Universal Voting System

Easier-to-Read Ballots

Visual aids include high contrast and zoom functionality.

Avoids Overvoting

The intuitive interface also alerts voters of ballot exceptions, like undervotes.

Multilingual

Supports any language in audio and 12+ in text.

ExpressVote

1 Insert Card

2 Touch Selections

3 Verify Selections

Page 1 of 1   Review Selections

Simple Activation

The voter inserts a card to activate the voting session. After voting is complete, the vote summary card is dispensed for voter review.

ADA-Friendly

Audio-tactile keypad enables voters to control audio and navigate the ballot. The front access panel (above) features a headphone jack and a port for a sip-and-puff device or two-position rocker switch.

An Accessible System with a Voter-Verifiable Paper Record

The ExpressVote is a reliable, secure and efficient system for election officials and their staff, poll workers and voters. The paper-based ExpressVote combines touch-screen voting technology with an integrated thermal printer to produce a paper record for tabulation.

ExpressVote® Universal Voting System

EASY ELECTION MANAGEMENT

- Reduces costs by eliminating the need for printing and storing traditional pre-printed paper ballots.
- Simplifies post-election management because there are no unclear marks to adjudicate. Voters are prompted in real-time to address over/undervotes.
- Produces a voter-verifiable paper record that is scanned, tabulated and saved for auditing purposes.
- Maximizes your investment as it can be used many ways — in precincts and vote centers, during early voting and on Election Day.

POLL WORKERS LOVE IT

- Shorter Election Day for poll workers — six steps to open and two to close so they don't need to arrive as early or stay as late.
- Small, lightweight and easy to move and store.
- No ink to replace on Election Day.

A GREAT EXPERIENCE FOR VOTERS

- Enables all eligible voters to make their selections privately and independently. It is a fully compliant Americans with Disabilities Act (ADA) voting solution.
- Improves voter confidence because the interface prompts them if they've under/overvoted a contest.
- Provides voters the opportunity to review their selections twice before tabulation — on the summary screen and on the printed card.

SECURITY YOU CAN COUNT ON®

The ExpressVote offers so many security features, we couldn't include them all here. To learn more about the great lengths we go to protect our systems and data, visit **essvote.com/feature/security**.

> **Canvass and hand count went very smoothly; that ballot was easy to read and easy to determine the voter's intent. No overvotes."**
>
> VERA MCCORMICK,
> KANAWHA, WEST VIRGINIA, COUNTY CLERK

SPECIFICATIONS

Ballot style capacity: Up to 15,000

Languages supported: Any language in audio and 12+ in text

Assistive devices supported: Headphones, audio-tactile keypad, rocker switch device, sip-and-puff device

Dimensions (H x W x D):

Operational - 16" x 20" x 17"

Stored - 17" x 20" x 5"

Weight: 25 pounds

Battery backup: 2-4 hours

DS200®

Precinct Scanner & Tabulator

Protective Cover

Cover has heavy-duty rubber seal to shelter DS200 from elements during transport.

Easy to Set Up

Lid-up, power-on approach allows poll workers to easily open polls.

Touch-Screen Display

Provides voters with instructions and immediate feedback. Tension bearings hold screen in place for custom positioning.

Ballot/Card Slot

Voters cast both ballots and vote summary cards here; accommodates up to 19-inch ballots.

Auxiliary Ballot Compartment

Main Ballot Compartment

Easy, hassle-free storage of up to 3,500 ballots.

Enhanced Voting Experience

The DS200 is a precinct-based scanner and vote tabulator equipped with the latest in ES&S' patented technology. Fully certified and compliant with EAC guidelines, the DS200 enhances the voting experience for voters and election officials alike. Our patented Intelligent Mark Recognition (IMR®) and patented Positive Target Recognition & Alignment Compensation (PTRAC®) technologies ensure even the most poorly marked ballots are read accurately and consistently — protecting voter intent. All of this is designed to make everyone's job easier.

11 14-inch flat ballots processed per minute

ACCURATE

The DS200 combines the ES&S-patented IMR® and PTRAC® systems to accurately track and pinpoint target locations. This technology accommodates ballots inserted at angles or with erroneous marks to uphold voter intent. This precision improves the reliability of elections.

RELIABLE

Having both battery backup and thermal paper means you never have to worry about power outages or printer ink. The DS200 includes redundant data storage.

SECURE

Like all ES&S tabulation equipment, the DS200 includes physical security features such as locking panels and security seals to secure sensitive components and election files, and a key-locked case for transport and shipping. The DS200 operating system controls, limits and detects unauthorized access to all critical data. The system also includes safeguards, such as data encryption and digital signatures, that help protect sensitive data and verify authenticity, including certification of all firmware.

COMPATIBLE

Works in conjunction with:
- ExpressVote® Universal Voting System
- DS450® High-Throughput Scanner & Tabulator
- DS850® High-Speed Scanner & Tabulator
- DS950® High-Speed Scanner & Tabulator
- Electionware® Election Management Software
- AutoMARK® Ballot Marking Device
- Election Reporting Manager®

The election yesterday went so well, I hugged my DS200 at the end of the night."

ANNETTE STASHEK, VILLAGE CLERK FOR THE VILLAGE OF WHITING, WI

DS450®

High-Throughput Scanner and Tabulator

Less Adjudication

Intelligent Mark Recognition (IMR®) and Positive Target Recognition & Alignment Compensation (PTRAC®) technologies reduce the number of ballots requiring time-consuming manual adjudication.

No Rescanning

If scanning is interrupted, there's no need to rescan all the ballots. Green lights indicate a ballot has been tabulated and red lights indicate it has not been tabulated.

Efficient Ballot Transport Control

Tru-Grip™ rollers ensure ballots are pulled one at a time, preventing scanning interruptions. Unfolded ballots are no problem!

Easy to Use

Touch-screen interface walks the user through the tabulation process step-by-step.

Customizable, Full-Speed Sorting

No scanning interruptions for damaged ballots or ballots with exceptions. Sorts ballots into:

· Requires further review
· Write-ins
· Counted

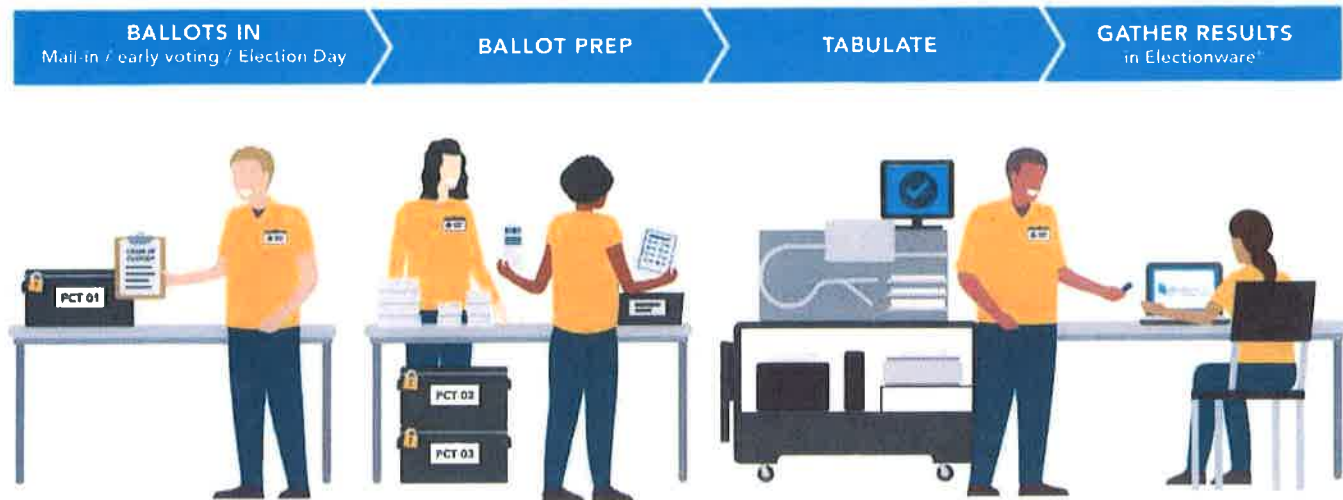## Complete Ballot Control From Start to Finish

Let the DS450 handle scanning, separating and sorting ballots all without missing a beat. All ES&S tabulators scan ballots in any orientation – no need to make sure ballots are face up and top edge first before scanning.

72 14-inch flat ballots processed per minute

PROCESS MORE BALLOTS IN LESS TIME

BALLOTS IN Mail-in / early voting / Election Day	BALLOT PREP	TABULATE	GATHER RESULTS in Electionware

WHAT YOU **DON'T** GET WITH COMMERCIAL-OFF-THE-SHELF (COTS) TABULATORS:

- **Purpose-built equipment.** Election experts designed ES&S tabulators specifically for elections.
- **No scanning interruptions.** ES&S tabulators scan and tabulate previously folded and damaged ballots.
- **Customizable sorting.** ES&S tabulators allow for user-definable, real-time sorting, including both physical and digital ballot management.
- **Longer product life.** ES&S products are engineered with industrial-grade components, ensuring a 5-7 year production and service parts supply. Our parts manufacturers are dedicated to maintaining form, fit and functional equivalents when an inevitable change comes. This allows ES&S to support our products typically 10+ years.

SECURITY YOU CAN COUNT ON®

The DS450 offers so many security features, we couldn't include them all here. To learn more about the great lengths we go to protect our systems and data, visit **essvote.com/feature/security**.

> **Our machines were humming along like a choir on Christmas Eve ... It was incredible to watch."**
> BRIAN KRUSE, ELECTION COMMISSIONER
> DOUGLAS COUNTY, NEBRASKA

DS850®

High-Speed Scanner and Tabulator

Patented IMR® and PTRAC®

IMR® and PTRAC® technologies provide unparalleled accuracy that reduces time-consuming manual ballot adjudication.

S-Curve

Patented design enables lightning quick scanning and smooth ballot flow.

Output Bins

Sorts ballots into:

- Requires further review
- Write-ins
- Counted

TruGrip™ Rollers

Provides constant contact, ensuring each ballot - even those folded or damaged - are individually processed.

Touch Screen Display

Walks the operator through every step of the tabulation process.
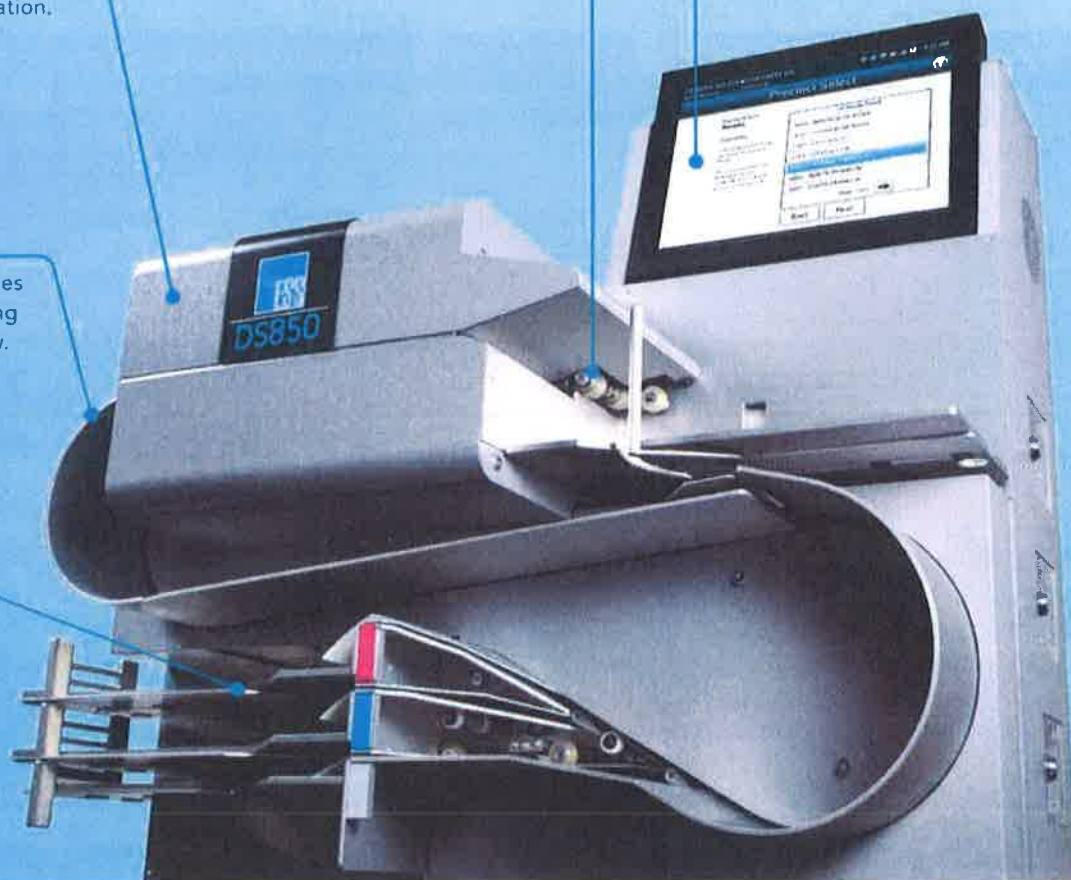
The Fastest Central Scanner in the Election Industry

Your elections require a centralized vote scanner and tabulator that is quick and accurate. With its high-speed digital image processing, the DS850 continuously scans ballots to save you valuable time when tabulating election results.

SECURE

System integrity and electronic audits make the DS850 part of the most dependable family of central vote scanners and tabulators on the market. Safeguards, such as data encryption and digital signatures, help protect sensitive data and verify authenticity, including certification of firmware.

ACCURATE

ES&S' patented IMR® and PTRAC® technology ensures that ballots are read accurately and consistently, protecting voter intent and eliminating manual adjudication time.

USER-FRIENDLY

Designed specifically for the election process, the DS850 features a user-friendly software interface on a 15-inch LCD color touch screen. The S-shaped transporter allows for a natural flow, creating separation between individual ballots.

FOLDED BALLOT PROCESSING

The DS850 is designed with a series of TruGrip™ rollers, which maintain constant contact with the ballot surface, ensuring quality control throughout the entire tabulation process.

HIGH-SPEED SORTING

The DS850 is the only high-speed scanner in the marketplace that can sort various ballot sizes at full speed. It scans and sorts 14-inch double-sided ballots at 300 per minute into three output bins, separating ballots into three categories: counted, requires further review, and write-ins.

300
14-inch flat ballots
processed per minute

Electionware®

Election Management Software

Build Elections in Less Time

Easy workflow enables end-to-end election management, from data capture, ballot layout and configuring equipment to loading and reporting results.

Find Answers Easily

Interactive, comprehensive Quick Help, available in all areas of Electionware, empowers election administrators to easily find answers to common questions.
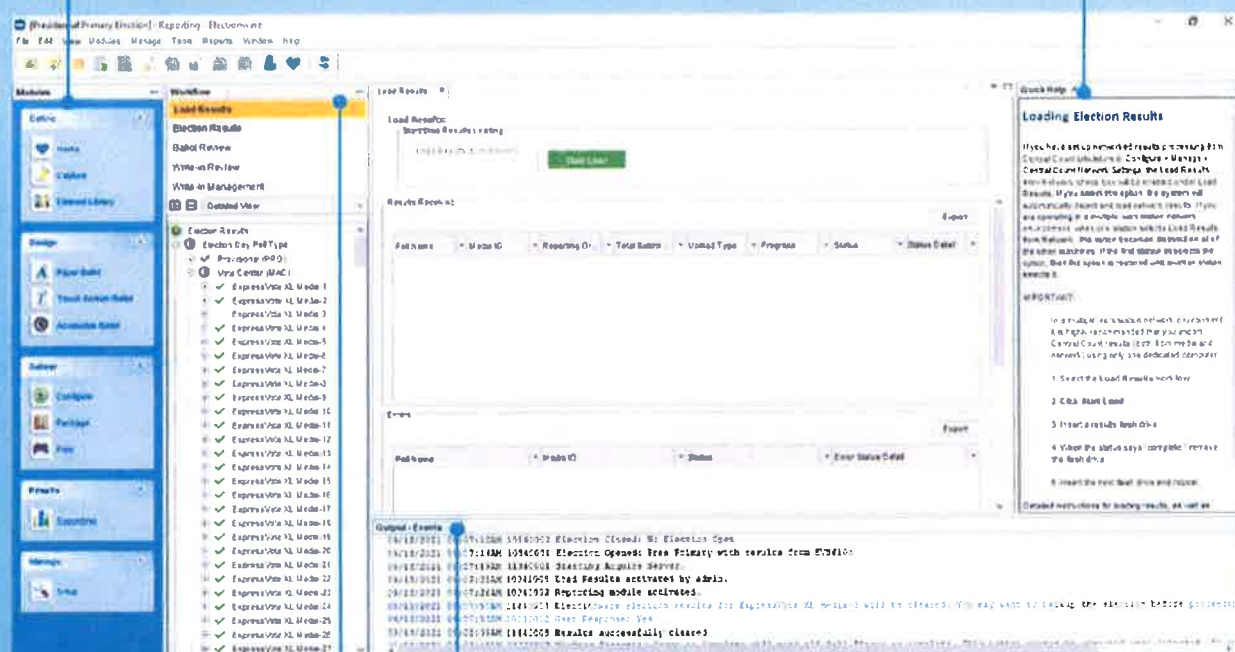
Ensure Consistent Data

Intuitive Navigator toolbar helps users organize their work and see data quickly.

Create Error-free Elections

Flexible and powerful election management software guides users through creating the election, ensuring that all election data, security codes and machine settings are added correctly to the election definition.

Easy to Master

Jurisdictions of all sizes can manage their elections through Electionware's easy-to-understand, user-friendly interface. You'll get the knack of the software in no time because the design is based on actual election workflow, making it easy to learn and navigate. The software accommodates early and overseas voting, ADA compliance, ballot adjudication and election night reporting.

WHAT'S IN IT FOR ELECTION OFFICIALS?

- **Power.** Manages thousands of ballot styles and precincts; incorporates many languages; manages and deploys multiple levels of security.

- **Intelligence.** Real-time election data queries and reports; workflow management and error alerts; enforced data accuracy; user customization; tracking of election media; helpful status indicators for incoming results.

- **Productivity.** Fast data import; reuse of election and ballot layout templates; simple translation and audio file management; multiple simultaneous users; ballot image filtering, viewing and printing.

Work Simultaneously
Electionware's multi-user functionality allows multiple authorized election personnel on a closed-network system to prepare precinct flash drives simultaneously or load results while running reports, even on different elections.

Ensure Electionwide Uniformity and Compliance
Electionware uses one database for multiple equipment types, manages nearly 15,000 ballot styles and precincts, supports numerous languages and manages and deploys multiple levels of security configurable to jurisdiction requirements.

5 COMPREHENSIVE ELECTION MANAGEMENT SOFTWARE GROUPS

Electionware gives election administrators the software tools needed to:

- **Create elections**
- **Design ballots**
- **Configure digital tabulation and accessible equipment**
- **Manage election results data**
- **Generate custom results reports**

These tasks are coordinated through Electionware's five software groups, each representing a stage of the election process.

Each group includes modules that handle specific functions for setting up an election and processing results — all of which can be configured.

DEFINE	• Capture contests, candidate and proposition information • Import data (precincts, candidates)
DESIGN	• Design paper ballots • Lay out touch-screen ballots to display single or multiple contests per screen • Configure accessibility settings
DELIVER	• Set equipment access and configurations • Package data onto flash drives for use with equipment and ES&S pollbooks • Print ballots on demand with ES&S BOD
RESULTS	• Load election results • Adjudicate ballots and organize write-ins • Filter information and generate reports
MANAGE	• Control user access • Set security code complexity

ELECTION
Systems & Software

Adjudication Solutions
Ensuring the Integrity of Elections

ES&S' systems provide election administrators with simple, proven and secure auto and electronic adjudication functionality, helping ensure timely election night results reporting. Our tabulators' auto-adjudication functionality increases the accuracy of mark recognition, and our election management software's electronic adjudication functionality streamlines the adjudication process while protecting voter intent.

AUTO ADJUDICATION: IMR® and PTRAC® Technology

ES&S' patented Intelligent Mark Recognition (IMR) and Positive Target Recognition & Alignment Compensation (PTRAC) technology is built into every ES&S DS200, DS450 and DS850 scanner and tabulator.

LIKE A HEAT-SEEKING MISSILE

Sophisticated image-processing algorithms use ballot timing marks to quickly create an evaluation window for each oval in a contest. Because ballots can skew, stretch, crumple, etc., PTRAC searches for the ovals containing voter selections, moving the ballot image as necessary.

LET THE SYSTEM DO THE WORK

IMR and PTRAC compensates for variations in ballot printing. The system leaves just the voter's marks visible — their intent now apparent for all.

PTRAC OVAL MASKING TECHNOLOGY

Finding the exact center of the oval and removing the oval outline is crucial in dealing with printed ballots. PTRAC "hides" the oval so the scanner only focuses on the voter's mark and determines intent with extraordinary accuracy.

1. PTRAC performs a series of "hunting" steps, locating the oval exactly for a contest in the scanning window.

2. It then detects the exact center of the oval and adjusts the image.

**3.** The oval perimeter line is then digitally removed, leaving just the voter's marks.

IMR RECOGNIZES REAL-WORLD VOTER MARKS

IMR recognizes the most common non-traditional voter marks (such as X's, checkmarks, diagonal slashes and horizontal slashes). Because it considers not just pixel count, but also the shape of each mark, it can determine a marking pattern and the voter's intent, and not get fooled by unclear marks such as smudges or stains.

President	Board
Vote for One	Vote fo
○ Andy Andrews	● Ju
● Betsy Brown	○ Kd
✗ Cara-Craig	○ Li

ELECTRONIC ADJUDICATION: Electionware®

ES&S' election management software, Electionware, functions as an intuitive tool to make the ballot review and adjudication process streamlined — saving time and resources while accurately accessing and protecting voter intent. Electionware's Reporting module allows an adjudication team to review images of ballots including exceptions like overvotes, undervotes, unclear marks, blank ballots and write-ins. The functionality is so intuitive it requires minimal training.
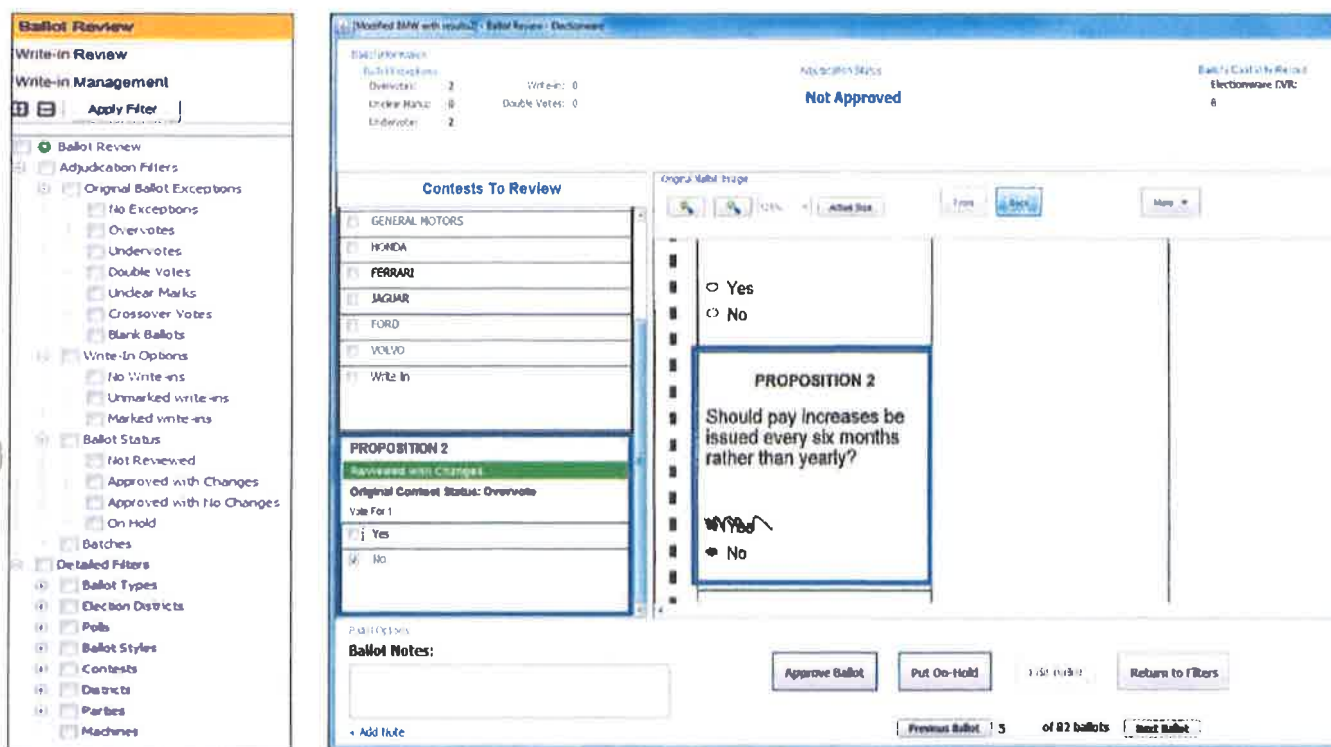
ELECTIONWARE USERS CAN:

- View the ballot image side-by-side with the cast vote record (CVR).
- Easily find exceptions, move through contests, and determine what was changed compared to how the ballot was originally counted.
- Zoom into areas of ballot images, print and save them.
- Update a ballot's status during the adjudication process (not reviewed, reviewed with changes, reviewed with no changes, on hold).
- Easily match a physical ballot with the on-screen image.

REVIEW WRITE-INS MORE EASILY

Many of the Reporting module features are specifically aimed at simplifying the write-in review process. These features give users the ability to:

- View a digital image of write-ins to assign to write-in candidate names programmed in the system. This can be done individually or in batches using the Bulk Edit feature.
- Filter ballots by contest, precinct, poll, device type and ballot style.
- Use write-in candidate names set in the system and add write-in candidates on the fly.
- Run reports that summarize all write-in assignments. These reports include the digital image of the write-ins.

EXPRESSVOTE SUMMARY CARD
HAND-MARKED BALLOT COMPARISON

HOW BALLOTS ARE READ

The ExpressVote Universal Voting System utilizes touch-screen technology that produces a paper record for tabulation, which includes both human- (text) and machine- (barcode) readable voter selections.

Vote selections are marked via the ExpressVote — *the ExpressVote as a marker does not count, store or tabulate votes.*

Candidate Selection Barcodes

Each Candidate Selection Barcode Maps to Corresponding Oval Position on Paper Ballot

The master barcode tells the unit how many selections there are to count and therefore, if a barcode is damaged and cannot be read, it will notify the voter and will never skip the selection.

Whether a tabulator scans a hand-marked paper ballot or an ExpressVote summary card, the machine-readable code channel and marked voting target on the hand-marked ballot and the barcodes on the ExpressVote summary card are what the scanner uses to tabulate the vote.

HOW DO YOU TEST FOR ACCURACY?

Prior to an election, election administrators perform Logic and Accuracy (L&A) testing on their ballot tabulators. L&A Testing is a collection of pre-election procedures that ensure that a tabulator used in an upcoming election can accurately tabulate results. Testing is performed by feeding an audited stack of pre-marked ballots through the tabulator, comparing the resultant totals to the expected test deck totals. Often times these tests are conducted in such a way as to make public observation of the procedures and results possible.

Just as hand-marked paper ballots can be inspected or audited by hand or by machine, the ExpressVote summary card can also be audited by hand or by machine.

HOW ARE BALLOTS READ?

Machine-readable components are areas of the ballot where scanners recognize and record marks (such as voting targets and code boxes). Below is a description of how the row and column marks and code channel are used to define specific ballot styles that in turn relate to oval positions and candidates. These are replaced by the single barcode on an ExpressVote summary card:

Voting Targets (Ovals) – A voting target is an oval that appears next to each candidate name (or referendum response). Voting targets are marked by the voter to indicate selection. Properly printed ovals are invisible to optical sensors.

Row and Column Marks – The row and column marks are the black squares around the edges of the ballot used by the digital scanner to locate the voting targets. Each row and column mark represent a position that could potentially contain an oval.

Code Channel – These are small extensions to certain row marks that act like a bar code to tell the scanner the precinct, type, split, and style of the ballot.

BMW DEMO BALLOT
COUNTY NAME, STATE
ELECTION DATE
Precinct Two SPLIT 1
BMW (English Only) DEMO

INSTRUCTIONS TO VOTERS: To vote; complete the oval to the LEFT of your choice, like this vote, complete the oval to the LEFT of the blank space provided and print the candidate's information refer to the card of instructions posted in the voting booth. If you tear, soil, a ballot, return it the Election Judge and obtain another.

BEST AUTOMOBILE MANUFACTURER Vote for One	BEST VOCAL ARTIST Vote for no more than Two	B
○ BMW	○ FRANK SINATRA	● C
○ MERCEDES	○ ELVIS	○ S
○ GENERAL MOTORS	○ PATSY CLINE	○ V
○ HONDA	○ JANIS JOPLIN	
○ FERRARI	○ BUDDY HOLLY	
○ JAGUAR	○ BARRY WHITE	

KEY

Row and column marks	Ballot text
Code channel	○ Voting target

Elections in America BY THE NUMBERS

More than 10,000 elections are held in an average year in the U.S.

On any given Tuesday — or other days of the week — there is an election being held somewhere in the U.S. And elections are not one-day events — they are processes that involve significant preparation by many dedicated people.

WHY SO MANY ELECTIONS?

There are more than **half a million** elected officials in the U.S.! Let's add it up...

2
President and Vice President

100 Senators

435 Representatives

50 State governors

~7,000 State legislators[1]

3,000+ counties and **19,000+** cities and towns[2]

All have some form of elected leadership, including:

- County executives
- County council members
- Mayors
- City council members
- Judges
- School board members

ELECTIONS ARE DIFFERENT FROM PLACE TO PLACE

There are more than **8,000** jurisdictions with different systems and methods of voting, including:

VOTE HERE	VOTED	Absentee	Two-round	Ranked	With a	With	With assistive
In person at a polling place	In person at a vote center	Absentee & vote by mail	Two-round runoff	Ranked choice	With a touch screen	With a pen	With assistive technology

ELECTIONS ARE LOCAL

Each state has a chief election authority

Elections are usually administered at the county level.

Election officials are responsible for:

- Overseeing voter registration
- **Preparing the ballots**
- **Managing polling locations**
- Distributing voting machines

- Ensuring the accessibility, **integrity** and efficiency of the voting process
- Many other tasks that help ensure elections run smoothly!

States are required to send absentee ballots to uniformed service members residing outside the U.S.

45 days prior to **Election Day**[3]

230,000+ polling places and **637,713** poll workers on Election Day 2018[4]

76% of states require audits[1] to ensure that established election procedures were followed in polling places

100% of states have a plan for conducting recounts[4] to ensure that ballots were counted correctly

HOW ES&S VOTING SYSTEMS ARE AUDITED

To ensure all votes are counted as cast, a post-election audit measures the performance and accuracy of voting equipment. Audits are conducted by checking paper ballots and records against originally recorded election results.

AUDITABLE PAPER

All voter-verified paper records are auditable – including hand-marked paper ballots and ballot cards like the ExpressVote card.

Audits can be conducted manually (by hand), or via scanners.

ES&S VOTING SYSTEMS ARE FULLY AUDITABLE.

From the moment a voter marks their ballot to the moment they cast their vote, **patented mark-recognition technology built into every ES&S scanner and tabulator helps ensure voter intent is accurately captured.**

AUDITING PROCESS

Hand-marked or ExpressVote card, the process is the same. During a manual audit, **the name next to the marked oval** on a hand-marked ballot and **the name printed on the ballot card** are checked against election results.

HOW DO POST-ELECTION AUDITS WORK?

Audits happen all over the U.S. Each state has its own laws and requirements regarding the frequency, type and extent of its post-election audits.

FIXED-PERCENTAGE AUDIT

Traditionally, a fixed-percentage audit **samples the same percentage of precincts or batches regardless of the election outcome,** but some states sample more or fewer depending on the margin of victory.

If the audit count differs from the election outcome by more than an acceptable percentage, additional precincts or batches are audited.

RISK-LIMITING AUDIT

A risk-limiting audit is a **review of ballots randomly selected from all ballots cast and compared to their tabulation records**.

Auditors use a pre-set risk limit, the total number of ballots cast, the contest's margin of victory and other factors to determine how many ballots to include in the audit sample.

Ballots are checked manually until the election results are confirmed.

PROCEDURAL AUDIT

Some states perform procedural audits, or **checks of election processes.**

Procedural audits can include a review of chain of custody for equipment and paper, ballot accounting and reconciliation and confirmation of adherance to procedures.

## WHY DO AUDITS MATTER?

✓ TIMELY

✓ TRANSPARENT

✓ INDEPENDENT

✓ COMPREHENSIVE

Above all, post-election audits confirm the election outcome, increasing voter confidence in election results. They're an important part of election processes nationwide.

A good post-election audit takes steps to ensure the audit results are accurate and trustworthy.

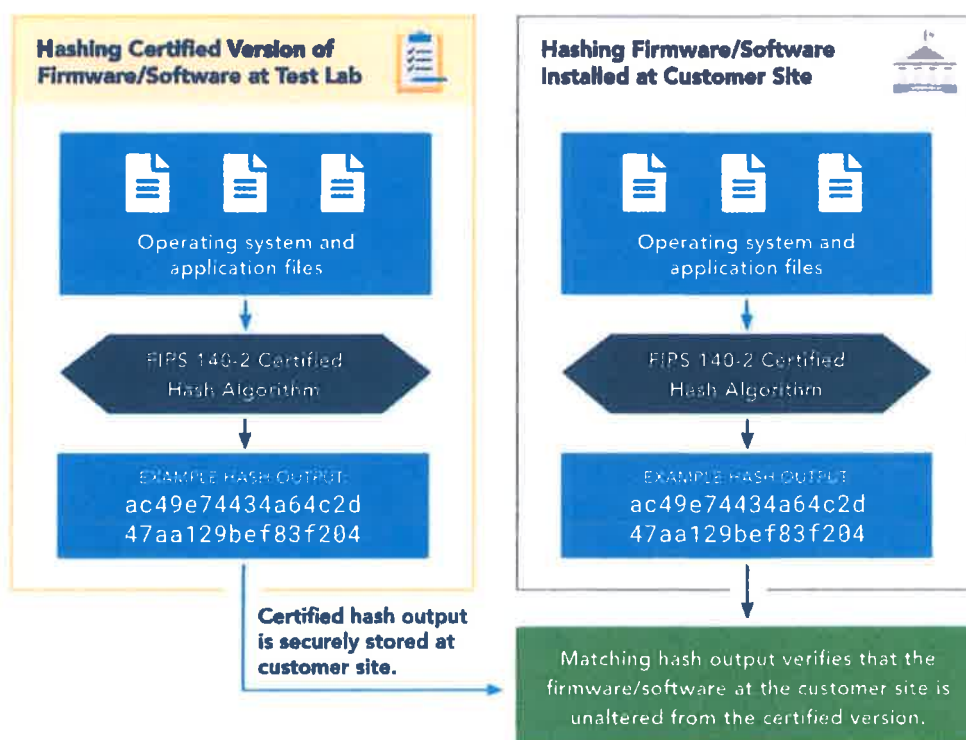The number of states* requiring post-election audits has nearly doubled since 2008.

38

22

2008   2012   2016   2020

ELECTION Systems & Software
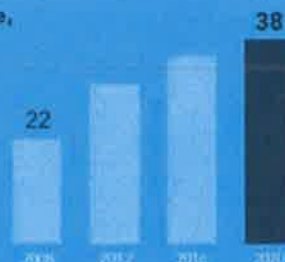
How It Works: Hash Validation

ELECTION
Systems & Software

WHAT IS HASH VALIDATION?

Hash validation is designed to ensure data integrity. It is an independent check and validation that verifies installed firmware and/or software exactly matches the version of the firmware and/or software that has been tested and approved both at the federal and state level. In voting systems, this verification method must be tested by an accredited voting system test laboratory (VSTL) and certified by the U.S. Election Assistance Commission (EAC).

HIGH-LEVEL EXAMPLE OF HOW THE VALIDATION PROCESS WORKS

Hashing Certified Version of Firmware/Software at Test Lab

Operating system and application files

FIPS 140-2 Certified Hash Algorithm

EXAMPLE HASH OUTPUT:
ac49e74434a64c2d
47aa129bef83f204

Certified hash output is securely stored at customer site.

Hashing Firmware/Software Installed at Customer Site

Operating system and application files

FIPS 140-2 Certified Hash Algorithm

EXAMPLE HASH OUTPUT:
ac49e74434a64c2d
47aa129bef83f204

Matching hash output verifies that the firmware/software at the customer site is unaltered from the certified version.

WHY IS HASH VALIDATION IMPORTANT?

Hash validation provides an integrity check to verify the firmware and/or software installed is the certified version(s). Hash validation, effective chain of custody procedures, logic and accuracy testing and physical security measures are essential to conducting a transparent and trustworthy election.

HOW DOES ES&S SUPPORT HASH VALIDATION?

In jurisdictions where hash validation is required or used, it is standard procedure for jurisdictions to perform the process independently. ES&S provides procedures within the Technical Data Package certified with all voting system releases to assist the user in verifying that the correct firmware and/or software is loaded, that unauthorized content is not present on the device and that the firmware and/or software is unaltered.

Learn more about hash validation on the U.S. Election Assistance Commission's website:
https://www.eac.gov/what-hash-validation-and-why-should-election-officials-care

How It Works:
Ovals & Barcodes

Candidate names are entered in a software application. This application generates the layout for the oval ballot on paper and for the ballot on the touch screen. It also creates the database that resides on the tabulator to record votes.

PEN WITH PAPER | TOUCH SCREEN WITH PAPER

Andy Andrews

Betsy Brown

STEP 2:
VOTER MAKES SELECTIONS

Voter makes selections by filling in the oval next to the name of the candidate.

Voter makes selections by touching the candidate's name or by using an assistive device.

STEP 3:
VOTER VERIFIES MARKED BALLOT

The voter reads the text to verify their selections.

A marked ballot is printed. The voter reads the text to verify their selections.

STEP 4:
VOTER CASTS THEIR MARKED BALLOT

Voter inserts the marked ballot into the DS200.

Voter inserts the marked ballot into the DS200.

STEP 5:
TABULATE THE BALLOT

The master barcode identifies the ballot style and contests to be tabulated.

```
DEMO COUNTY/DEMO STATE
DEMONSTRATION ELECTION
11/05/2024
PRECINCT 1, PRECINCT 1
```

PRESIDENT----------------------------------
                                    BETSY BROWN

U.S. REPRESENTATIVE DISTRICT 1---------
                                    EVAN EDWARDS

= 091511 = Betsy Brown

Column 9, Row 15, Sheet 1, Side 1 = 091511 = Betsy Brown

DS200 reads a filled oval which corresponds to the grid coordinates of the candidate's name. These grid coordinates are the same coordinates used in the barcode. The DS200 reads the grid coordinates and tabulates accordingly.

DS200 reads the barcode which contains the grid coordinates of the candidate's name. The grid coordinates in the barcode are identical to the grid coordinates on the oval ballot. The DS200 reads the grid coordinates and tabulates accordingly.

BOTTOM LINE: Ballots with ovals and ballots with barcodes are counted by the same tabulator in the same way. The human-readable text of the candidate's name appears on both ballots for voter verification and auditing purposes.

AUDITABLE, ACCURATE & ACCESSIBLE

	PEN WITH PAPER	TOUCH SCREEN WITH PAPER
Auditable by hand and machine	✓	✓
Uses barcodes for tabulation	✓	✓
Undergoes Logic and Accuracy (L&A) testing	✓	✓
Eliminates the ability to overvote		✓
Prevents voters from making unclear or partial marks		✓
Meets and exceeds ADA standards		✓

ANATOMY OF A BARCODE

Every barcode is made up of a series of digits, with each digit from 0-9 represented by black-and-white vertical bars that are scanned faster and more reliably than printed numerals.

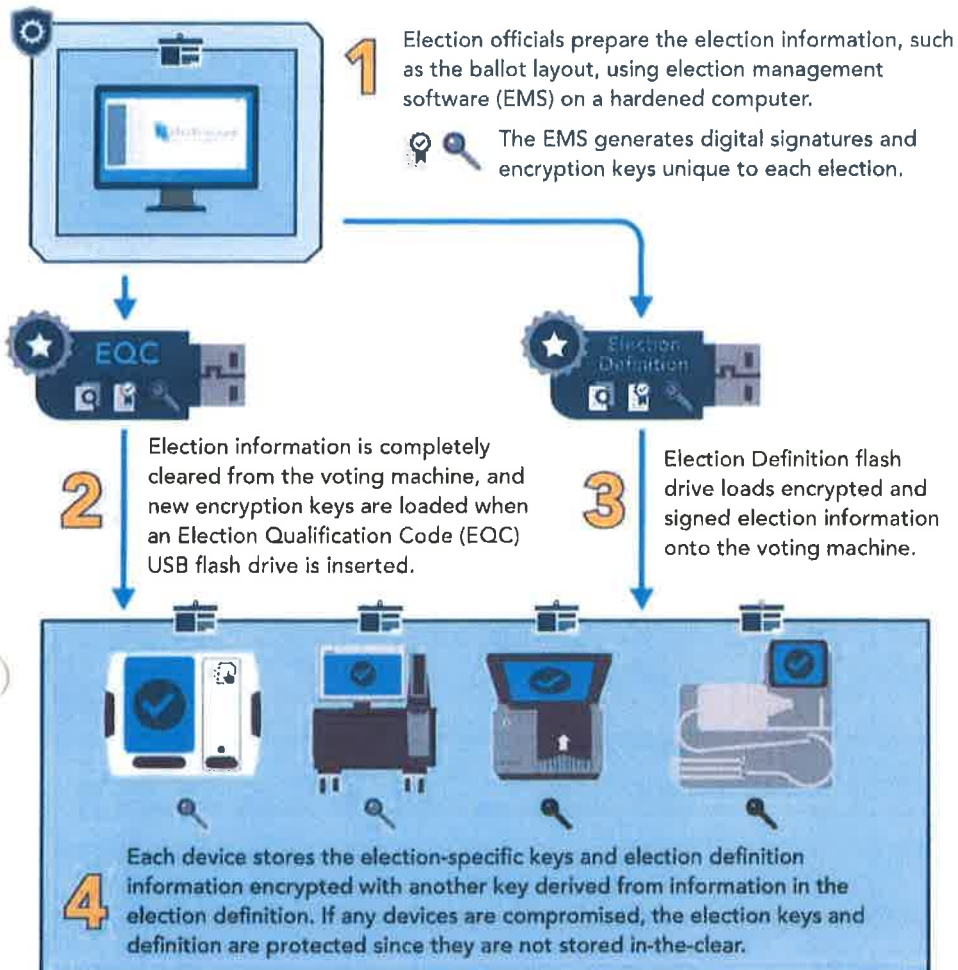0   1   2   3   4   5   6   7   8   9
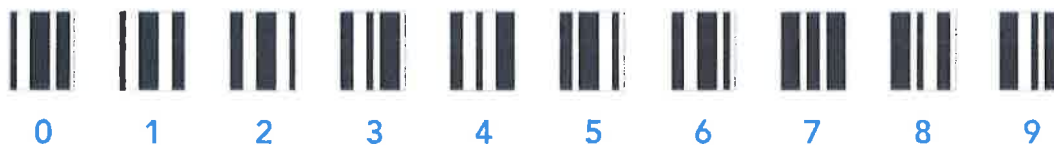
Each digit is represented by a different pattern of black or white bars, with each pattern block made up of the same total number of bars. These blocks have been designed to ensure that they accurately decode to the same number whether the barcode is scanned upside up or upside down.

7 Major Steps to Securing Elections

ELECTION Systems & Software

&S voting systems are secured along every step of the voting and vote recording process using the latest, tested, trusted technology.
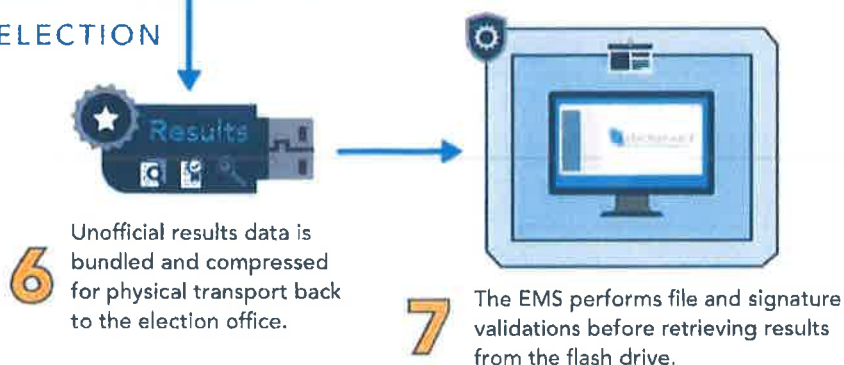
PRE-ELECTION

1 Election officials prepare the election information, such as the ballot layout, using election management software (EMS) on a hardened computer.

The EMS generates digital signatures and encryption keys unique to each election.

EQC

Election Definition

2 Election information is completely cleared from the voting machine, and new encryption keys are loaded when an Election Qualification Code (EQC) USB flash drive is inserted.

3 Election Definition flash drive loads encrypted and signed election information onto the voting machine.

4 Each device stores the election-specific keys and election definition information encrypted with another key derived from information in the election definition. If any devices are compromised, the election keys and definition are protected since they are not stored in-the-clear.

ELECTION DAY

5 All vote data is encrypted and digitally-signed — and additional hash validations occur.

POST-ELECTION

Results

6 Unofficial results data is bundled and compressed for physical transport back to the election office.

7 The EMS performs file and signature validations before retrieving results from the flash drive.

SECURITY TOOLS

Hardened System

A locked-down system used for election tasks; loaded with only essential software, reducing the channels for unauthorized access to the system.

User Access Control

Systems only allow authorized users with login credentials to perform necessary actions. All user actions are logged for auditing and review purposes.

Digital Signature

A method of confirming the origin and integrity of election data.

Encryption Keys

Used to scramble data into unreadable text. The EMS generates unique encryption keys for each election.

Certified Media

Industrial-grade USB flash drives, made in the U.S., that have been certified for use with the voting system. The EMS and voting devices will not read non-certified media.

Hash Validation

A process of verifying the integrity of data.

Testing & Accuracy

In order to earn EAC certification, voting systems must be tested for conformance to pre-established standards. Certification testing under the EAC's program can only be performed by accredited Voting System Test Labs (VSTLs), which have demonstrated technical competence to test voting systems.

CERTIFICATION TEST PROCESS

The testing generally consists of three phases:

Pre-test Activities → National Certification Testing → National Certification Report Issuance and Post-test Activities

CERTIFICATION TESTING

SOURCE CODE INSPECTION

Both manual and automated source code inspections are performed for the following types of inspections: Compliance, Functional, COTS, Security, and Build.

OPERATION ENVIRONMENTAL TESTING

Availability: This tests that equipment will respond to operational commands and accomplish the function. For example, pushing the power button will turn on or off the equipment.

Temperature and Power Variation: This procedure tests system operation, consisting of ballot-counting cycles, under varying environmental conditions for at least 163 hours.

Product Safety: This evaluates the voting system to the requirements set forth in UL-60950-1, "Safety of Information Technology."

Maintainability: The ease with which maintenance actions can be performed.

PERFORMANCE-BASED SYSTEM TESTING

Volume & Stress:
These tests investigate the voting system's response to short term overloads, such as processing atypical high volume of ballots/voters per precinct and processing more than expected number of precincts.

Logic & Accuracy:
This tests the ability of the voting system to capture, record, store, consolidate, and report the specific selections, and absence of selections, made by the voter.

> This test requires the system to correctly read **1.5 million consecutive ballot positions without error.**

System Integration:
The primary objective of this test is to validate that the voting system functions correctly when all the elements (hardware, software, documentation, etc.) are used together.

SEE ADDITIONAL TESTING ON THE NEXT PAGE

CERTIFICATION TESTING (CONTINUED)

SECURITY

Security requirements apply to the system's hardware, software and documentation. During the Security Tests, the voting system shall be tested for:

Access Control: Procedures and system capabilities that limit or detect access to critical system components in order to guard against loss of system integrity, availability, confidentiality, and accountability.

Physical Security: Measures and procedures that prevent disruption of the voting process at the polling place and corruption of data.

Software Security: Standards that address the installation of software, including firmware, in the voting system and the protection against malicious software.

USABILITY/ACCESSIBILITY

These tests focus on voters and poll workers being able to successfully interact with voting systems.

It ensures general usability with voting systems and alternative language requirements follow state or federal law.

It includes all voters, including those who have physical, sensory, or cognitive disabilities. It also assists those not usually described as having a disability, e.g., voters with poor eyesight or limited dexterity.

HARDWARE ENVIRONMENTAL TESTING

These tests simulate the stresses that voting machines and ballot counters face during storage, transport, maintenance, and repair. Tests include:

- **Bench Handling**
- **Vibration**
- **Low Temperature**
- **High Temperature**
- **Humidity**

ELECTRICAL HARDWARE TESTING

These tests demonstrate the system's ability to be able to continue operating, without damage or loss of data, while facing a range of electrical conditions:

- **Electrical Supply:** Tests the ability to operate with the electrical supply ordinarily found in polling places, central tabulation facilities, or computer room facilities.
- **Backup Power:** Tests that all voting machines are capable of operating with no interruptions for at least two hours on backup power.
- **Electrical Power Disturbances**
- **Electrical Fast Transients**
- **Lightning Surges**
- **Electrostatic Disruptions**
- **Electromagnetic Emissions**
- **Electromagnetic Fields**

PHYSICAL CONFIGURATION AUDIT (PCA)

A comparison of the voting system components submitted for testing to the manufacturer's technical specifications. It confirms that the documentation submitted meets the national certification requirements.

TECHNICAL DATA PACKAGE (TDP) REVIEW

A formal review of the documentation submitted along with the system under evaluation.

Universal Voting — Made for All

On an ES&S Universal Voting System, everyone — including those with a disability and those for whom English is not their first language — votes in the same private and independent manner.

DID YOU KNOW?

49 million Americans 21+ have a disability of some kind (22% of age group)[1]

50% of Americans 65+ have a disability of some kind[1]

Voters can select to present the ballot in a language of choice.

61 million Americans speak a language other than English[2]

Voters can switch the screen to display larger text, high-contrast colors, or both.

189 million Americans wear eyeglasses or contact lenses[3]

Voters can use assistive input devices.

Audio-tactile keypad with Braille legends

Two-position rocker switch

Sip-and-puff device

Screen prompts, symbols and audio prompts help voters navigate the voting process.

2 million Americans 15+ have a severe difficulty seeing[1]

Voters can connect headphones to listen to the ballot text.

- Voters who rely on the audio ballot can black out the screen for privacy.
- ES&S Universal Voting Systems provide audio read-back of a voter's selections from the printed ballot without requiring additional hardware.

Voting systems can be positioned for standing or seated voters.

3.6 million Americans 15+ use a wheelchair[1]

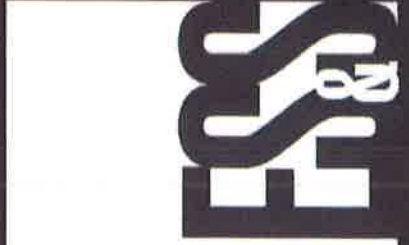**24 million** Americans 15+ have difficulty standing[1]

Tennessee State Election Commissioners Meeting

July 10, 2023

Introductions

Ben Swartz
Sr. State Certification Manager

Tim Hallett
Vice President, Certification

Chris Wlaschin
Sr. Vice President, CISO

ES&S

EVS 6.3.0.0 Agenda

Release and Product Overview → Product Enhancements Since EVS 6.1.1.0 → Final Remarks

EVS 6.3.0.0

EAC Certification: 11/17/2022

13+ State Certifications: AZ, DE, IA, ID, KS, MO, NC, NJ, OH, PA, TX, UT, VA (FL6310 and CA6302)

Pending Certifications: IN, NV, OR (NY6301)

Key Objectives Today:

- Certification of DS300 Precinct Scanner and DS950 Central Scanner
- Certify the latest release for customers who wish to update prior to 2024

Election Management System	Certified Versions (July 12, 2021) EVS 6.1.1.0	Requesting Approval EVS 6.3.0.0
ExpressVote	4.0.0.0	4.2.1.0
DS200	2.30.0.0	3.0.0.0
DS300	NA	3.0.0.0
DS450	3.4.0.0	4.2.0.0
DS850	3.4.0.0	4.2.0.0
DS950	NA	4.2.0.0

EAC CERTIFIED CERTIFIED

Product Overview

Precinct Equipment
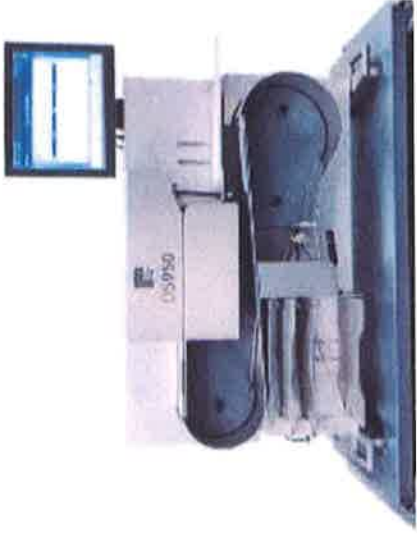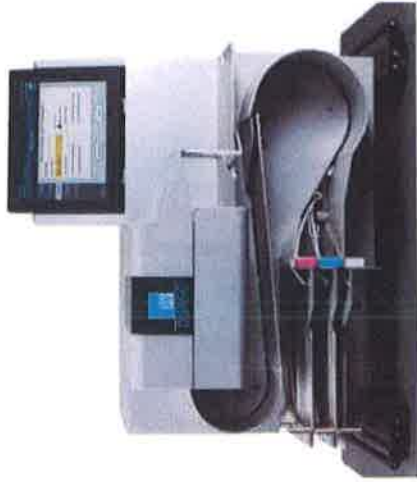
Central Scan Equipment

New Product

DS950 Central Scanner

Diagram labels:
- Adjustable touchscreen
- Ballot input tray
- Ballot transport
- USB ports
- Optional cart extensions (left and right)
- Scanner lid
- Power switch and power input
- Output bins
- Uninterruptible power supply (UPS)
- Laser printer for reports
- Lockable security doors (front and back)

Key Features:

➢ New Internal Parts – hard drive, low level boards, belts, etc.

➢ Auto adjusts reverse belt tension reducing misfeeds

➢ Approximately 280-320 ballots per minute

➢ Same menu options as 450/850
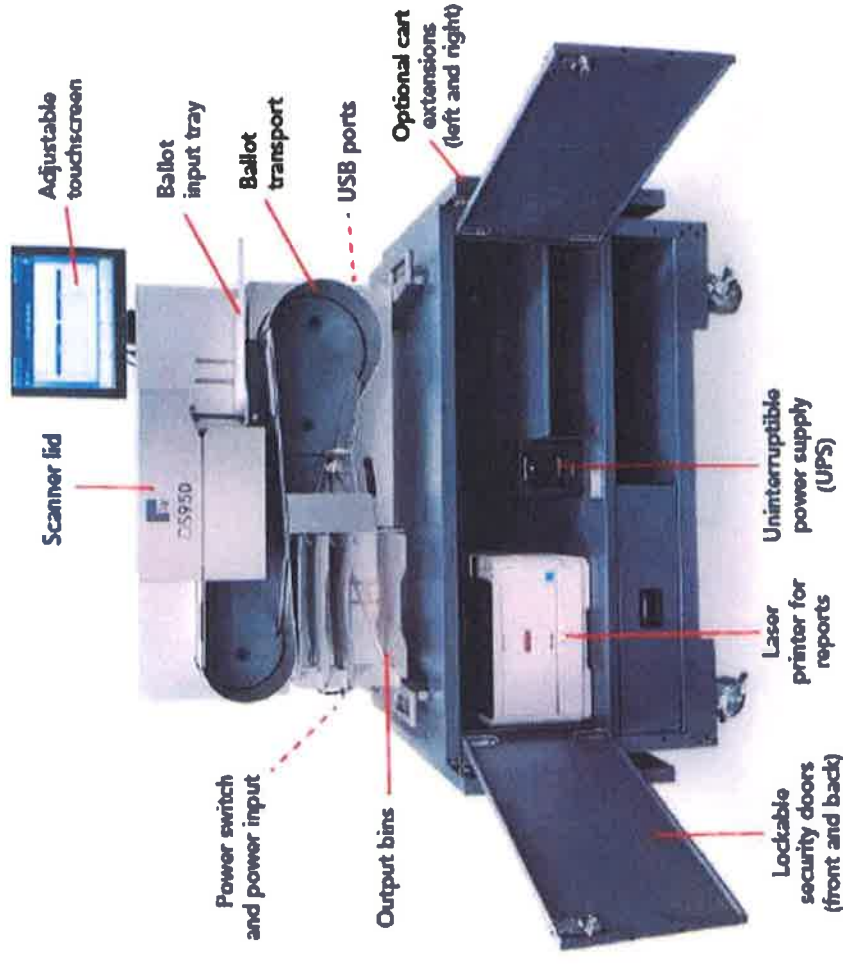
New Product

DS300 Precinct Scanner

Key Features:

➢ All new Internal Parts – printer, hard drive, low level boards, etc.

➢ Same menu structure and options as the DS200

➢ Max speed 7 ballots per minute or 420 ballots per hour

➢ RLA printer capabilities

Product Enhancements

Election Management System

➤ Routine updates to antivirus definitions, Windows OS Updates, etc.

➤ Electionware performance enhancements

Generation Times 2009 Cuyahoga Primary	EVS 6110	EVS 6300
Ballot Styles in Capture	16m 47s	6m 43s
Touchscreen Ballot	16h 5m	29m 40s
Election Summary	46s	21s
Precinct Summary	53s	20s
Custom Results Report by Ballot Style	5h18m	57s

➤ Increased capacity of USB Media

  ➤ **EVS 6110**: 512MB, 1GB, 2GB, 4GB, 8GB

  ➤ **EVS 6300**: 512MB, 1GB, 2GB, 4GB, 8GB, 16GB, 32GB, and 256GB option (256GB only for CC export)

Product Enhancements

ExpressVote Universal Voting Device

➢ Cross-out Boxes for unused candidate selection barcodes

➢ Multi-Language Vote Summary Cards

PRESIDENTIAL ELECTORS FOR PRESIDENT AND VICE PRESIDENT OF THE UNITED STATES-------------------------------------
미국 대통령 및 부통령 대통령 선거인단

DEM HILLARY CLINTON / TIMOTHY KAINE
힐러리 로드햄 클린턴/티모시 마이클 케인
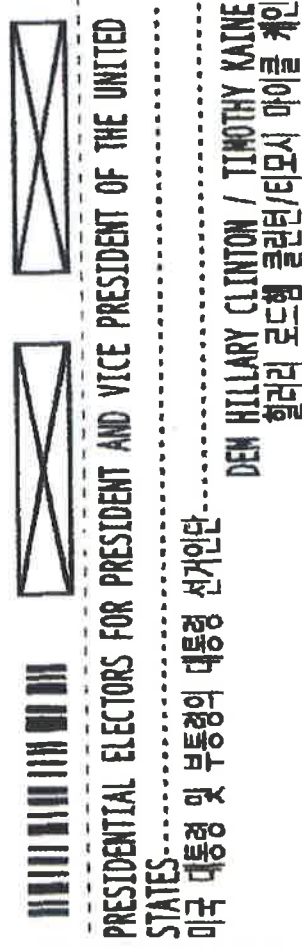
➢ Updated Timeout Workflow

➢ After the card is printed and ejected out the front, if there are 10 seconds of inactivity, the ExpressVote will beep. Previously it was 5 minutes.

Product Enhancements

ExpressVote Universal Voting Device

ExpressVote

➤ Multiple Card support – multiple page ballots could be configured to span 2 summary cards.

➤ Ability to edit 'No Selection' text on the printed summary card – used mostly for Spanish (No Selection / No Selección)

➤ Optional "Narrow" Text on the printed summary card

➤ Risk Limiting Audit Support

  ➤ Prints Audit Number onto the printed summary card

  ➤ Audit Number is saved to the Cast Vote Record (CVR) when scanned by DS200, DS300, or Central Scanner

  ➤ In Electionware, user can look-up that RLA number for manual review or export to CSV for 3rd Party use

Product Enhancements

ExpressVote Universal Voting Device

➤ Expanded the option to hide on-screen selection targets

Product Enhancements
DS200 Precinct Tabulator

DS200
SCANNER & TABULATOR

➢ Upgraded Linux OS to Yocto Project

- Improved loading an election and Poll Opening/Poll Closing

Task	EVS 6110	EVS 6300
2009 Cuyahoga Primary Election		
Load Election	1m 27s	1m 5s
Open Polls	10s	5s
Close Polls (1000 ballots)	5m 52s	4m 14s

➢ Results Validation (Optional)

- Hash verification code printed out on results report tape. Results bundle is hashed again during upload into EMS. Provides a way for counties to verify the results hash uploaded to EMS matched the results hash at the polls.

*** END OF REPORT ***
Results Validation Code:
ZxIXzSMi6W+Mr-IpxOtTiQClT5uhtWUudhONvbOm6V
ka=

Product Enhancements

DS450/DS850

➤ End-of-Life replacement options

- Brother Printer and CyberPower UPS as optional replacement to OkiData B43x and APC UPS.

➤ Results Reports by Batch

➤ Risk Limiting Audit features

➤ Prints RLA number on scanned ballot

➤ RLA number stored in Cast Vote Record

➤ In Electionware, user can look-up that RLA number for manual review or export to CSV for 3rd Party use

Product
Enhancements

Introductions

Final Remarks
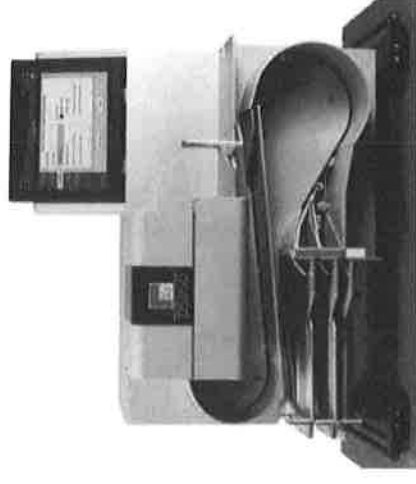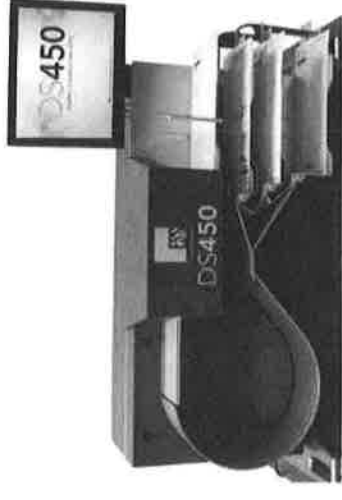
Agenda Revisited
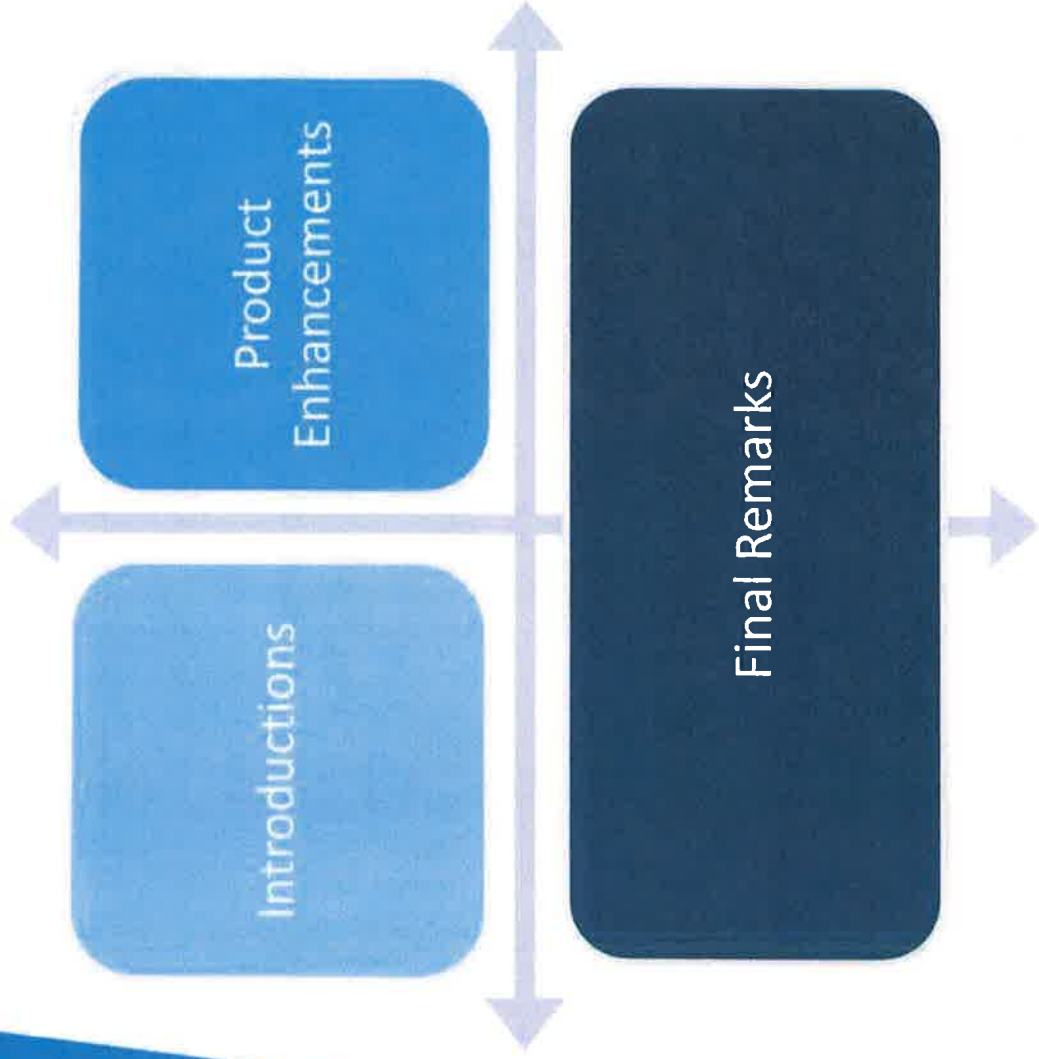
State Election Commission Public Comment Policy

(a) The period for public comment will be listed as the first item on the agenda since the new law states that the purpose of the period is to provide the public with the opportunity to comment on matters that are germane to items on the agenda.

(b) The Commission shall allow a maximum of _____ people to speak during the public comment period. The Commission will take all practicable steps to ensure that opposing viewpoints are represented fairly including giving each view point an equal number of speakers, if any.

(c) The Commission will provide each person with a maximum of _____ minutes to speak during the public comment period.

(d) The Commission will utilize a physical sign-up sheet to be made available before the meeting begins for any person who wants to provide comments to the Election Commission. The sign-up sheet will include the name, address, topic on the agenda the speaker wishes to address, and whether the speaker is for or against the agenda item, if applicable.