United States Election Assistance Commission

Certificate of Conformance

Unisyn OpenElect 1.3.0.2.A

(Modification)

The voting system identified on this certificate has been evaluated at an accredited voting system testing laboratory for conformance to the 2005 *Voluntary Voting System Guidelines (2005 VVSG)* . Components evaluated for this certification are detailed in the attached Scope of Certification document. This certificate applies only to the specific version and release of the product in its evaluated configuration. The evaluation has been verified by the EAC in accordance with the provisions of the EAC *Voting System Testing and Certification Program Manual* and the conclusions of the testing laboratory in the test report are consistent with the evidence adduced. This certificate is not an endorsement of the product by any agency of the U.S. Government and no warranty of the product is either expressed or implied.

Product Name: OpenElect

Model or Version: Version 1.3.0.2.A (Modification)

Name of VSTL: SLI Compliance

EAC Certification Number: 04211950-1.3.0.2.A

Date Issued: 03/15/2018

Executive Director

Scope of Certification Attached

Scope of Certification

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

Significance of EAC Certification

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

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

Representation of EAC Certification

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

System Overview:

The Unisyn OpenElect Voting System 1.3.0.2.A, herein referred to as OVS 1.3.0.2.A, is a modification to the certified OVS 1.3.0.2. The OVS 1.3.0.2.A Voting System is a paper-ballot based optical scan voting system consisting of four major components:

1. OpenElect Central Suite (OCS)
2. OpenElect Voting Optical (OVO)
3. OpenElect Voting Interface (OVI-VC)
4. OpenElect Voting Central Scan (OVCS)

The Unisyn OVS 1.3.0.2.A voting system Technical Data Package (TDP) was the source for much of the information in this document.

OpenElect Central Suite (OCS)

The OCS consists of the eight components running as either a front-end/client application or as a back-end/server application: Ballot Layout Manager (BLM), Election Manager (EM), Election Server (ES), Tabulator Client (TC), Tabulator, Adjudicator, Tabulator Reports (TR) and Software Server (SS).

OpenElect Voting Optical (OVO)

The OVO device is a precinct-level optical scan ballot counter (tabulator) designed to perform the following major functions: ballot scanning, tabulation, and second chance voting.

The OVO is a full-page, dual-sided optical scan ballot system which scans and validates voter ballots and provides a summary of all ballots cast. The election is loaded from the OVS Election Server over a secure local network or via a USB thumb drive. On Election Day, an OVO at each polling location scans and validates voters' ballots, and provides precinct tabulation and reporting. The OVO unit is also paired with the OVI-VC for early voting to scan and tabulate early voting ballots. OVO units can also be used at election headquarters to read absentee, provisional, or recount ballots in smaller jurisdictions.

OpenElect Voting Interface (OVI-VC)

The OVI-VC supports both ADA and Early Voting requirements. The OVI-VC enables voters during early voting to cast regional ballots and voters with special needs to prepare their ballots independently and privately on Election Day. The OVI-VC unit features a 15-inch full-color touch-screen display. The OVI-VC will present each contest on the correct ballot to the voter in visual and (optionally) audio formats. The voter with limited vision navigates through the ballot using the audio ballot and the ADA keypad or touchscreen input to make their selections. The voter validates his or her selections by listening to the audio summary, printing the ballot, and inserting it into the OVO.

The OVI-VC facilitates special needs voters through a variety of methods including wheelchair access, sip & puff, zoom-in ballot function, and audio assistance for the visually impaired. The OVI-VC provides for write-in candidates when authorized by the jurisdiction. Voters input candidates' names via the ADA keypad, touchscreen or sip & puff device. Each OVI-VC can support multiple languages for both visual and audio ballots, allowing the voter to choose their preferred language.

OpenElect Voting Central Scanner (OVCS)

The OVCS resides at election headquarters designated to read absentee, provisional, or recount ballots in large jurisdictions, or read the entire election's ballots at a central count location in smaller jurisdictions. The OVCS also captures write-in data images and produces a write-in image report for manual processing upon request. The OVCS system consists of the following components: OVCS Workstation and Canon DR-X10C Scanner.

Certified System before Modification:

Unisyn Voting Solutions OpenElect 1.0
Certificate ID: UNS10121966-OE

Unisyn Voting Solutions OpenElect 1.0.1
Certificate ID: UNS10121966-OE-WI

Unisyn Voting Solutions OpenElect 1.1
Certificate ID: UNS10121966-OE-1.1

Unisyn Voting Solutions OpenElect 1.2
Certificate ID: UNS10121966-OE-1.2

Unisyn Voting Solutions OpenElect 1.3
Certificate ID: UNS04211950-1.3

Unisyn Voting Solutions OpenElect 1.3.0.2
Certificate ID: UNS04211950-1.3.0.2

Anomalies and/or Additions addressed in OpenElect 1.3.0.2.A:

The OVS 1.3.0.2.A is a modification of the OVS 1.3.0.2 system. The only change made to the functionality of the voting system was the update concerning the Pennsylvania Straight Party Method of voting. There were no changes made to the system limits, the software system functions, or the supported languages of the voting system. These remain unchanged from the previously certified version.

Mark Definition:

The Unisyn Open Elect system will consistently recognize a 1mm wide line across the full length of the target area. Marks must be made with a marking device with sufficiently low reflectance in the visible red band and is of sufficient density/color such that the scanner registers it as black. Most blue, black and green ballpoint pens and markers also meet necessary reflectance requirements and may be used.

Tested Marking Devices:

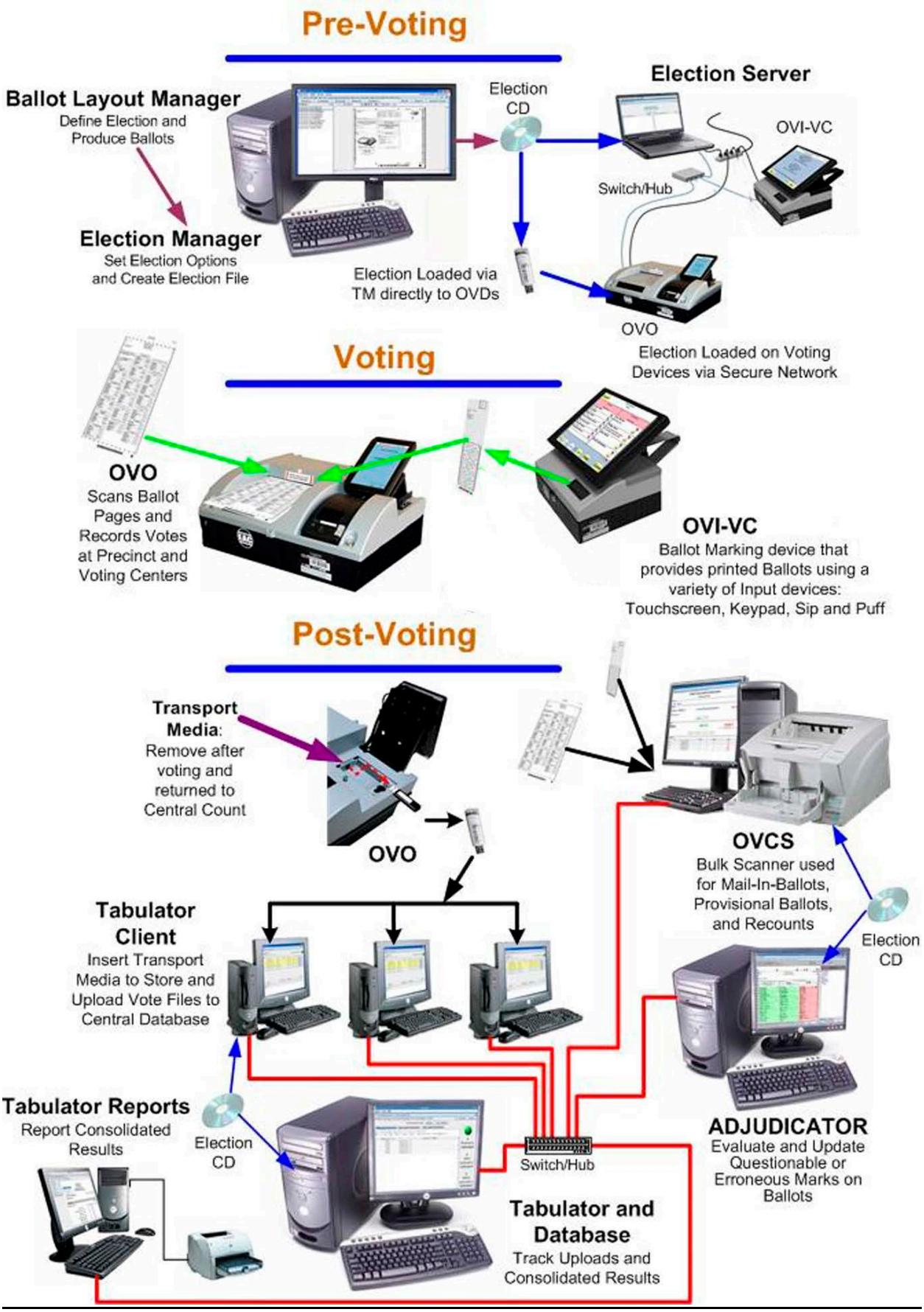
- BIC Grip Roller
- EF Felt Tip Pen

Language capability:

System supports Armenian, Cambodian, Chinese (Cantonese and Mandarin dialects), English, Japanese, Korean, Russian, Spanish, Tagalog, and Vietnamese.

Components Included:

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


Pre-Voting
Ballot Layout Manager
Define Election and Produce Ballots
Election Manager
Set Election Options and Create Election File
Election CD
Election Server
OVI-VC
Switch/Hub
Election Loaded via TM directly to OVDs
OVO
Election Loaded on Voting Devices via Secure Network
Voting
OVO
Scans Ballot Pages and Records Votes at Precinct and Voting Centers
OVI-VC
Ballot Marking device that provides printed Ballots using a variety of Input devices: Touchscreen, Keypad, Sip and Puff
Post-Voting
Transport Media: Remove after voting and returned to Central Count
OVO
OVCS
Bulk Scanner used for Mail-In-Ballots, Provisional Ballots, and Recounts
Election CD
Tabulator Client
Insert Transport Media to Store and Upload Vote Files to Central Database
Tabulator Reports
Report Consolidated Results
Election CD
Switch/Hub
ADJUDICATOR
Evaluate and Update Questionable or Erroneous Marks on Ballots
Tabulator and Database
Track Uploads and Consolidated Results

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
OVO	1.3.0	Rev A, E	Linux CentOS 5.0, 6.3	
OVI-VC	1.3.0.2.A	Rev A, B	Linux CentOS 5.0, 6.3	
OVCS	1.3.0	ImageFORMULA DR-X10C	Linux CentOS 5.7, 6.5	
Adjudicator	1.3.0			
Ballot Layout Manager	1.3.0			
Common (Library)	1.3.0.2			
Election Manager	1.3.0.2			
Election Server	1.3.0			
OCS Installer	1.3.0.2			
Regkey Builder	1.3.0.2			
Software Server	1.3.0			
Tabulator	1.3.0			
Tabulator Client	1.3.0			
Tabulator Reports	1.3.0			
OVCS Application	1.3.0			
OVI-VC Firmware	1.3.0.2.A			
OVO Firmware	1.3.0			
Scripter	1.3.0.2.A			
Validator	1.3.0.2.A			
Logger (Library)	1.3.0.2			
COTS Components				
CentOS Linux	5.0, 5.7, 6.3, 6.5			
Java JRE + Unlimited Cryptographic Extension	1.6.0_02			
Apache Tomcat Application Server	6.0.13			
MySQL Database	5.0.45-7, 5.1.71-1			
JasperReports	2.0.5			
Desktop for non-redundant solutions		Dell OptiPlex		
Desktop for redundant		Dell Precision		

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
solutions				
Canon Scanner		Canon DR-X10C		
Transport Media		STEC- Industrial Grade		
Laptop		Dell Latitude	COTS	

System Limitations

This table depicts the limits the system has been tested and certified to meet.

Characteristic	Limiting Component	Limit	Comment
Maximum Elections	BLM	8	
Maximum Precincts	BLM	2000	
Maximum Splits per Precinct	BLM	9	
Maximum Districts	BLM	400	
Maximum Contests per District	BLM	20	
Maximum Parties	BLM	24	
Maximum Parties in primary	BLM	12	
Maximum Parties w/ Straight Ticket	BLM	12	
Maximum District types	BLM	25	
Maximum Languages	BLM	15	
Maximum Ballot styles per Election	BLM	400	
Maximum Contests per Election	BLM	150	
Maximum Measures per Election	BLM	30	
Maximum Instruction Blocks per Election	BLM	5	
Maximum Headers per Election	BLM	50	
Maximum Candidates per Contest	BLM	120	
Maximum Ballot Pages	BLM	3	
Maximum Votes for N of M	BLM	25	
Maximum Ballot sheets per OVO	BLM	5000	
Maximum Units simultaneously loading	BLM	20	
Maximum Precincts initialized per OVO on Election Day	BLM	30	
Maximum Precincts initialized per OVI-VC on Election Day	BLM	2000	
Maximum Precincts initialized per OVO/OVI-VC in early voting	BLM	2000	
Maximum 11″ Ballot positions	BLM	38 x 3	Limit
Maximum 14″ Ballot positions	BLM	50 x 3	Limit
Maximum 17″ Ballot positions	BLM	62 x 3	Limit
Maximum 19″ Ballot positions	BLM	70 x 3	Limit

Functionality

2005 VVSG Supported Functionality Declaration

Feature/Characteristic	Yes/No	Comment
Voter Verified Paper Audit Trails		
VVPAT	No	Not applicable
Accessibility		
Forward Approach	No	
Parallel (Side) Approach	No	
Closed Primary		
Primary: Closed	Yes	
Open Primary		
Primary: Open Standard (provide definition of how supported)	Yes	A registered voter may vote in any *party primary* regardless of his own party affiliation
Primary: Open Blanket (provide definition of how supported)	No	
Partisan & Non-Partisan:		
Partisan & Non-Partisan: Vote for 1 of N race	Yes	
Partisan & Non-Partisan: Multi-member ("vote for N of M") board races	Yes	
Partisan & Non-Partisan: "vote for 1" race with a single candidate and write-in voting	Yes	
Partisan & Non-Partisan "vote for 1" race with no declared candidates and write-in voting	Yes	
Write-In Voting:		
Write-in Voting: System default is a voting position identified for write-ins.	Yes	
Write-in Voting: Without selecting a write in position.	No	
Write-in: With No Declared Candidates	Yes	
Write-in: Identification of write-ins for resolution at central count	Yes	
Primary Presidential Delegation Nominations & Slates:		
Primary Presidential Delegation Nominations: Displayed delegate slates for each presidential party	Yes	
Slate & Group Voting: one selection votes the slate.	No	
Ballot Rotation:		
Rotation of Names within an Office; define all supported rotation methods for location on the ballot and vote tabulation/reporting	Yes	Top to Bottom By Precinct grouping
Straight Party Voting:		
Straight Party: A single selection for partisan races in a general election	Yes	

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

Feature/Characteristic	Yes/No	Comment
Ranked Order Voting: Voters rank candidates in a contest in order of choice. A candidate receiving a majority of the first-choice votes wins. If no candidate receives a majority of first choice votes, the last place candidate is deleted, each ballot cast for the deleted candidate counts for the second-choice candidate listed on the ballot. The process of eliminating the last place candidate and recounting the ballots continues until one candidate receives a majority of the vote	Yes	
Ranked Order Voting: A ballot with two choices ranked the same, stops being counted at the point of two similarly ranked choices.	Yes	
Ranked Order Voting: The total number of votes for two or more candidates with the least votes is less than the votes of the candidate with the next highest number of votes, the candidates with the least votes are eliminated simultaneously and their votes transferred to the next-ranked continuing candidate.	Yes	
Provisional or Challenged Ballots		
Provisional/Challenged Ballots: A voted provisional ballots is identified but not included in the tabulation, but can be added in the central count.	Yes	
Provisional/Challenged Ballots: A voted provisional ballots is included in the tabulation, but is identified and can be subtracted in the central count	No	
Provisional/Challenged Ballots: Provisional ballots maintain the secrecy of the ballot.	Yes	
Overvotes (must support for specific type of voting system)		
Overvotes: P & M: Overvote invalidates the vote. Define how overvotes are counted.	Yes	Supported. Overvotes are tabulated for each office as an Over / Under Vote report in Vote Tabulation
Overvotes: DRE: Prevented from or requires correction of overvoting.	No	
Overvotes: If a system does not prevent overvotes, it must count them. Define how overvotes are counted.	No	
Overvotes: DRE systems that provide a method to data enter absentee votes must account for overvotes.	No	
Undervotes		
Undervotes: System counts undervotes cast for accounting purposes	Yes	Supported. Undervotes are tabulated for each office as an Over / Under Vote report in Vote Tabulation

Feature/Characteristic	Yes/No	Comment
Blank Ballots		
Totally Blank Ballots: Any blank ballot alert is tested.	Yes	
Totally Blank Ballots: If blank ballots are not immediately processed, there must be a provision to recognize and accept them	Yes	
Totally Blank Ballots: If operators can access a blank ballot, there must be a provision for resolution.	Yes	
Display/Printing Multi-Lingual Ballots		
Spanish	Yes	
Armenian	Yes	
Alaska Native (Other Group specified)	No	
Aleut	No	
Athabascan	No	
Eskimo	No	
Native (Other Group Specified)	No	
Cambodian	Yes	
Chinese (Cantonese and Mandarin)	Yes	
Filipino (Tagalog)	Yes	
Japanese	Yes	
Korean	Yes	
Russian	Yes	
Vietnamese	Yes	
Apache	No	
Cent/So American	No	
Cheyenne	No	
Chickasaw	No	
Choctaw	No	
Navajo	No	
Other Tribe-Specified	No	
Paiute	No	
Pueblo	No	
Seminole	No	
Shoshone	No	
Sioux	No	
Tohono O'Odham	No	
Tribe not specified	No	
Ute	No	
Yaqui	No	
Yuman	No	
Demonstrates the voting system capability to handle the designated language groups		
Default language (English)	Yes	

Feature/Characteristic	Yes/No	Comment
Secondary language using a Western European font	Yes	
Ideographic language (such as Chinese or Korean),	Yes	
Non-written languages requiring audio support	Yes	