E-POLL BOOK SYSTEM

TECHNICAL TEST MATRIX

Kentucky State Board of Elections

AUGUST 12, 2022

Technical Test Matrix

1. Terms and definitions:

1.1. **E-poll Book Product –** KY statutory definition, synonymous with Electronic Poll Book System defined below.

1.2. **Electronic Poll Book System (EPBS) –** sum total of all devices/software/services composing entire system.

1.3. **Electronic Poll Book (EPB) –** endpoint device.

1.4. **Electronic Poll Book Central Server (EPBCS) –** Central repository/DB/administrative.

1.5. **Kentucky State Board of Election (SBE)**

1.6. **Technical Data Package (TDP) –** Vendor supplied documentation

1.7. **Voter Registration System (VRS) –** Kentucky's voter registration system and database.

1.8. **Voter's Unique Identifier (VUID)**

1.9. **Precinct –** a single area within a county that will cast ballots at one location on Election Day.

1.10. **Consolidated Location –** a combination of two (2) or more precincts put together with the intent of sharing Election Equipment and Election Officers on Election Day. ONLY voters who reside in the combination of these specific precincts will cast a ballot in this polling location.

1.11. **Vote Center –** a location where any voter in the entire county can vote on Election Day.

2. Application Matrix (Vendor):

#	Ref	Description	Met	Not Met	Comments
1	1.2	Vendor has provided test lab with a full copy of Technical Data Package, including: a. User Operating, Support, and Maintenance Manuals. b. Training Manuals and Instruction Guides. c. Recommended Use Procedures. d. Software License Agreement. e. Software System Design. f. Warranty Information. g. Recommended Security Practices. h. Provide any internal test reports and test data. i. Provide a list of all commercial off-the-shelf software, freeware, open-source software and necessary drivers, operating systems, and any software applications for operations, logging, reporting, printing, etc.			

2	1.4	Vendor has provided a list of all known defects and failures experienced with the use of the EPBS, including detailed resolutions for those anomalies.			
3		Vendor has provided a list of all usability test results: (i) that are conducted by the manufacturer of the electronic poll book on an independent testing facility using individuals who are representative of the general public; (ii) that include the setting up, using, and shutting down of the electronic poll book; and (iii) that report their results using industry standard reporting formats.			
3	1.6	Vendor has provided a list of peripherals and/or devices, including those required for usability and accessibility, which can be used within the EPBS.			
4	1.7	Vendor has provided a description of accessibility features, if any, including any accessibility standards the EPBS meets.			
5	1.8	Vendor has provided screenshots of all phases of the e-poll book product process that interact with elections workers and/or voters that is not included in product documentation.			
6		Vendor has provided a list of any other components recommended by the manufacturer for use within the EPBS.			
7	3	Vendor has provided a complete and self-contained independent test environment for use in end-to-end testing.			

3. Technical Matrix (Testing Lab):

#	Ref	Description	Met	Not Met	Comments
8	3	Testing Lab shall install and construct the Vendor's EPBS using the documentation, software and hardware supplied by the Vendor.			
9	3 13.2.12	Testing Lab shall test every operational, election worker, and voter activity/procedure as outlined in the manuals. The lab has flexibility in choosing order of testing to simulate the use of the EPBS in a special, primary and general election, including special and another election concurrently. Testing shall consist of the following at minimum: 1. Opening the election. 2. In-person Excused Absentees 3. In-person No Excuse Absentee 4. Election day Voting 5. Supplemental Voting 6. Provisional Voting 7. Closing the election 8. Generating required reports			
10	13.2.1 13.3.1	Testing Lab shall confirm that every activity of the EPBS and an EPB was tracked and persisted for auditability.			
11	13.2.2	Testing Lab shall confirm that all communications between EPBS components are secure and meet security best practices.			
12	13.2.3	Testing Lab shall confirm that check-in communications between the EPBS and VRS is secure noting type of check-ins, real-time, periodic and/or daily delta files.			
13	13.2.4	Testing Lab shall confirm that automated and user-initiated data summaries, reports and backups occurred.			
14	13.2.5	Testing Lab shall confirm the EPBS provided countywide and statewide running totals and summary information.			

15	13.2.6	Testing Lab shall confirm the specialized instructions and/or screen were provided for all system and user errors.			
16	13.2.7	Testing Lab shall confirm that accurate voter check-in summary information (Totals) is transmitted at the end of the day and at the end of the election (after election close).			
17	13.2.8	Testing Lab shall confirm that a new EPB can be added and that an EPB in the election can be removed without disruption of service during an election day.			
18	13.2.9	Testing Lab shall confirm that the EPBS provides central administration functionality for the following activities: 1. Asset tracking 2. Reporting 3. Troubleshooting 4. Downloading 5. Uploading 6. Software updating			
19	13.2.10	Testing Lab shall confirm the EPBS has the ability to accommodate partisan elections by using only one roster and check-in process by party.			
20	13.2.11	Testing Lab shall confirm the EPBS has the ability to accommodate all of the different types of polling locations used in Kentucky: 1. Precinct 2. Consolidated Precinct 3. Vote Center			
21	13.2.12	Testing Lab shall confirm the EPBS has the ability to provide for any combination of election types held concurrently with another election type.			
22	13.2.13	Testing Lab shall confirm if the EPBS allows messaging and instruction text changes without requiring a software update (**This functionality is optional but preferred**)			

23	13.3.2	Testing Lab shall confirm that all EPB errors and exceptions arising from the system, user and/or voter are tracked and persisted.			
24	13.3.3	Testing Lab shall confirm that all EPBs re-synchronize after any interruption of network connectivity.			
25	13.3.4	Testing Lab shall confirm that automated and user-initiated data summaries, reports and backups occurred.			
26	13.3.5	Testing Lab shall confirm that EPB provides for role-based user accounts on least privilege access principles.			
27	13.3.6	Testing Lab shall confirm the EPB permit a voter to check-in and sign the roster with or without network connectivity.			
28	13.3.7	Testing Lab shall confirm the EPB provides check-in information to all local EPBs via an orthogonal/lateral secure communications channel to protect against local multiple-voting scenarios.			
29	13.3.8	Testing Lab shall confirm the EPB provides check-in information to all EPBs countywide via the EPB Central Server secure communications to protect against countywide multiple-voting scenarios.			
30	13.3.9	Testing Lab shall confirm the EPB provides for the capture and persistence of individual voter signatures.			
31	13.3.10	Testing Lab shall confirm the EPBs clearly displays election specific information (shall include but not be limited to): 1. Current election 2. Date/time 3. Current database 4. Device ID 5. Current user account			

32	13.3.11	Testing Lab shall confirm the EPB provides specialized instructions and/or screens depending upon the voter's status.
		1. In-person Excused Absentee
		2. In-person No Excuse Absentee
		3. Election Day
		4. Address Confidentially Program (ACP)
		5. Inactive Voter
		6. Already voted:
		    a. Mail-in Absentee
		    b. In-person Excused Absentee
		    c. In-person No Excuse Absentee
		    d. Election day
		7. Out-of-precinct voter
		8. Out-of-county voter
		9. Military absentee
		10. Cancelled check-in
		11. Spoiled ballot
		12. Provisional ballot
		13. Supplemental ballot
		14. Abandoned check-in
		15. Look up			

33	13.3.12	Testing Lab shall confirm EPB provides running totals and summary information for:
		1. Check-ins
		2. In-person Excused Absentee
		3. In-person No Excuse Absentee
		4. Election day
		5. Ballot styles
		6. Address Confidentially Program (ACP)
		7. Inactive Voters
		8. Already voted:
		    a. In-person Excused Absentees
		    b. In-person No Excuse Absentees
		    c. Election day voters
		9. Out-of-precinct voters
		10. Out-of-county voters			

		11. Military absentees 12. Check-in cancellations 13. Spoiled ballots 14. Provisional ballots 15. Supplemental ballots 16. Abandoned check-ins 17. Look ups			

34	13.3.13	Testing Lab shall confirm EPB provides Status and Alerts:
		1. Connectivity:
		    a. Network
		    b. Other poll books
		    c. Central server
		2. Failure in synchronization
		3. Battery status
		4. Peripheral status			

35	13.3.14	Testing Lab shall confirm EPB provides Functional Status and Alerts.
		1. Success/Failure of any system function or process.
		2. Success/Failure of user tasks:
		    a. Setup
		    b. Check-in
		    c. Upload/download tasks
		    d. Deletion
		    e. Close out			

36	13.3.15	Testing Lab shall confirm EPB finds eligible voters from the correct KY roster using:
		1. Kentucky DL/ID barcode
		2. Voter lookup with search filter capabilities (shall include but not be limited to):
		    a. Last name
		    b. First name
		    c. DOB
		    d. Address
		    e. Voter ID			

37	13.3.16	Testing Lab shall confirm EPB captures, persists and transmits type of identification accepted as proof of identity. Types accepted: 1. USA 2. KY 3. MIL 4. SCHOOL 5. GOVT 6. SS 7. SBE 8. ID 9. AID 10. CC 11. KNOWN			
38	13.3.17	Testing Lab shall confirm EPB presents voter information for verification (shall include but not be limited to): 1. Name 2. Address 3. Party 4. DOB			
39	13.3.18	Testing Lab shall confirm EPB presents correct ballot style: 1. Ballot ID -or- 2. Ballot barcode printout -or- 3. Physical ballot			
40	13.3.19	Testing Lab shall confirm EPB captures, persists and transmits voter signature: 1. Digital signature -or- 2. Mark			
41	13.3.20	Testing Lab shall confirm EPB captures, persists and transmits poll-worker initials.			
42	13.3.21	Testing Lab shall confirm EPB completes check-in and persists individual voter's session data and metadata (shall include but not be limited to):			

		1. Date/time of check-in
		2. Suggested ballot style
		3. Device ID
		4. Current DB
		5. Current election
		6. Poll-worker ID
		7. Poll-worker initials
		8. Voter signature
		9. Proof of identity (Type of ID accepted)
		10. Type of vote:
		    a. In-person Excused Absentees
		    b. In-person No Excuse Absentee
		    c. Election day voter
		    d. Supplemental
		    e. Provisional
		11. Physical location
		12. Connectivity status at point of check-in			

43	13.3.22	Testing Lab shall confirm EPB opens an election. Provides for the user to verify that the EPB has:
		1. An authenticated user with the proper access rights.
		2. Been set up for the proper election.
		3. Been set up for the proper polling location type.
		4. Been set up for the proper precinct.
		5. Been set to the proper physical location.
		6. Has the correct roster file.
		7. Has the proper connectivity needed for a specific polling location type:
		    a. Network
		    b. Cell
		    c. Bluetooth			

44	13.3.23	Testing Lab shall confirm EPB closes an election. Provides for the user to verify that: 1. All check-in data has been successfully persisted locally.			

		2. All check-in data from sibling pollbooks (if used) has been successfully persisted. 3. All other required steps/processes/uploads/approvals have been successfully completed.			

4. Reporting Matrix:

#	Ref	Description	Met	Not Met	Comments
45	13.2.14	Testing Lab shall confirm that the following reports are available: 1. EPBS and/or EPB shall produce "Election Set-up Success" report 2. EPBS and/or EPB shall produce "Audit log of all system activity" report 3. EPBS and/or EPB shall produce "Election Close Success" report 4. EPBS and/or EPB shall provide on-demand summary information (see 13.3.12) 5. EPBS and/or shall provide any other reports required by Kentucky statute			