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STATE BOARD *of* ELECTIONS

DEMTECH Electronic Pollbook Certification

BOARD WORKING PAPERS

James Heo
Confidential Policy Advisor

★ VIRGINIA ★
DEPARTMENT *of* ELECTIONS

Memorandum

To: Chairman Brink, Vice Chair O'Bannon and Secretary LeCruise

From: James Heo, Confidential Policy Advisor

Date: September 15, 2020

Re: DemTech Centerpoint ePollTab - Electronic Pollbook Certification

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Suggested motion for Board Member to make:

I move that the Board certify the use of Centerpoint ePollTab 1.0 in elections in the Commonwealth of Virginia, pursuant to the *State Certification of Electronic Pollbooks: Requirements and Procedures*.

Applicable Code Section: § 24.2- Chapter 7 - 1, 4, 4.1
Attachments:

Your Board materials include the following**:**

- DemTech Centerpoint ePollTab 1.0 Certification Test Report provided by SLI Compliance Lab
- Loudoun County August 27, 2020 Mock Election Correspondence
- Virginia State Certification of Electronic Pollbook Requirements and Procedures

Background:
Following the steps prescribed in the Virginia *State Certification of Electronic Pollbook: Requirements and Procedures*, DemTech initiated the certification evaluation to the Department of Elections on June 22, 2020. DemTech provided their Technical Data Package and Corporate Information (required under step 2 of the *Requirements and Procedures*). Both of these submissions were deemed complete and in sufficient detail to warrant Step 3, the Preliminary Review. During the preliminary review, the state-designated evaluation agent conducted a preliminary analysis of the TDP, Corporate Information, and other materials provided and prepared an Evaluation Proposal (i.e. Test Plan). Upon DemTech agreement with the test plan and the SOW, the testing/evaluation was conducted on August 25 , 2020 through August 27, 2020, at the SLI facilities in Wheat Ridge, Colorado. In addition, the system was successfully tested in a Mock Election in Loudoun County on August 27, 2020. The DemTech Centerpoint ePollTab 1.0 electronic pollbook successfully completed Virginia Electronic Pollbook State Certification.

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Test Report

DemTech CenterPoint ePollTAB v1.0 Electronic Poll Book

Testing to Commonwealth of Virginia Requirements

September 3rd, 2020

Version 1.0

Prepared By: SLI Compliance

4720 Independence Street

Wheat Ridge, Colorado 80033

Contents

1 Authority

SLI Compliance was contracted to test the DemTech CenterPoint ePollTAB v1.0 ePoll Book to the appropriate VA Electronic Pollbooks Certification Standards and test cases, as outlined below.

Disclaimer

The information reported herein must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

All testing conducted for this engagement has been done outside of the U.S. Election Assistance Commission's (EAC) Test and Certification Program. In no way does this test report represent an EAC certification against the Voluntary Voting System Guidelines (VVSG) or any other standard.

2 References

The following key documents were used in this examination include:

- Commonwealth of Virginia 2019 EPB Test Cases v3
- Virginia Electronic Pollbook final standards 2020

3 Testing Overview

The examination of DemTech CenterPoint ePollTAB v1.0 Poll Book was designed to achieve the goals set forth in the requirements and test cases provided by the Commonwealth. The examination consisted of verifying pertinent documentation, when called for by a given requirement/test case, as well as functional verification of features and capabilities prescribed in the Commonwealth's requirements.

4 Testing Summary

The examination consisted of 108 test cases, which addressed the testing goals, and subsequent results in the following way:

4.1 Test Case Identifier: T0001: 24.2-404(A7)

VA.S. § 24.2-404(A7) - The EPB must display the voter's birth year, but no other birthday information.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book displays the voter's birth year, but no other birthday information.

4.2 Test Case Identifier: T0002: 24.2-406(C)

VA.S. § 24.2-406(C) - The EPB cannot have a field to display partial or complete Social Security Numbers.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book does not display partial or complete Social Security Numbers.

4.3 Test Case Identifier: T0003: 24.2-531, 24.2-668(C).I

VA.S. § 24.2-531, 24.2-668(C).I - The EPB provides a report that can be filtered by party. (Not required to be able to be generated at the polling place. Required to be able to be generate at the GR's office.)

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book summary report can produce filtered reports by party on the CenterPoint laptops.

4.4 Test Case Identifier: T0004: 24.2-611(B).I

VA.S. § 24.2-611(B).I - The EPB provides an input field to record name and consecutive number of a voter when they present themselves to vote.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book provides a name input field and consecutive numbers at voter check-in

4.5 Test Case Identifier: T0005: 24.2-611(B).II

VA.S. § 24.2-611(B).II - The EPB shall automatically enter consecutive numbers from a given starting point.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can enter consecutive numbers from its starting point after check-in

4.6 Test Case Identifier: T0006: 24.2-611(B).III.Notate

VA.S. § 24.2-611(B).III.Notate - The EPB System shall have the ability to indicate whether a voter voted "Outside Polls". The operator shall be allowed to notate independently or in conjunction with other notations set forth in these requirements. The EPB System shall have the ability to provide listings and counts of such voters.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can notate that a voter has voted “Outside Polls”

4.7 Test Case Identifier: T0007: 24.2-611(B).III.ListAndCount

VA.S. § 24.2-611(B).III.ListAndCount - The EPB System shall have the ability to indicate whether a voter voted "Outside Polls". The operator shall be allowed to notate independently or in conjunction with other notations set forth in these requirements. The EPB System shall have the ability to provide listings and counts of such voters.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can provide listings and counts of “Outside Polls” voters.

4.8 Test Case Identifier: T0008: 24.2-611(C)

VA.S. § 24.2-611(C) - The EPB must produce an audit log that records data of accurate and secure record of those who have voted, that has been successfully transferred.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book contains an audit log with the accurate records of those who have voted and been transferred.

4.9 Test Case Identifier: T0009: 24.2-653, 24.2-611(E).I

VA.S. § 24.2-653, 24.2-611(E).I - The EPB must be able to produce a data output in a format deemed necessary by the Commonwealth of Virginia.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can produce data in an acceptable format for the Commonwealth of Virginia.

4.10 Test Case Identifier: T0010: 24.2-653, 24.2-611(E).II

VA.S. § 24.2-653, 24.2-611(E).II - The EPB must maintain data preservation and redundancy so in the case where the EPB becomes inoperable the data that has been input can be retrieved.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can provide redundancies in and preservation of the data allowing data to be retrieved from inoperable EPB

4.11 Test Case Identifier: T0011: 24.2-651.1, 24.2-651.I

VA.S. § 24.2-651.1, 24.2-651.I - The EPB must have the capability to display an indication that a voter has been challenged.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can display challenge indicator for a voter

4.12 Test Case Identifier: T0012: 24.2-651.1, 24.2-651.II.NotRegularVoter

VA.S. § 24.2-651.1, 24.2-651.II.NotRegularVoter - The EPB must have the functionality to identify a voter that cannot be processed as a regular voter (such as wrong location)

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can identify non-regular voters who cannot be processed as regular voters.

4.13 Test Case Identifier: T0013: 24.2-651.1, 24.2-651.II.NoSoftwareUpdate

VA.S. § 24.2-651.1, 24.2-651.II.NoSoftwareUpdate - The EPB must have the functionality to identify a voter that cannot be processed as a regular voter. This functionality has to be configurable so that the election day reasons can be updated without a software update.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can update voter registration without requiring a software update.

4.14 Test Case Identifier: T0014: 24.2-651.1

VA.S. § 24.2-651.1 - The name of required document must be pre-loaded in EPB. Poll worker must be able to select from the voter check-in screen the name of document that the voter is required to sign.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can reference the name of documents from a list that the voter is required to sign.

4.15 Test Case Identifier: T0015: 24.2-653, 24.2-651.1.I

VA.S. § 24.2-653, 24.2-651.1.I - The EPB must disable all check in options if the voter's status is VOTED.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book disables all check-in options when a voter has the status of VOTED.

4.16 Test Case Identifier: T0016: 24.2-653, 24.2-651.1.II.Voted

VA.S. § 24.2-653, 24.2-651.1.II.Voted - The EPB must require a supervisor control to change the voter status from VOTED or another status

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book requires supervisor access to change a voter's VOTED status to something else.

4.17 Test Case Identifier: T0017: 24.2-653, 24.2-711.II, 24.2-651.1.II.Absentee

VA.S. § 24.2-653, 24.2-711.II, 24.2-651.1.II.Absentee - The EPB must require a supervisor control to add the absentee status.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book requires supervisor access to add absentee status

4.18 Test Case Identifier: T0018: 24.2-668(C).II

VA.S. § 24.2-668(C).II - All reports produced by the EPB must contain election identification information.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can provide reports with election identification information

4.19 Test Case Identifier: T0019: 24.2-668(C).III

VA.S. § 24.2-668(C.III - The removable media must be able to be sealed, transportable, and retain information as required.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book contains a micro SD card that will retain information as it is sealed and transported.

4.20 Test Case Identifier: T0020: 24.2-711.I

VA.S. § 24.2-711.I - The EPB must notify and provide user instructions for absentee and early voters.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can display instructions for absentee and early voters.

4.21 Test Case Identifier: T0021: Check-In Cancellation.I.Non-Supervisor role

VA.S. § Check-In Cancellation.I.Non-Supervisor role - The EPB must have the ability to cancel a voter check-in, which requires Supervisor controls.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will not allow check-in cancellation without supervisor controls.

4.22 Test Case Identifier: T0022: Check-In Cancellation.I.Supervisor role

VA.S. § Check-In Cancellation.I.Supervisor role - The EPB must have the ability to cancel a voter check-in, which requires Supervisor controls.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book requires supervisor controls to allow voter check-in cancellation.

4.23 Test Case Identifier: T0023: Check-In Cancellation.I

VA.S. § Check-In Cancellation.I - The EPB must provide the ability to select a reason for cancellation.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can be configured to require selecting a reason when a voter check-in is cancelled.

4.24 Test Case Identifier: T0024: Inactive Voter.I

VA.S. § Inactive Voter.I - The EPB must have the functionality to identify a voter that cannot be processed as a regular voter.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can identify non-regular voters who require a different process to check in

4.25 Test Case Identifier: T0025: Inactive Voter.II

VA.S. § Inactive Voter.II - The EPB displays on-screen instructions for the poll worker, regarding voters flagged as not able to be processed as a regular voter.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book contains poll worker instructions for non-regular voters.

4.26 Test Case Identifier: T0026: Inactive Voter.III

VA.S. § Inactive Voter.III - The EPB allows selection of the appropriate document name(s) that the voter is required to sign.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can be configured to reference the appropriate documents that voters may be required to signed.

4.27 Test Case Identifier: T0027: ePollbook Address Look-up.I

VA.S. § ePollbook Address Look-up.I - The EPB must contain a feature that allows the user to look-up voter's address to redirect them to the correct polling place.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will allow the poll worker to look-up the voter's address and display the correct polling place.

4.28 Test Case Identifier: T0028: ePollbook Address Look-up.II

VA.S. § ePollbook Address Look-up.II - The EPB must contain a feature that includes driving directions.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can display driving directions to the correct poll place

4.29 Test Case Identifier: T0029: Voter Lookup Capabilities, Data Types

VA.S. § Voter Lookup Capabilities, Data Types - Search for voters must have a variety of look-up capabilities based on the following data: last name, first name, year of birth, address, District and Voter ID.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book allows for the searching based on last name, first name, year of birth, address, District and Voter ID.

4.30 Test Case Identifier: T0030: Voter Lookup Capabilities, Filtered Searches

VA.S. § Voter Lookup Capabilities, Filtered Searches - All search for voters must have the capability for an advanced search so results can be filtered on any combination of the following data: last name, first name, year of birth, address, District and Voter ID.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book allows for searching based on any combination of last name, first name, year of birth, address, District and Voter ID.

4.31 Test Case Identifier: T0031: Voter Lookup Capabilities, Additional Advanced Search Capabilities

VA.S. § Voter Lookup Capabilities, Additional Advanced Search Capabilities - Allows configuration of additional advanced search capabilities.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book allows the configuration of advance search capabilities through the CenterPoint system.

4.32 Test Case Identifier: T0032: Separate Elections

VA.S. § Separate Elections - The EPB must have the ability to manage the voter list and count by party in a partisan election.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can generate reports that separate, and list voter based on party for partisan elections.

4.33 Test Case Identifier: T0033: On-Screen Instruction and Message Configuration Capabilities

VA.S. § On-Screen Instruction and Message Configuration Capabilities - The EPB must have a feature that allows for messaging and instructions to be editable without requiring a software update. (Must provide content management functionality for text/info boxes on every screen.)

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book allows editing of messages and instructions without a software update.

4.34 Test Case Identifier: T0034: Document Name Configuration

VA.S. § Document Name Configuration - The EPB must have a feature that allows for configuration of document name(s) prior to Election Day without requiring a software update.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can configure document name(s) without requiring a software update.

4.35 Test Case Identifier: T0035: Workflow Automation/Customization

VA.S. § Workflow Automation/Customization - The EPB must be customizable so changes in workflow requirements and/or the change State and/or jurisdiction procedures in the voter check-in process can be accommodated.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book is able to customize workflow and procedure of the voter check-in process through the CenterPoint system

4.36 Test Case Identifier: T0036: Continuous Check-In Count

VA.S. § Continuous Check-In Count - The EPB must continuously display and automatically update the voter credits issued.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can display and automatically update the voter credits that have been issued.

4.37 Test Case Identifier: T0037: Continuous Check-In Count, Network

VA.S. § Continuous Check-In Count, Network - The EPB must continuously display and automatically update the voter credits issued and synchronize with other units on a network

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will automatically update and display the voter credits that have been issues and synchronize with other units on the network.

4.38 Test Case Identifier: T0038: Verification

VA.S. § Verification - The EPB must have a verification screen that displays and confirms the election date, polling place location, the number of voters for the location, and that the voter count shows zero voters have checked in, prior to opening the polls.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will display a verification screen containing the election date, polling place location, the number of voters for the location and prior to opening polls, the voter count shows zero voters.

4.39 Test Case Identifier: T0039: Ease of Functionality, Reports

VA.S. § Ease of Functionality, Reports - The EPB reporting module should be configurable and customizable by a user with minimal system knowledge

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book the reporting module can be configured and customized by workers with minimal system knowledge.

4.40 Test Case Identifier: T0040: Retrieval of Voter Information.I

VA.S. § Retrieval of Voter Information.I - The EPB must be able to add, remove, update. and delete stored information.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can add, remove, update, and delete stored information.

4.41 Test Case Identifier: T0041: Retrieval of Voter Information.II

VA.S. § Retrieval of Voter Information.II - The EPB must be able to retrieve a specific voter from a list of provided voters and issue voter credit.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can retrieve a specific voter from the provided voter list and issue voter credits.

4.42 Test Case Identifier: T0042: Retrieval of Voter Information.III

VA.S. § Retrieval of Voter Information.III - The EPB must provide a verification that the voter and election data are accurately loaded in the EPB.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can provide verification of the loading of voter and election data

4.43 Test Case Identifier: T0043: Reports

VA.S. § Reports - The EPB must be able to provide reports that distinguish voters by ballot style, party, precinct, precinct split, curbside voter and Voter Status.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can produce reports that are able to filter voters by ballot style, party, precinct, precinct split, curbside voter and Voter Status.

4.44 Test Case Identifier: T0044: Barcodes.I

VA.S. § Barcodes.I - The EPB must be able to scan the barcode from the Virginia State Issued IDs: Driver's License

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can scan the barcode of Virginia State Issued Driver's License

4.45 Test Case Identifier: T0045: Barcodes.II

VA.S. § Barcodes.II - If the download is successful, display the voter name and address on the check-in screen.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will display the name and address after successful download (scan) of the barcode

4.46 Test Case Identifier: T0046: Barcodes.III

VA.S. § Barcodes.III - Display an appropriate message if the ID is not accepted.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will display the appropriate message when the ID is not accepted.

4.47 Test Case Identifier: T0047: Voting System Not Required.I

VA.S. § Voting System Not Required.I - The EPB must not require the voting system to perform any functions.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can perform any function without a required voting system

4.48 Test Case Identifier: T0048: Voting System Not Required.II

VA.S. § Voting System Not Required.II - The EPB cannot connect to the voting system.

Summary of Testing: No voting system was available to functionally verify this requirement.

4.49 Test Case Identifier: T0049: Network Interruption.I

VA.S. § Network Interruption.I - The EPB must be networkable. Once networked together all EPB's must synchronize to the most current voter information.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book when networked with other ePollTab v1.0 Poll Books will synchronize to the most current voter information.

4.50 Test Case Identifier: T0050: Network Interruption.II

VA.S. § Network Interruption.II - If network connectivity is lost, once restored all devices on the network must synchronize.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will synchronize all networked ePollTab v1.0 PollBooks when connectivity is restored.

4.51 Test Case Identifier: T0051: Network Interruption.III

VA.S. § Network Interruption.III - If network connectivity is lost, once restored all devices on the network must synchronize.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will synchronize all networked ePollTab v1.0 PollBooks when connectivity is restored.

4.52 Test Case Identifier: T0052: Performance Report

VA.S. § Performance Report - The EPB must have a report that provides statistics on the duration of voter check-in process and the maximum number of voters the configuration can handle.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book, through the CenterPoint system, can issue reports that provide statistics such as duration of voter check-in process.

4.53 Test Case Identifier: T0053: Add or Remove Units

VA.S. § Add or Remove Units - The EPB must have the ability to add or remove new units without disturbing the existing units

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can be added or removed from a network without causing any disruptions

4.54 Test Case Identifier: T0054: Power

VA.S. § Power - The EPB must have the ability to have an option to display power usage for Power supply and battery life

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will display the battery life and the Power supply usage can be displayed on command.

4.55 Test Case Identifier: T0055: Low Power Message

VA.S. § Low Power Message - The EPB must have the ability display appropriate message when the EPB device is operating at less than 20% of remaining power

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book, will display alerts when the battery reaches 20%.

4.56 Test Case Identifier: T0056: ""Voter Not Counted"" Error Message

VA.S. § “"Voter Not Counted"" Error Message - The EPB must have the ability display appropriate error message when a voter is not counted

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will provide the appropriate message when a voter is not counted.

4.57 Test Case Identifier: T0057: Peripheral Connectivity Indicator

VA.S. § Peripheral Connectivity Indicator - The EPB must have a peripheral connectivity indicator

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will indicate when an appropriate peripheral is connected.

4.58 Test Case Identifier: T0058: Errors

VA.S. § Errors - The EPB must log all system errors and notify the user of errors that can be corrected by the user

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will notify and log all system errors to the audit log

4.59 Test Case Identifier: T0059: Clean Wipe.I

VA.S. § Clean Wipe.I - The EPB must support the ability to wipe clean the EPB via Industry standards, manually.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can be wiped clean to factory default through the Android settings. This was confirmed in the documentation but was not functionally verified during the examination.

4.60 Test Case Identifier: T0060: Clean Wipe.II

VA.S. § Clean Wipe.II - The EPB must support the ability to wipe clean the EPB via Industry standards, remotely.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can be wiped clean to factory default remotely through the MDM.

4.61 Test Case Identifier: T0061: Clean Wipe.III

VA.S. § Clean Wipe.III - The EPB must support the ability to shred all removable media.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book contains a micro SD card that can be removed and shredded if required. This was confirmed through common usage but not tested.

4.62 Test Case Identifier: T0062: Internet Connectivity

VA.S. § Internet Connectivity - The EPB must employ the following management techniques:

- Upgrade to a Modern Operating System and keep it up-to-date
- Exercise Secure User Habits
- Leverage Security Software
- Safeguard against Eavesdropping
- Protect Passwords
- Limited use of the Administrator Account
- Employ Firewall Capabilities
- Implement WPA2 on the Wireless Network
- Limit Administration to the Internal Network

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book uses the following security management techniques:

- Upgrade to a Modern Operating System and keep it up-to-date
- Exercise Secure User Habits
- Leverage Security Software
- Safeguard against Eavesdropping
- Protect Passwords
- Limited use of the Administrator Account
- Employ Firewall Capabilities
- Implement WPA2 on the Wireless Network
- Limit Administration to the Internal Network

4.63 Test Case Identifier: T0063: Encryption.I.Data

VA.S. § Encryption.I.Data - All modules and data are cryptographic and are FIPS 140-2 compliant.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book modules and data are cryptographic and IPS 140-2 compliant.

4.64 Test Case Identifier: T0064: Encryption.II.Audit

VA.S. § Encryption.II.Audit - The EPB's audit log must be encrypted, track all transactions, and include a date/time stamp.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book audit log is encrypted, and all transactions contain a date/time stamp.

4.65 Test Case Identifier: T0065: Authentication

VA.S. § Authentication –

I. All passwords used by EPB follow the NIST SP 800-63B Standard
II. All passwords used by the EPB must allow upper case, lower case, numbers, and special character
III. The same password cannot be reused within at least the past 10 times.
IV. The EPB requires passwords to be changed every 6 months
V. The EPB must provide the option to mask or unmask passwords at text entry

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book employs the following password security techniques

I. All passwords used by EPB follow the NIST SP 800-63B Standard
II. All passwords used by the EPB must allow upper case, lower case, numbers, and special character
III. The same password cannot be reused within at least the past 10 times.
IV. The EPB requires passwords to be changed every 6 months
V. The configuration settings on the EPB can be set to mask or unmask passwords at text entry

4.66 Test Case Identifier: T0066: System Administrator/Network Administrator

VA.S. § System Administrator/Network Administrator - The EPB must employ the following management techniques:

- Centralization of all components
- Role Based Access Control
- Employ Zero Trust Identity Security
- Use the Principle of Least Privilege

- Automated Onboarding
- Automated Off-boarding
- Orphaned Account Detection and Removal
- Multifactor Authentication
- Notification of failed logon attempts
- Notification of use of Privileged Accounts

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book employs the following management techniques:

- Centralization of all components
- Role Based Access Control
- Employ Zero Trust Identity Security
- Use the Principle of Least Privilege
- Automated Onboarding
- Automated Off-boarding
- Orphaned Account Detection and Removal
- Multifactor Authentication
- Notification of failed logon attempts
- Notification of use of Privileged Accounts

4.67 Test Case Identifier: T0067: Hardening.I

VA.S. § Hardening.I - The EPB Manufacturer must provide a system hardening specification for the system.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book contains system hardening specifications

4.68 Test Case Identifier: T0068: Hardening.II

VA.S. § Hardening.II - Assessed via automated scanning tools (i.e. CIS L1 benchmarks).

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can be assessed using automated scanning tools.

4.69 Test Case Identifier: T0069: Ports and Connected Devices

VA.S. § Ports and Connected Devices - The EPB must restrict all ports to only allow known system components to communicate with the EPB and not allow unknown device to connect.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book port can be locked using a third-party seal.

4.70 Test Case Identifier: T0070: Data Synchronization.I

VA.S. § Data Synchronization.I - The EPB must be networkable. Once networked together all EPB's must synchronize to the most current voter information.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Books can be networked with each other and synchronized to the most current voter information

4.71 Test Case Identifier: T0071: Data Synchronization.II

VA.S. § Data Synchronization.II - Any failure of a device cannot impact the remaining units.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book device failure does not impact the remaining DemTech CenterPoint ePollTAB v1.0 Poll Book devices on the network.

4.72 Test Case Identifier: T0072: Data Synchronization.III

VA.S. § Data Synchronization.III - The EPB must not connect to unauthorized networks.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can be restricted from connecting to unauthorized networks.

4.73 Test Case Identifier: T0073: Data Synchronization.IV

VA.S. § Data Synchronization.IV - The EPB must not allow connections that are not IP whitelisted.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book through licensing from DemTech will be configured to block non-whitelisted devices.

4.74 Test Case Identifier: T0074: Data Transfer Outside Approved Network

VA.S. § Data Transfer Outside Approved Network - The EPB must have success and failure message to the user for the transfer of data outside of the approved network.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book System restricts transfers of data outside approved networks by only allowing connections to be made through the Merlin device.

4.75 Test Case Identifier: T0075: Wireless Activation Notification

VA.S. § Wireless Activation Notification - The EPB effectively alerts others when the wireless state is activated on EPB device. (E.g. clearly visible indicator light on device, text alert, etc.)

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book will indicate when the wireless component is on

4.76 Test Case Identifier: T0076: Transaction Logging and Audit Reports.I

VA.S. § Transaction Logging and Audit Reports.I - The EPB must have a transaction log/Audit Report containing the following:

- Records of election preparation
- Records of transactions in the polling place
- Human-readable logs
- Ability to export logs
- Identify and manage security incidents and fraudulent activities
- Track and resolve operational problems

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book contains a transaction log/Audit Report that contains the following:

- Records of election preparation
- Records of transactions in the polling place
- Human-readable logs

- Ability to export logs
- Identify and manage security incidents and fraudulent activities
- Track and resolve operational problems

4.77 Test Case Identifier: T0077: Transaction Logging and Audit Reports.II

VA.S. § Transaction Logging and Audit Reports.I - The EPB must have a transaction log/Audit Report containing the following:

- Records of election preparation
- Records of transactions in the polling place
- Human-readable logs
- Ability to export logs
- Identify and manage security incidents and fraudulent activities
- Track and resolve operational problems

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book contains a transaction log/Audit Report that contains the following:

- Records of election preparation
- Records of transactions in the polling place
- Human-readable logs
- Ability to export logs
- Identify and manage security incidents and fraudulent activities
- Track and resolve operational problems

4.78 Test Case Identifier: T0078: Transaction Logging and Audit Reports.III

VA.S. § Transaction Logging and Audit Reports.III - The EPB must have a transaction log/Audit Report containing the following:

- Records of election preparation
- Records of transactions in the polling place
- Human-readable logs
- Ability to export logs
- Identify and manage security incidents and fraudulent activities
- Track and resolve operational problems

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book contains a transaction log/Audit Report that contains the following:

- Records of election preparation
- Records of transactions in the polling place
- Human-readable logs
- Ability to export logs
- Identify and manage security incidents and fraudulent activities
- Track and resolve operational problems

4.79 Test Case Identifier: T0079: Reconciliation of Data Load to EPB.I

VA.S. § Reconciliation of Data Load to EPB.I - The EPB must provide a verification that the data loaded for the election was successful and accurate.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book displays verification on the success of loaded data

4.80 Test Case Identifier: T0080: Reconciliation of Data Load to EPB.II

VA.S. § Reconciliation of Data Load to EPB.II - The EPB must provide a verification that the data loaded for the election was successful, accurate, and any discrepancies in the process handled.

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book, through the import page in CenterPoint will, upon successful loading of voter information will display verification that data is loaded successfully and accurately. After the importing of data, the page will display categories (Inserts, Updates, Deletes, Duplicates and Errors).

4.81 Test Case Identifier: T0081: Compliance

VA.S. § Compliance - All vendors must comply with the policies, guidelines, and directives regarding software patching of EPB systems as adopted and modified by the State Board of Elections (SBE) from time to time

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book can comply with the standards adopted and modified by the State Board of Election on software patching

4.82 Test Case Identifier: T0082: DoD 5220.22-M wiping standard

VA.S. § DoD 5220.22-M wiping standard - Memory devices or USB drives provided with the EPB system and/or supplied to localities must be fully wiped per the DoD 5220.22-M wiping standard to prevent any preloaded software from being inadvertently installed on the systems

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book wiping standards match the standards put in the DoD 5220.22-M, as referenced in the NIST Special Publication 800-88 Revision 1 in Table A-3: Mobile Device Sanitization

4.83 Test Case Identifier: T0083: Encryption and SHA256 FIPS compliant

VA.S. § Encryption and SHA256 FIPS compliant - Memory devices or USB drives provided with the EPB system and/or supplied to localities must be capable of being cryptographic and FIPS 140-2 compliant, and must use SHA256 hashing algorithm or higher

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book memory is cryptographic and FIPS 140-2 compliant, with a SHA256 hashing algorithm or higher.

4.84 Test Case Identifier: T0084: Commonwealth Information Security Standards

VA.S. § Commonwealth Information Security Standards - Memory devices or USB drives provided with the EPB system and/or supplied to localities must comply with applicable Commonwealth information security standards

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book memory complies with the Commonwealth information security standards

4.85 Test Case Identifier: T0085: SBE Policies, Guidelines, Directives

VA.S. § SBE Policies, Guidelines, Directives - Memory devices or USB drives provided with the EPB system and/or supplied to localities must comply with applicable policies, guidelines, and directives as adopted and modified by the SBE from time to time

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book memory complies with the standards adopted and modified by the SBE

4.86 Test Case Identifier: T0086: Security Best Practices for Internet Connectivity

VA.S. § Security Best Practices for Internet Connectivity - If the EPB Vendor utilizes the cloud to host EPBs for locality access during the Early Voting period they must utilize security best practices for internet connectivity including network, wireless, and cloud services

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book cloud hosting utilizes Amazon Web Services (AWS) which uses security best practices for its internet connectivity.

4.87 Test Case Identifier: T0087: Cloud Service Provider

VA.S. § Cloud Service Provider - If the EPB Vendor utilizes the cloud to host EPBs for locality access during the Early Voting period they must utilize a cloud service provider (CSP) whose infrastructure and applications are NIST 800-53 certified through a third party entity

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book uses Amazon Web Services (AWS) which is NIST 800-53 certification through a third-party entity

4.88 Test Case Identifier: T0088: CSP SLA

VA.S. § CSP SLA - If the EPB Vendor utilizes the cloud to host EPBs for locality access during the Early Voting period they must ensure CSP SLA contains these major components: Service level objectives, Remediation policies, and penalties/incentives related to NIST compliance, exclusions, and caveats

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book CSP SLA contains the following components:

- Service level objectives
- Remediation policies
- Penalties/incentives related to NIST compliance, exclusions, and caveats

4.89 Test Case Identifier: T0089: VPN Connection

VA.S. § VPN Connection - If the EPB Vendor utilizes the cloud to host EPBs for locality access during the Early Voting period they must ensure the connection via

VPN must be FIPS 140-2 certified, whether it is a dedicated SSLVPN or just a dedicated connection. If a dedicated connection, thorough documentation must be provided

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book cloud connection is FIPS 140-2 certified.

4.90 Test Case Identifier: T0090: Mobile Devices

VA.S. § Mobile Devices - If the EPB Vendor supplies the mobile devices, ensure compliance with NIST 800-53 in relation to these devices, as is done with the infrastructure

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book is NIST 800-53 compliant.

4.91 Test Case Identifier: T0091: ToAndFromCloud

VA.S. § ToAndFromCloud - If the EPB Vendor supplies the storage, processing, migration, access control, and detection to and from the cloud all must be NIST 800-53 compliant

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book to and from cloud process allowing storage, processing, migration, access control and detection is NIST 800-53 compliant

4.92 Test Case Identifier: T0092: CSP is NIST certified

VA.S. § CSP is NIST certified - If the EPB Vendor utilizes a CSP verify that CSP is NIST certified

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book CSP services is NIST certified

4.93 Test Case Identifier: T0093: Hardware Schematic Diagrams

VA.S. § Hardware Schematic Diagrams - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Hardware Schematic Diagrams document has been satisfactorily reviewed.

4.94 Test Case Identifier: T0094: Hardware Theory of Operations

VA.S. § Hardware Theory of Operations - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Hardware Theory of Operations document has been satisfactorily reviewed

4.95 Test Case Identifier: T0095: System architecture with network and infrastructure connectivity

VA.S. § System architecture with network and infrastructure connectivity - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book System Architecture with network and infrastructure connectivity document has been satisfactorily reviewed

4.96 Test Case Identifier: T0096: Software System Design

VA.S. § Software System Design - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Software System Design document has been satisfactorily reviewed.

4.97 Test Case Identifier: T0097: Software and Firmware Source Code

VA.S. § Software and Firmware Source Code - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Software and Firmware Source Code document has been satisfactorily reviewed.

4.98 Test Case Identifier: T0098: Independent Third-Party Application Penetration Analysis Report

VA.S. § Independent Third-Party Application Penetration Analysis Report - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Independent Third-Party Application Penetration Analysis Report document has been satisfactorily reviewed.

4.99 Test Case Identifier: T0099: Customer Maintenance, Repair & Troubleshooting Manual

VA.S. § Customer Maintenance, Repair & Troubleshooting Manual - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Customer Maintenance, Repair & Troubleshooting Manual document has been satisfactorily reviewed.

4.100 Test Case Identifier: T0100: Operations Manual

VA.S. § Operations Manual - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Operations Manual document has been satisfactorily reviewed.

4.101 Test Case Identifier: T0101: User Guide and Documents

VA.S. § User Guide and Documents - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book User Guide and Documents document has been satisfactorily reviewed.

4.102 Test Case Identifier: T0102: Recommended Security Practices

VA.S. § Recommended Security Practices - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Recommended Security Practices document has been satisfactorily reviewed.

4.103 Test Case Identifier: T0103: Standard Contract, Product Support and Service Level Agreement (SLA)

VA.S. § Standard Contract, Product Support and Service Level Agreement (SLA) - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Standard Contract, Product Support and Service Level Agreement document has been satisfactorily reviewed.

4.104 Test Case Identifier: T0104: Maintenance Services, Pricing and Financing Options

VA.S. § Maintenance Services, Pricing and Financing Options - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Maintenance Services, Pricing and Financing Options document has been satisfactorily reviewed.

4.105 Test Case Identifier: T0105: Warranty

VA.S. § Warranty - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Warranty document has been satisfactorily reviewed.

4.106 Test Case Identifier: T0106: Software License Agreement

VA.S. § Software License Agreement - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Software License Agreement document has been satisfactorily reviewed.

4.107 Test Case Identifier: T0107: Test Data and Software

VA.S. § Test Data and Software - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Test Data and Software document has been satisfactorily reviewed.

4.108 Test Case Identifier: T0108: Non-Disclosure Agreement, if applicable

VA.S. § Non-Disclosure Agreement, if applicable - Review of Documentation

Summary of Testing: The DemTech CenterPoint ePollTAB v1.0 Poll Book Non-Disclosure Agreement document has been reviewed.

5 Testing Setup

ePollTAB Testing Candidate

Supporting the evaluation DemTech provided the following software components:

Application/OS	Version
Android	10
Windows	10

Supporting the evaluation DemTech provided the following hardware components:

Device	Serial Number	Model
Lenovo IdeaPad Laptop	MP1M3FHM	81QG
Samsung Galaxy Tab S5e Tablet	R52N70BM37V	SM-T720
Voter Identification Unit	PRUV811A00000017	VIU-811
Smartphone & Tablet Holder	X001OUWLN5	XTAB2
Barcode scanner	X001YB9TCF	MJ-2877
Label Printer	D00K5Z001A	QL-820NWB
Raspberry Pi Canakit	PI4-8GB-MAX64EWF-C4-WHT	Model B
UniFi Mesh Access Point	E0610AB-B108-Ht4G9b	UAP-AC-M

6 Findings

The evaluation followed the procedures as provided in Virginia Electronic Pollbooks Certification Standards and test cases. During the procedure, the evaluation team made observations of general system behavior.

Per Test Case T0048: Voting System Not Required.II, no voting system was available to functionally verify that the DemTech CenterPoint ePollTAB v1.0system cannot be connected to a voting system.

The DemTech CenterPoint ePollTAB v1.0 Electronic Poll Book system relies heavily upon security measures that are dependent upon third party technology and services, including Samsung native OS Security, Cisco Meraki MDM, Amazon Web Services, and Ubiquiti's UniFi controller. Due to this compromise to the individual systems and services could affect the overall security of the system.

The Solution utilizes two forms of network communications. The Merlin device is used to generate and provide a private network that can be either wired, wireless or both. The Merlin and DemTech's 3rd party services are responsible for controlling and connection to this network. The second form of network is utilized by either wirelessly or through a separate USB networking device connecting the Merlin device to a jurisdictions network.

This connection allows the Merlin device to sync up with the Amazon Web Services instance to keep all jurisdictions in sync. The Merlin device can be connected to any type of connection and doesn't appear to be controlled in anyway. The actual epollbook devices are controlled by the Cisco Meraki MDM.

The solution utilizes both wireless and wired communications to keep ePollTAB devices connected to each other as well as to networked printers. These communications are utilized for real-time sharing of check-in data between polling place devices, and to print voter check-in receipts. During the examination reasonable attempts were made to sniff, access, or compromise these networks, with the results being that the attack attempts were unsuccessful.

While not full-blown vulnerabilities, the following items could lead to issues or compromise if not properly monitored / managed:

- Management of the Wifi networking that is utilized by the Merlin device to connect to the Amazon Web Services Sync Point used by the jurisdictions is subject to processes and procedures set forth by the jurisdiction and was not specifically tested or reviewed.
- The Merlin device is responsible for managing and maintaining the private local network for the ePollTAB devices. This can either be a wired or wireless network.
- Extra attention needs to be directed at physically securing the solutions network connections from unauthorized access. Including locking down wireless access points, wired network switching equipment
- Extra attention needs to be directed at physically securing the solutions Merlin devices. This includes tamper evident seal implementation, physically securing the merlin device safely from unauthorized entities.

The Examination was conducted with attempts to circumvent or exploit vulnerabilities within the communication systems such as applicable and within legal boundaries in respect to third party services.

The Samsung OS devices sufficiently meet requirements by:

- Offering FIPS-140-2 encryption to data both at rest and during transmissions utilizing AES 256Bit encryption or greater.
- Giving precise control of all aspects of the Samsung device configuration using Mobile Device Management.
    - Ability to remotely wipe Samsung devices.
    - Ability to remotely wipe Smartmatic VIU windows device
    - Ability to track lost or stolen devices.
    - Control of Wi-Fi access.
    - Control of application versions.

- Allowing for separate environments designed to protect each application from infecting or compromising another through the use of Application Sandbox.

Providing the ability to lock down the Samsung device to a single application using Guided access (KIOSK) mode.

The Smartmatic VIU device meets requirements by:

- Offering FIPS-140-2 encryption to data both at rest and during transmissions utilizing AES 256Bit encryption or greater.
- Giving precise control of aspects of the VIU device configuration using Mobile Device Management.
    - Ability to remotely wipe Smartmatic VIU windows device
    - Ability to track lost or stolen devices.
    - Control of Wi-Fi access.
    - Control of application versions.

The VIU device has the ability to restrict the device user to specific functionality on the device, through Group Policy Objects (GPO). A caveat is that the Smartmatic VIU device in not currently deployed in a Kiosk mode with the ePollTAB application. Due to functionality restrictions imposed by the UWP (Universal Windows Platform) Application.

It should be noted that the Merlin device has election specific files and are encrypted using an encrypted mount point, however the entire Merlin File system is not encrypted, which could lead to compromise if Physical security mitigations are not taken into consideration.

7 Conclusions

The DemTech CenterPoint ePollTAB v1.0 presented for examination, meets the requirements of Virginia Election Laws §24.2,

Test Case T0048: Voting System Not Required.II was not verified that the DemTech CenterPoint ePollTAB v1.0 cannot be connected to a voting system.

It is also strongly recommended that strict configuration guidelines be supplied to the jurisdiction to lock down the DemTech CenterPoint ePollTAB v1.0 devices to specific networks and systems.

End of Test Report

Loudoun County, Virginia

Office of Elections and Voter Registration
750 Miller Drive SE, Suite C, Leesburg, VA 20175
703/777-0380 V/TDD ~ FAX 703/777-0622

August 27, 2020

Karen Hoyt-Stewart
Voting Technology Program Manager
Virginia Department of Elections
1100 Bank Street, 1st Floor
Richmond, VA 23219

Karen,
The Loudoun County Office of Elections conducted a mock election using the new DemTech ePollTab software on Thursday, August 27, 2020. Our office tested it on two tablets and three laptops running Windows 10.

During the test the following tasks were completed;

- Tested connectivity among all devices
- Checked voters in to two precincts
- Checked in a voter as challenged
- Checked in voters as provisional
- Utilized all flags including curbside voter
- Closed polls and exported voter credit

All functions operated as expected. Our team was very impressed with the software.

Please let me know if you need anything further from me.

Regards,

Richard Keech
Deputy Director
Office of Elections
Loudoun County, VA

★ VIRGINIA ★
DEPARTMENT of ELECTIONS

Electronic Pollbook Certification Standard

December 2019

Chapter 1: Introduction

1.1. Purpose of Procedures

These procedures provide a formal and organized process for vendors to follow when seeking state certification for an electronic pollbook (EPB) system in Virginia. To this end, these procedures are designed to:

1. Ensure conformity with Virginia election laws relating to the acquisition and use of EPB systems
2. Evaluate and certify EPB systems marketed by vendors for use in Virginia
3. Evaluate and re-certify additional capabilities and changes in the method of operation for EPB systems previously certified for use in Virginia
4. Standardize decertification and recertification of EPB systems

1.2. Specific Requirements

1. Compliance with the Code of Virginia and the policies and regulations issued by the State Board of Elections (SBE) or Department of Elections (ELECT) must be substantiated through the State Certification Test conducted by an independent testing authority recognized by the National Institute of Standards and Technology (NIST); referred to in this document henceforth as VSTL
2. Any modification to the hardware, software, firmware, infrastructure or any component of a certified EPB will invalidate the prior certification unless ELECT can review and provide an assurance to the SBE that the change does not affect the accuracy, reliability, security, usability or accessibility of the system; see Appendix J for the De Minimis Change Guideline that is applicable for hardware
3. An EPB shall not contain the following voter registration data:
    a. DMV Customer Number
    b. Full or Partial Social Security Number
    c. Birth Month and Day

1.3. Decertification

ELECT reserves the right to reexamine any previously certified EPB system for any reason at any time. Any EPB system that does not pass certification testing will be decertified. An EPB system that has been decertified by the SBE cannot be used for elections held in the Commonwealth of Virginia and cannot be purchased by localities to conduct elections.

In addition, the SBE reserves the right to decertify the EPB systems if the vendor does not comply with any of the following requirements:

1. Notify ELECT of any incident, anomaly or security-related breach experienced in an election jurisdiction, within 24 hours of knowledge
2. Report to ELECT within 30 calendar days of knowledge of any changes to Corporate Information, including:
    a. Business Entity and Structure
    b. Parent and Subsidiary companies
    c. Capital or equity structure
    d. Control; identity of any individual, entity, partnership, or organization owning a controlling interest
    e. Investment by any individual, entity, partnership, or organization in an amount that exceeds 5% of the vendor's net cash flow from the prior reporting year
    f. Location of manufacturing facilities; including names of the third-party vendor(s) employed to fabricate and/or assemble any component part of the voting and/or tabulating system being submitted for certification, along with the location of all of their facilities with manufacturing capability
    g. Third-party vendors
    h. Good Standing status
    i. Credit rating
3. Submit any modifications to a previously certified EPB system to ELECT for review within 30 calendar days from modification; see Appendix H for appropriate reporting process
4. If the operating system or any component has reached and/or will reach the Last Date of Mainstream Support within 18 months, as defined in Appendix H, send an upgrade plan with target date(s) to ELECT:
    a. ELECT must receive the upgrade plan at least 12 months before the Last Date of Mainstream Support
    b. The Last Date of Mainstream Support cannot include any type of Extended Support, as defined in Appendix H
    c. The EPB system may still automatically be decertified as defined in Appendix H
5. Update all software with the latest patching and vulnerability updates in alignment with Appendix E.

NOTE: The SBE reserves the right to require recertification when changes to regulations and/or standards occur.

1.4. Recertification

See Appendix F for ELECT's guidelines on when EPB systems must go through recertification.

Chapter 2: Basis for Certification

2.1. State Certification Testing

State certification testing will evaluate the design and performance of an EPB system seeking certification to ensure that it complies with all applicable requirements in the Code of Virginia and the SBE and ELECT regulations and policies. ELECT will examine the essential system functions, operational procedures, user guides, documents, certification reports from other states, and reviews from product users.

The EPB system must demonstrate accuracy, reliability, security, usability and accessibility throughout all testing phases.

State Certification Testing will examine all system operations and procedures, including:

1. Receive and process the voter registration and election information
2. Accurately maintain whole and separate count(s) of voters distinguishable by:
    a. Ballot Style (Voter's Party/primary, Precinct, Precinct Split)
    b. Curbside Voter
    c. Challenged Voter
    d. Voter Status
    e. Provisional
    f. Absentees
    g. Early Votes
3. Provides an intuitive and easy to navigate user interface
4. Perform data and operational integrity safeguard tests including:
    a. Ability to add or remove new units without disturbing the existing units
    b. Power supply and battery life with an option to display power usage
    c. Display an appropriate message when the EPB device is operating at less than 20% of remaining power
    d. Display an appropriate error message when the EPB fails to check in a voter
5. Capacity/Load Test Report to include the maximum number of voters that the configuration/network setting can handle
6. Performance Report to include the optimal duration of check in process per voter
7. System monitoring and notification of system errors, including:
    a. Perform a self-test for peripheral connectivity
    b. Visible display indicating power supply/battery life
    c. Visible display indicating system connections

8. Data preservation and redundancy to maintain a printable checklist format of the voter registration record and voter activity record on a removable storage. When one to all of the EPBs become inoperable, and if there is not an alternate recovery means available then the removable storage must reflect the voter activity record at that moment and can be used to continue with election
9. During an interruption of network connection, EPBs should retain and synchronize all voter activities upon restoration of connectivity
10. Support the industry standard for clean wipe method remotely and manually
11. Transaction Logging and Audit Reports including the following details:
    a. Log all changes to EPB post the initial download
    b. Transactions at the polling places
    c. Export logs in a readable format
    d. The EPB's audit log(s) must be encrypted, track all transactions and include a date/time stamp
12. All modules and data are cryptographic and are FIPS 140-2 compliant including at rest and in transit
13. Comply with the NIST SP 800-63B or better digital identity guidelines for authentication and lifecycle management
14. Harden the EPB system using the vendor's procedures and specifications.

2.2. EPB Hardware, Firmware, Infrastructure, or Component Elements

All equipment used in an EPB system shall be examined to determine its suitability for election use according to the appropriate procedures contained in this document. Equipment to be tested shall be identical in form and function with production units. Engineering or development prototypes are not acceptable. See Appendix G for hardware guidelines.

Any modification to existing hardware, firmware, infrastructure, or other components will invalidate the prior certification by the SBE unless ELECT can review and provide an assurance to the SBE that the change does not affect the accuracy, reliability, security, usability, or accessibility of the system. See Appendix J for the De Minimis Change Guideline that is applicable for hardware.

EPB systems generally utilize vendor-designed software operating on a variety of commercial-off-the-shelf hardware devices. Certification shall be provided to only similarly identical, and previously designated, hardware and operating systems at the time of certification.

2.3. EPB System Software Elements

EPB system software shall be examined and tested to ensure that it adheres to the performance standards specified within this document. EPB Desktop applications must be compatible with all computers, devices, operating system, platforms as specified in the system requirements. See Appendix D for software requirement test assertions.

Any modifications to existing software will invalidate the prior certification by the SBE unless ELECT can review and provide an assurance to the SBE that the change does not affect the accuracy, reliability, security, usability, or accessibility of the system. See Appendix J for the De Minimis Change Guideline that is applicable for software.

2.4. Early Voting Connection Requirements

Beginning in November 2020, pursuant to the Code of Virginia, Title 24.2 Elections, Chapter 7, Absentee Voting, Virginia will have a no-excuse absentee in person voting period, referred to as Early Voting.

The new law also allows electoral boards the opportunity to provide additional locations within their locality for all Early Voting activities. Based on the number of registered voters, each locality's electoral board will determine whether to open additional Early Voting locations. Any registered voter within each locality can vote at any one of the Early Voting locations within the specified period prior to Election Day. This requires each locality to have secure connectivity to the voter registration information (VRI) throughout the Early Voting period to:

1. Confirm the person is eligible to vote in the election
2. Confirm the person has not previously voted in the election
3. Record voter history in real-time.

Reference Appendix K for an additional list of security-related requirements that are applicable only for those vendors choosing to host EPBs in the Cloud, as a part of their solution for managed connectivity to/from locality devices during this Early Voting period.

Chapter 3: Review and Approval Process

3.1. Summary of Process

The State certification is limited to the final products that have been used in full production environment and available for immediate installation. The certification review process goes through six phases. At the end of each phase, ELECT will evaluate the results to determine the certification status.

Six Phases of the Certification Review Process:

1. Certification Request from Vendor
2. Preliminary Review
3. State Technical Data Package (TDP) to VSTL
4. Certification Test Report from VSTL
5. On-Site Testing in Mock Election
6. Approval by the SBE.

3.2. Certification Review Process

Phase 1: Certification Request from Vendor

A vendor will request a certification for either a specific EPB system, software, firmware, hardware, and/or modification to an existing certified EPB system. This request should include the following information:

1. EPB Certification Application Form, signed by a company officer; see Appendix I
2. A copy of the certification(s) from other state(s) for the proposed EPB
3. Whether the proposed EPB system has ever been denied certification or had certification withdrawn in any state
4. Eight copies of a brief overview description of the EPB system
    a. Typical marketing brochures are usually sufficient for the description
5. A list of all states where the proposed EPB system version is currently used
6. The vendor, VSTL and ELECT will review a statement of work that will results in the VSTL providing an estimate for the cost of testing. Testing will take place at the headquarters of the VSTL to limit the cost of testing. ELECT will give an estimate for their own staff to travel as well. Once this is agreed to, a check or money order for the non-refundable fee for an EPB system certification request and applicable fees for modifications to a previously certified EPB system, as applicable, will be paid.

   a. All fees must be collected before the certification will be granted
      i. Make checks or money order payable to Treasurer of Virginia
7. TDP must clearly identify all items:
   a. If the TDP is incomplete or the items in the package are not clearly identified, the entire package could be returned to the vendor
   b. Upon the receipt of the corrected TDP from the vendor, the evaluation of the EPB system will be rescheduled
8. Corporate Information must clearly identify all items:
   a. If the Corporate Information is incomplete or the items in the package are not clearly identified, the entire package could be returned to the vendor
   b. The evaluation process will be rescheduled after the corrected package is received.

NOTE: The request package with the items above should be sent to the location indicated in Appendix B.

Technical Data Package

The TDP must contain the following items if they were not included in the TDP submitted:

1. *Hardware Schematic Diagrams*: Schematic diagrams of all hardware
2. *Hardware Theory of Operations*: Documentation describing the theory of operation of the hardware including power cords and backup battery
3. *System architecture with network and infrastructure connectivity*: Documentation to include system architecture, network, and data flow diagrams and to clearly specify all applicable components, cloud services and infrastructure connectivity
4. *Software Deviations*: Include any exception(s) to the Security Content Automation Protocol (SCAP) checklist; document the reason why there is an exception and the mitigating controls/tools in place to secure the system
5. *Software System Design*: Documentation describing the logical design of the software
   a. This documentation should clearly indicate the various modules of the software, such as:
      i. The list of functions
      ii. System flowchart
      iii. The interrelationships of modules
      iv. The list of data formats that the EPB system can import and export
   b. Clearly specify the operating system and version with:
      i. The Last Date of Mainstream Support, as defined in Appendix H
      ii. SHA256 hash value, and modification

6. *Software and Firmware Source Code*: A copy of the EPB, software and firmware source code including the operating system, directory structure of the source code, and a map to show how the source code was built into the final install files. If the operating system or any component has reached and/or will reach the Last Date of Mainstream Support within 18 months, as defined in Appendix H, send an upgrade plan with target date(s) to ELECT. The Last Date of Mainstream Support cannot include any type of Extended Support.
7. *Independent Third-Party Application Penetration Analysis Report*: An accredited application penetration test conducted, within the past 12 months, to analyze the system for potential vulnerabilities according to current industry standards. Potential vulnerabilities may result from poor or improper system configuration, known or unknown hardware or software flaws, or operational weaknesses in process or technical countermeasures. The test must involve active exploitation of security vulnerabilities of the EPB system, whether or not the vulnerabilities can be mitigated through compensating controls. Pursuant to Virginia Code § 24.2-625.1, the Penetration Analysis Report is confidential and excluded from inspection and copying under the Virginia Freedom of Information Act. If a penetration test has been conducted in another state within the past 12 months on the same version of the EPB system that may be submitted to fulfill this requirement.
8. *Customer Maintenance, Repair & Troubleshooting Manual*: Documentation that is normally supplied to the customer for use by the person(s) who will provide maintenance, repair and troubleshooting of the system
9. *Operations Manual*: Documentation that is normally supplied to the customer for use by the person(s) who will operate the system
10. *User Guide and Documents*: The vendor should provide the following:
    a. A quick reference guide with detail instructions for a precinct election officer to set up, use, and shut down the EPB system
    b. Clear model of EPB system architecture with the following documentations:
        i. End User Documentation
        ii. System-Level and Administrator-Level Documentation
        iii. Developer Documentation
    c. Failsafe data recovery procedures for information in the EPB system
    d. A list of customers who are using or have previously used the EPB system
        i. The description of any known incidents or anomalies involving the functioning of the EPB system, including how those incidents or anomalies were resolved with customer and date

11. *Recommended Security Practices*: CIS Security Best Practices, including:
    a. System Security Architecture
    b. System Event Logging
    c. System Security Specification
    d. Security Content Automation Protocol (SCAP)
    e. Cryptography
    f. Equipment and Data Security
    g. Network and Data Transmission Security
    h. Access control
    i. Authentication procedure
    j. Software
    k. Physical Security
12. *Standard Contract, Product Support and Service Level Agreement (SLA)*: Customer and Technical Support hours and contact information. The SLA should specify the escalation timeline and procedure with contact information. Vendor's capacity to provide, including:
    a. On-Site Support and Technical Support within the SLA on:
        i. Election Day (defined as the start of the Early Voting period up to and including Election Day; see Appendix K)
        ii. Within 60 days before Election Day
    b. Resolution to outstanding issue(s), repair, maintenance and service requests within 30 days
13. *Maintenance Services, Pricing and Financing Options*: A list of maintenance services with price. Terms for replacing a component or EPB system. Available financing options for purchase or lease
14. *Warranty*: The vendor should provide a list of warranty specifications to include the following:
    a. The period and extent of the warranty
    b. Repair or Replacement
        i. The circumstances under which equipment is replaced rather than repaired
        ii. The method by which a user requests such replacement
    c. Warranty coverage and costs
    d. Technical documentation of all hardware and software that is used to certify that the individual component will perform in the manner and for the specified time
15. *Software License Agreement*

16. *Test Data and Software*: Vendor's internal quality assurance procedure, internal or external test data and reports, and software that can be used to demonstrate the various functions of the EPB system. Vendor should also verify that the version of the applications submitted are identical to the versions that have undergone the certification testing; for example, hash testing tools.
17. *Non-Disclosure Agreement*: If applicable.

NOTE: If the EPB system is certified, ELECT will retain the TDP as long as the EPB system is marketed or used in the Commonwealth of Virginia.

Corporate Information

Corporate Information must contain the following items:

1. History and description of the business including the year established, products and services offered, areas served, branch offices, subsidiary and parent companies, capital and equity structure, identity of any individual, entity, partnership, or organization owning a controlling interest, and the identity of any investor whose investments have an aggregate value that exceeds more than 5% of the vendor's net cash flow in any reporting year
2. Management and staff organization, number of full time and part-time employees by category, and resumes of key employees who will assist Virginia localities in acquiring the system if it is authorized for use
3. Certified financial statements for current and past three (3) fiscal years
    a. If the vendor is not the manufacturer of the EPB system, then submit the certified financial statements of the manufacturer for the past three (3) fiscal years
4. Bank Comfort Letter from the vendor's primary financial institution
    a. If the vendor uses more than one financial institution, multiple Comfort Letters must be submitted
5. Certificate of Good Standing issued within 2 months
6. Credit rating issued within 2 months
7. If publicly traded, indexes rating of the business debt
8. Gross sales in EPB products and services for the past three (3) fiscal years and the percent of the vendor's total sales
9. The location of all facilities with manufacturing capability; including names of the third-party vendor(s) that are employed to fabricate and/or assemble any component part of the EPB system being submitted for certification, along with the location of all of their facilities with manufacturing capability

10. The location and servicing capability of each facility that will be used to service the EPB system for certification and the service limitation of the facility
11. Quality assurance process used in the manufacturing and servicing of the EPB system
12. Configuration management process used with the EPB system.

NOTE: If the EPB system is certified, ELECT will retain the Corporate Information as long as the EPB system is marketed or used in Virginia. ELECT will sign a statement of confidentially for Corporate Information only.

Proprietary Information

Prior to or upon submission of its certification request, the vendor shall identify any information in its request and/or accompanying materials that it believes should be treated as confidential and proprietary. Furthermore, the vendor must state the reasons why such information should be treated as confidential and proprietary.

"Identify" means that the information must be clearly marked with a justification as to why the information should be treated as confidential and proprietary information. A vendor shall not designate as proprietary information (a) the entire certification request or (b) any portion of the certification request that does not contain trade secrets or proprietary information.

ELECT cannot guarantee the extent to which any material provided will be exempt from disclosure in litigation or otherwise. ELECT, however, agrees to provide the vendor with five (5) days' notice prior to disclosing such material to third parties so that the vendor has the opportunity to seek relief from a court prior to the disclosure of such materials by ELECT.

Phase 2: Preliminary Review

The Voting Technology Coordinator or designee will review the TDP, Corporate Information and other materials provided, and notify the vendor of any deficiencies. Certification of the EPB system will not proceed beyond this phase until the TDP and Corporate Information are complete.

The Voting Technology Coordinator or designee will notify the vendor to submit the following for evaluation:

1. Production working model of the EPB to run through all phases of testing, including:
    a. All hardware, software and firmware necessary to run the EPB
    b. Software shall be provided in a format readable by the EPB hardware that is being submitted for certification

   c. All commercial-off-the-shelf software and necessary drivers, including the operating system, any software applications for logging, reporting, printing, etc.
   d. All peripheral devices, including those required for usability and accessibility
   e. Any other components recommended by the manufacturer for use
2. Copy of the Test documents from prior VSTL certification testing, including Test Plan, Test Report, Test Procedures, and Test Cases
3. A release to the VSTL to respond to any requests for information from the Commonwealth of Virginia
4. A release to other states which have decertified the system or prior versions of the system to respond to any requests for information from the Commonwealth of Virginia
5. Any other materials and equipment deemed necessary by ELECT

The Voting Technology Coordinator or designee will conduct a preliminary analysis of the TDP and the EPB system with VSTL. The Voting Technology Coordinator or designee will also review the Corporate Information and other materials to prepare an Evaluation Proposal, which includes:

1. Components of the EPB system to be certified
2. Financial stability and sustainability of the vendor to maintain product support and contractual agreement for the EPB system
3. Preliminary analysis of TDP

Phase 3: Technical Data Package to Voting Systems Test Laboratory

In addition, the vendor should submit the TDP to the Voting Technology Coordinator, who shall provide the TDP to the VSTL following review.

Phase 4: Certification Test Report from VSTL

VSTL will work directly with the vendor and ELECT designee to complete all test assertions and test cases and the Certification Test Report will be sent to ELECT upon completion.

Phase 5: On-Site Testing in Mock Election

ELECT will coordinate with a local jurisdiction to test the EPB system in a Mock Election. With the vendor present, the Electoral Board members from the local jurisdiction along with ELECT will oversee the test use of the system in a Mock Election.

Phase 6: Approval by the SBE

Based on the report from the VSTL, the results from the On-Site Testing in Election and other information in their possession, the SBE will decide whether the EPB system will be certified for use in the Commonwealth of Virginia. The decision will be sent to the vendor.

3.3. Incomplete Certification Process

If the certification process is terminated, the vendor will forfeit all fees received by ELECT. Any certification process terminated under this provision must be re-initiated from Phase 1. The vendor is responsible to pay all outstanding balance due to ELECT before ELECT accepts subsequent requests from the vendor.

ELECT reserves the right to terminate the certification process when:

1. Vendor does not respond to a request from ELECT within 90 days
2. ELECT issues any concerns regarding the certification
3. The Vendor withdraws from the process
4. The system fails the VSTL certification test
5. The test lab cannot conduct the certification testing with the equipment on-hand

Appendices

A – Glossary

Anomaly – Any event related to the security or functioning of the EPB system that is out of the ordinary regardless of whether it is exceptional or not; a deviation from the norm.

De Minimis Change – A minimum change to a certified EPB system's hardware, software, TDP, or data. The nature of changes will not materially alter the system's reliability, functionality, capability, or operation. Under no circumstance shall a change be considered De Minimis Change, if it has reasonable and identifiable potential to impact the system's performance and compliance with the applicable EPB Standard. Reference: EAC Testing & Certification Program Manual version 2.0 and Notices of Clarification.

Department of Elections (ELECT) – ELECT conducts the SBE's administrative and programmatic operations and discharges the board's duties consistent with delegated authority.

Election Officer – A registered voter in Virginia appointed by a local electoral board to serve at a polling place for any election. Officers of election must attend training conducted by the electoral board or the general registrar. Some of their duties on Election Day include identifying qualified voters and checking them in on the pollbooks; handing voters their correct ballots; telling voters the proper procedure for inserting ballots into the voting machine; and, when applicable, providing a voter with a provisional ballot.

Electronic Pollbook (EPB) System– A system containing an electronic list of registered voters that may be transported and used at a polling place. This is the official list of registered voters eligible to vote in the election; it is used to verify a voter's eligibility to receive a ballot and captures voter history in real time to prevent double voting. The term "electronic pollbook system" refers to the total combination of mechanical, electro-mechanical, electronic and digital equipment (including the software, firmware, and documentation required to program, control, and support the equipment).

Incident – Any event related to the security or functioning of the EPB system that may have caused or caused an interruption to the Check-in and/or Reporting process.

Precinct – A precinct is a geographic area within a locality or a town, established by ordinance by the local governing body. As per the Code of Virginia § 24.2-307, the "governing body of each county and city may establish as many precincts as it deems necessary." A precinct must be wholly contained in any district used to elect members of the local governing body. The local governing body also determines the location of the polling place where residents vote.

State Board of Elections (SBE) – The State Board of Elections is authorized to supervise, coordinate, and adopt regulations governing the work of local electoral boards, registrars, and officers of election; to provide electronic application for voter registration and delivery of absentee ballots to eligible military and overseas voters; to establish and maintain a statewide automated voter registration system to include procedures for ascertaining current addresses of registrants; to prescribe standard forms for registration, transfer and identification of voters; and to require cancellation of records for registrants no longer qualified. Code of Virginia, Title 24.2, Chapters 1, 4 and 4.1.

Voting Systems Test Laboratory (VSTL) – Test laboratory accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) to be competent to test EPB systems.

B - Contacts

The Department of Elections

The certification request package should be sent to:

Virginia Department of Elections
ATTN: EPB System Certification
1100 Bank Street, 1st Floor
Richmond, Virginia 23219-3497

All other inquiries should be sent to:

Email: info@elections.virginia.gov

C – Acceptance Test

As required by the Code of Virginia §24.2-629 (E) and the procurement process, the local jurisdiction with the assistance of state officials or consultants will conduct the Acceptance Test.

The local jurisdiction will examine that the purchased or leased system to be installed is identical to the certified system and that the installed equipment and/or software are fully functional and compliant with the administrative and statutory requirements of the jurisdiction. The state requires localities to perform hash testing of applications software, as well as, send a letter to ELECT, as required by the procurement process, to confirm that the versions of all software and model(s) of equipment received are identical to the certified system.

As part of the acceptance test the vendor will demonstrate the system's ability to execute its designed functionality as presented and tested during certification, including:

1. Mark voters as checked in, voted, and given a ballot only after specific actions
2. Provide the user notification and display an appropriate instruction based on the voter status:
    a. Protected voters
    b. Inactive voters
    c. Absentee voters
    d. Voters out of precinct
    e. Voters that already voted
3. Perform data and operational integrity safeguard tests including:
    a. Ability to add or remove new units without disturbing the existing units
    b. Power supply and battery life with an option to display power usage
    c. Display an appropriate message when the EPB device is operating at less than 20% of remaining power
    d. Display an appropriate error message when the EPB fails to check in a voter
4. Performance Report to include the optimal duration of check in process per voter
5. System monitoring and notification of system errors, including:
    a. Perform a self-test for peripheral connectivity
    b. Visible display indicating power supply/battery life
    c. Visible display indicating system connections
6. Comply with and enable voter and operator compliance with all applicable procedural, regulatory, and statutory requirements
7. Produce an audit log

8. Close the election and provide multiple secure files which are capable of providing voter credit to the Voter Registration System
9. Data preservation and redundancy to maintain a printable checklist format of the voter registration record and voter activity record on a removable storage. When one to all of the EPBs become inoperable, and if there is not an alternate recovery means available, then the removable storage must reflect the voter activity record at that moment and can be used to continue with election
10. During an interruption of network connection, EPBs should retain and synchronize all voter activities upon restoration of connectivity
11. Secure the reliable data transfers and display appropriate message for each data transfer to outside of closed network including electronic data management system, central server and cloud data service (This is only for testing of EPBs that will be used for Early Voting)
12. Transaction Logging and Audit Reports including the following details:
    a. Log all changes to EPB post the initial download
    b. Transactions at the polling places
    c. Export logs in a readable format
    d. The EPB's audit log(s) must be encrypted, track all transactions and include a date/time stamp
13. All modules and data are cryptographic and are FIPS 140-2 compliant including at rest and in transit
14. Comply with the NIST SP 800-63B or better digital identity guidelines for authentication and lifecycle management
15. Support the industry standard for clean wipe method remotely and manually.

Audit and Validation of Certification

It is the responsibility of both the vendor and the local jurisdiction to ensure that an EPB system, that is supplied or purchased for use, in the Commonwealth of Virginia has been certified by the SBE. It is the responsibility of the vendor to submit any modifications to a previously certified EPB system to the ELECT for review.

If any questions arise involving the certification of an EPB system in use in Virginia, ELECT shall verify that the EPB system in use is identical to the EPB system submitted for certification. Any unauthorized modifications to a certified system may result in decertification of the system by the SBE or bar an EPB system vendor from receiving certification of EPB systems in the future with the Commonwealth of Virginia.

D – Test Assertions

The following test assertions will be executed by the ELECT designated VSTL.

Statutory Requirement	*Test Assertions*
If EPBs are used in the locality or electronic voter registration inquiry devices are used in precincts in the locality, the Department shall provide a regional or statewide list of registered voters to the general registrar of the locality. The Department shall determine whether regional or statewide data is provided. Neither the pollbook nor the regional or statewide list or registered voters shall include the day and month of birth of the voter, but shall include the voter's year of birth. § 24.2-404(A7)	I – The EPB must display the voter's birth year, but no other birthday information.
In no event shall any list furnished under this section contain the social security number, or any part thereof, of any registered voter, except for a list furnished to the Chief Election Officer of another state permitted to use social security numbers, or any parts thereof, that provides for the use of such numbers on applications for voter registration in accordance with federal law, for maintenance of voter registration systems. § 24.2-406(C)	I – The EPB cannot have a field to display partial or complete Social Security Numbers.
The EPB System shall have the ability to prepare a separate pollbook report for each party taking part in a primary election at the same time. § 24.2-531	I – The EPB provides a report that can be filtered by party.
Record the name and consecutive number of the voter at the time he offers to vote. Enter an EPB record for each voter and recording each voter's name, including voters unable to enter the polling place, and for verifying the accurate entry of the	I – The EPB provides an input field to record name and consecutive number of a voter when they present themselves to vote. II – The EPB shall automatically enter consecutive numbers from a given starting point.

EPB record for each registrant on the Virginia Voter Registration System. § 24.2-611(B)	III – The EPB System shall have the ability to indicate whether a voter voted "Outside Polls" or "OP." The operator shall be allowed to notate independently or in conjunction with other notations set forth in these requirements. The EPB System shall have the ability to provide listings and counts of such voters.
The State Board shall incorporate safeguards to assure that the records of the election, including the pollbook, voter count sheets, or other alternative records, will provide promptly an accurate and secure record of those who have voted. § 24.2-611(C)	I – The EPB must produce an audit log that records data that has been successfully transferred.
In the event that the EPBs for a precinct fail to operate properly and no alternative voter list or pollbook is available, the officers of election, in accordance with the instructions and materials approved by the State Board, shall (i) maintain a written list of the persons EPB and (ii) provide to each person EPB a provisional ballot to be cast as provided in § 24.2-653. § 24.2-611(E)	I – The EPB must be able to produce a data output in a format deemed necessary by the Commonwealth of Virginia. II – The EPB must maintain data preservation and redundancy so in the case where the EPB becomes inoperable the data that has been input can be retrieved.
If the person challenged refuses to sign the statement, he shall not be permitted to vote. If, however, he signs the statement, he shall be permitted to vote on the voting system in use at the precinct, unless he is required to cast a provisional ballot pursuant to § 24.2-651.1 *When the voter has signed the statement and is permitted to vote, the officers of election shall mark his name on the pollbook with the first or next consecutive number from the voter count form, or*	I – The EPB must have the capability to display an indication that a voter has been challenged. II – The EPB must have the functionality to identify a voter that cannot be processed as a regular voter. This functionality has to be configurable so that the election day reasons can be updated without a software update. III – The name of required document must be pre-loaded in EPB. Poll worker must be able to

shall enter that the voter has voted if the pollbook is in electronic form, and shall indicate on the pollbook that he has signed the required statement in accordance with the instructions of the State Board. *If the envelope containing a voted absentee ballot has been properly signed by the voter, such ballot shall not be subject to challenge pursuant to this section. § 24.2-651*	select from the voter check-in screen the name of document that the voter is required to sign.
Any person who offers to vote, who is listed on the pollbook, and whose name is marked to indicate that he has already voted in person in the election shall cast a provisional ballot as provided in § 24.2-653. The State Board of Elections shall provide instructions to the electoral boards for the handling and counting of such provisional ballots. § 24.2-651.1	I – The EPB must disable all check in options if the voter's status is VOTED.
	II – The EPB must require a supervisor control to change the voter status from VOTED or add the absentee status.
The data disc or cartridge containing the electronic records of the election, or, alternately, a printed copy of the pollbook records of those who voted, shall be transmitted, sealed and retained as required by this section, and otherwise treated as the pollbook for that election for all purposes subsequent to the election. § 24.2-668(C)	I – All reports produced by the EPB must contain election identification information.
	II – The removable media must be able to be sealed, transportable, and retain information as required.
Before the polls open, the officers of election at each precinct shall mark, for each person on the absentee voter applicant list, the letters "AB" (meaning absentee ballot) in the EPB record column on the pollbook. § 24.2-711	I – The EPB must notify and provide user instructions for absentee and early voters ("AB").
	II – The EPB must require supervisor controls to change the absentee status of a voter.

Functional Requirement	*Test Assertions*
Allows user to cancel a voter check-in. Requires supervisor controls prior to cancellation of a voter check-in. Provides ability to select reason for cancellation.	I – The EPB must have the ability to cancel a voter check-in.
	II – The EPB must provide the ability to select a reason for cancellation and provide an input for a supervisor password.
At voter check in, provide notification of "inactive" voter status, including on-screen instructions and options for processing the "inactive" voter.	I – The EPB must have the functionality to identify a voter that cannot be processed as a regular voter.
	II –The EPB displays on-screen instructions.
	III –The EPB allows selection of the appropriate document name that the voter is required to sign.
Provides the voter address look-up to redirect voters to the correct polling place. Contains additional functionality to include driving directions.	I – The EPB must contain a feature that allows the user to look-up voter's address to redirect them to the correct polling place.
	II – The EPB must contain a feature that includes driving directions.
Provides a variety of voter look-up capabilities, including first and last name, year of birth, address, District, and Voter ID. Enables each search to be filtered to reduce the number of records returned. Allows configuration of additional advanced search capabilities.	I – All search for voters must have the capability for an advanced search so results can be filtered on any combination of the following data: last name, first name, year of birth, address, District and Voter ID.

Maintain separate elections such as primary elections for multiple parties. Manage the voter list and counts by separate elections.	I – The EPB must have the ability to manage the voter list and count by party in a partisan election.
Allows configuration of on-screen poll worker instructions and messages without software changes.	I – The EPB must have a feature that allows for messaging and instructions to be editable without requiring a software update.
Allows configuration of document name(s) when a voter's status requires a document to be signed.	I – The EPB must have a feature that allows for configuration of document name(s) prior to Election Day without requiring a software update.
Ability to customize workflow requirements according to the State and/or jurisdiction requirements and preferences.	I – The EPB must be customizable so changes in workflow requirements and/or the change State procedures in the voter check-in process can be accommodated.
Provides the user with a continuous on-screen voter check-in count, customizable by specific category.	I – The EPB must display and automatically update the voter credits issued and synchronize with other units on a network.
Displays an opening screen to allow the user to confirm election date, polling place location, number of eligible voters, and zero voter check-in count prior to opening the polls.	I – The EPB must have a verification screen that displays the election date, polling place location, the number of voters for the location, and zero voter have checked in.
Users with minimal system knowledge should be able to configure and customize reports.	I – The EPB reporting module should be configurable and customizable by a user with minimal system knowledge.
Receive and process the voter registration and election information.	I – The Administrator of the EPB must be able to add, remove, update, and delete stored information.

	II – The EPB must be able to retrieve a specific voter from a list of provided voters and issue voter credit.
	III – The EPB must provide a verification that the voter and election data are accurately loaded in the EPB.
Accurately maintain whole and separate count(s) of voters distinguishable by Ballot Style (Voter's Party/primary, Precinct, and Precinct Split), Curbside Voter, Challenged Voter, Voter Status, Provisional, Absentees and Early Votes.	I – The EPB must be able to provide reports that distinguish voters by ballot style, party, precinct, precinct split, curbside voter, and voter status.
The EPB shall have the ability and the option to scan the barcode of a Virginia driver's license.	I – The EPB must be able to scan the barcode from the Virginia State Issued IDs: Driver's License.
	II – If the download is successful, display the voter name and address on the check-in screen.
	III – Display an appropriate message if the ID is not accepted.

System Requirement	*Test Assertions*
EPBs cannot connect to a Voting System at any time.	I – The EPB must not be required for the voting system to perform any functions, but may provide a digital code for the voter's ballot retrieval on Ballot Marking Devices.
	II – The EPB cannot connect to the voting system.

During an interruption of network connection, EPBs should retain and synchronize all voter activities upon restoration of connectivity.	I – The EPB must be networkable. Once networked together all EPB's must synchronize to the most current voter information.
	II – If network connectivity is lost, once restored all devices on the network must synchronize.
Perform data and operational integrity safeguard tests including: *i. Ability to add or remove new units without disturbing the existing units* *ii. Power supply and battery life with an option to display power usage* *iii. Display appropriate message when the EPB device is operating at less than 20% of remaining power* *iv. Display appropriate error message when a voter is not counted* *v. Capacity/Load Test report to include the maximum number of voters the configuration setting can handle* *Performance report to include the optimal duration of check in process per voter.*	I – The EPB must have a report that provides statistics on the duration of voter check-in process and the maximum number of voters the configuration can handle.
System monitoring and notification of system errors including: *i. Perform a self-test for peripheral connectivity* *ii. Visible display indicating power supply/battery life* *iii. Visible display indicating system connections.*	I – The EPB must have battery status indicator and a peripheral connectivity indicator.
	II – The EPB must log all system errors and notify the user of errors that can be corrected by the user.

Security Requirement	*Test Assertions*
Support the industry standard for clean wipe method remotely and manually.	I -The EPB must support the ability to write ones and zeros or shred all removable media.
Utilize security best practices for internet connectivity including network, wireless, and cloud services.	I – The EPB must employ the following management techniques: • Upgrade to a Modern Operating System and keep it up-to-date • Exercise Secure User Habits • Leverage Security Software • Safeguard against Eavesdropping • Protect Passwords • Limited Use of the Administrator Account • Employ Firewall Capabilities • Implement WPA2 on the Wireless Network • Limit Administration to the Internal Network
Comply with the latest encryption standard for all data including data-at-rest and data-in-transit. This requirement applies to all IT equipment including mobile and stand-alone.	I – All modules and data are cryptographic and are FIPS 140-2 compliant.
	II – The EPB's audit log must be encrypted, track all transactions and include a date/time stamp.
Comply with the NIST SP 800-63B or better digital identity guidelines for authentication and lifecycle management.	I – All passwords used by the EPB follow the NIST SP 800-63B Standard.
	II – All passwords used by the EPB must allow upper case, lower case, numbers, and special characters.
	III – The same password cannot be reused within at least the past 10 times.

	IV – The EPB requires passwords to be changed every 6 months.
	V – The EPB must provide the option to mask or unmask passwords at text entry.
Comply with the Access Management best practices for System Administrator and Network Administrator.	I – The EPB must employ the following management techniques: • Centralization of all components • Role Based Access Control • Employ Zero Trust Identity Security • Use the Principle of Least Privilege • Automated Onboarding • Automated Off-boarding • Orphaned Account Detection and Removal • Multifactor Authentication • Notification of failed logon attempts • Notification of use of Privileged Accounts.
Harden the EPB System using the vendor's procedures and specifications.	I – The EPB Vendor must provide a system hardening specification for the system.
	II – Assessed via automated scanning tools (i.e. CIS L1 benchmarks).
Restrict connections to EPBs from the specified devices such as the printer and authorized USB at the polling place. Reject all connections from other external devices.	I – The EPB must restrict all ports to only allow known system components to communicate with the EPB and not allow unknown device to connect.
EPBs should be configured to synchronize data within the defined network only. Disable connection to all unauthorized network including publicly	I – The EPB must be networkable. Once networked together all EPB's must synchronize to the most current voter information.

accessible network. Any external connectivity must be IP whitelisted.	II - Any failure of a device can not impact the remaining units.
	III – The EPB must not connect to unauthorized networks.
	IV – The EPB must not allow connections that are not IP whitelisted.
Secure and reliable data transfers and display appropriate message for each data transfer to outside of the approved network including electronic data management system, central server and cloud data service.	I – The EPB must have success and failure message to the user for the transfer of data outside of the approved network.
When wireless is activated on an EPB device, there is a very visible means/mechanism that alerts others of this state.	I – The EPB effectively alerts others when the wireless state is activated on EPB device. (E.g. clearly visible indicator light on device, text alert, etc.)

Audit Requirement	*Test Assertions*
Transaction Logging and Audit Reports includes the following details: *a. Audit trail of election data preparations* *b. Transactions at the polling places* *c. View and export logs in a readable format* *d. Identify and manage security incidents and fraudulent activities* *e. Track and resolve operational problems.*	I – The EPB must have a transaction log containing the following: • Records of election preparation • Records of transactions in the polling place • Human-readable logs • Ability to export logs • Identify and manage security incidents and fraudulent activities • Track and resolve operational problems.

Reconciliation of data load to EPB to handle exceptions and discrepancies.	I – The EPB must provide a verification that the data loaded for the election was successful, accurate, and any discrepancies in the process handled.

E – Software Patching Guidelines

All vendors must comply with the policies, guidelines, and directives regarding software patching of EPB systems as adopted and modified by the SBE from time to time.

F – Recertification Guidelines

All vendors must comply with the policies, guidelines, and directives regarding recertification of EPB systems as adopted and modified by the SBE from time to time.

If there is evidence of a material non-compliance, ELECT will work with the vendor to resolve the issue, and ultimately the SBE reserves the right to decertify the EPB system.

An EPB system that has been decertified by the SBE cannot be used for elections held in the Commonwealth of Virginia and cannot be purchased by localities to conduct elections.

G – Hardware Guidelines

Memory devices or USB drives provided with the EPB system and/or supplied to localities must follow these standards:

1. Must be fully wiped per the DoD 5220.22-M wiping standard to prevent any preloaded software from being inadvertently installed on the systems
2. Must be cryptographic and FIPS 140-2 compliant
3. Must use SHA256 hashing algorithm or higher
4. Must comply with applicable Commonwealth information security standards
5. Must comply with applicable policies, guidelines, and directives as adopted and modified by the SBE from time to time.

H – EPB System Modifications & Product End of Life Planning

EPB System Modifications

The process for reporting modification will be determined by ELECT based upon policies, guidelines, and directives as adopted and modified by the SBE from time to time.

Product End of Life Planning

"End-of-life" (EOL) is a term used with respect to product (hardware/software/component) supplied to customers, indicating that the product is in the end of its useful life (from the vendor's point of view), and a vendor stops sustaining it; i.e. vendor limits or ends support or production for the product.

Product support during EOL varies by product. Depending on the vendor, EOL may differ from end of service life, which has the added distinction that a vendor of systems or software will no longer provide maintenance, troubleshooting or other support. For example, Extended Support is the period following end of Mainstream Support.

The definitions of Last Date of Mainstream Support and Extended Support, as applicable to decertification/recertification and associated policies and procedures, will be determined by ELECT based upon policies, guidelines, and directives as adopted and modified by the SBE from time to time. As of initial adoption of this standard by the SBE, the definitions are as follows:

Mainstream Support: The first phase of the product lifecycle; when support is complimentary

Extended Support: The phase following Mainstream Support, in which support is no longer complimentary

Last Date of Mainstream Support: The last day of Mainstream Support

Policies and procedures applicable to decertification/recertification of EPB systems which contain software or hardware components that have and/or will reach the Last Date of Mainstream Support within 18 months, will be determined by ELECT based upon policies, guidelines, and directives as adopted and modified by the SBE from time to time.

An EPB system could still be decertified even if an upgrade plan is submitted. This could happen for a variety of reasons, such as a vendor is not showing progress in meeting their upgrade plan.

I – EPB Certification Application Form

Certification ☐	Recertification ☐

The company officer or designee who is responsible for the Electronic Pollbook System should complete this form. With this signature, the company officer agrees to a release for the VSTL as well as other states that may have decertified the EPB to respond to any questions by ELECT. This application must be signed by a company officer and enclosed in the EPB Certification Request Package.

☐ Check if you prefer to have the VSTL testing performed at another site to be specified which may require additional cost for the testing.

Name of Company: _____

Name and Title of Corporate Officer: _____

Contact Phone Number: _____

Email Address: _____

Primary Address of Company: _____

City, State, Zip Code: _____

Name of EPB System to be certified: _____

Version Number/Name of EPB System to be certified: _____

I reviewed and confirmed that the EPB meets the requirements of the Virginia Electronic Pollbook Certification Standard. My company will comply with additional requests in a timely manner to complete this certification.

Signature of Corporate Officer: _____

Date: _____

J – De Minimis Change Guideline

The SBE has adopted the EAC's De Minimis Change Guideline and applicable EAC Notice of Clarification of De Minimis Change Guidelines to manage a minimal hardware and/or software related change to a certified EPB system in a consistent and efficient manner. Software De Minimis Changes should have the following general characteristics:

1. Update a discrete component of the system and do not impact overall system functionality
2. Do not affect the accuracy of the component or system
3. Do not negatively impact the functionality, performance, accessibility, usability, safety, or security of a component or system
4. Do not alter the overall configuration of the certified system
5. Can be reviewed and/or tested by VSTL personnel in a short amount of time (approximately less than 100 hours).

A vendor must submit the VSTL's endorsed package to ELECT for approval. A proposed De Minimis Change may not be implemented to the certified EPB system until the change has been approved in writing by ELECT.

VSTL Endorsed Changes

The vendor will forward to ELECT any change that has been endorsed as De Minimis Change by VSTL. The VSTL's endorsed package must include:

1. The vendor's initial description of the De Minimis Change, a narrative of facts giving rise to, or necessitating, the change, and the determination that the change will not alter the system's reliability, functionality, or operation.
2. The written determination of the VSTL's endorsement of the De Minimis Change. The endorsement document must explain why the VSTL, in its engineering judgment, determined that the proposed De Minimis Change meets the definition in this section and otherwise does not require additional testing and recertification.

VSTL Review

The vendor must submit the proposed De Minimis Change to a VSTL with complete disclosures, including:

1. Detailed description of the change
2. Description of the facts giving rise to or necessitating the change

3. The basis for its determination that the change will not alter the system's reliability, functionality, or operation
4. Upon request of the VSTL, the EPB system model at issue or any relevant technical information needed to make the determination
5. Document any potential impact to election officials currently using the system and any required notifications to those officials
6. Description of how this change will impact any relevant system documentation
7. Any other information the VSTL needs to make a determination.

The VSTL will review the proposed De Minimis Change and make an independent determination as to whether the change meets the definition of De Minimis Change or requires the EPB system to undergo additional testing as a system modification. If the VSTL determines that a De Minimis Change is appropriate, it shall endorse the proposed change as a De Minimis Change. If the VSTL determines that modification testing and recertification should be performed, it shall reclassify the proposed change as a modification. Endorsed De Minimis Change shall be forwarded to ELECT for final approval. Rejected changes shall be returned to the vendor for resubmission as system modifications.

ELECT's Action

ELECT will review the proposed De Minimis Change endorsed by a VSTL. ELECT has sole authority to determine whether any VSTL endorsed change constitutes a De Minimis Change under this section.

ELECT's Approval: ELECT shall provide a written notice to the vendor that ELECT accepted the change as a De Minimis Change. ELECT will maintain the copies of approved De Minimis Change and track such changes.

ELECT's Denial: ELECT will inform the vendor in writing that the proposed change cannot be approved as De Minimis Change. The proposed change will be considered a modification and requires testing and certification consistent with this Certification Standard.

De Minimis Change is not applicable to the EPB system currently undergoing the State Certification testing; it is merely a change to an uncertified system and may require an application update.

K – Early Voting Connection Requirements

The following additional requirements exist if the EPB Vendor utilizes the cloud to host EPBs for locality access during the Early Voting period:

1. Utilize security best practices for internet connectivity including network, wireless, and cloud services.
2. Utilize a cloud service provider (CSP) whose infrastructure and applications are NIST 800-53 certified through a third party entity.
3. Ensure that CSP SLA contains 3 major components: Service level objectives, Remediation policies, and penalties/incentives related to NIST compliance, exclusions, and caveats.
4. The connection via VPN must be FIPS 140-2 certified, whether it is a dedicated SSLVPN or just a dedicated connection. If a dedicated connection, thorough documentation must be provided.
5. If the EPB Vendor supplies the mobile devices, ensure compliance with NIST 800-53 in relation to these devices, as is done with the infrastructure.
6. Storage, processing, migration, access control, and detection to and from the cloud must be NIST 800-53 compliant.
7. Ensure the CSP is NIST certified by validating their credentials through their third-party certification provider. Ask for internal vulnerability/penetration testing reports, audit reports, incident reports, and evidence of remedial actions for any issues raised. Also verify tracking of mitigating action tracking mechanisms (POA&M tracking).

All vendors must comply with the policies, guidelines, and directives regarding Early Voting connection requirements as adopted and modified by the SBE from time to time.