PREMIER
Election Solutions

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April 30, 2008

Attn: Brian Hancock
Director of Voting System Testing & Certification
U.S. Election Assistance Commission
1225 New York Avenue, NW, Ste. 1100
Washington, DC 20005
Email: bhancock@eac.gov

RE: **Voting System Testing Application (PRM0701) Amendment #5**
     Changes to the ASSURE™1.2 submission.

Dear Mr. Hancock:

This letter is to inform you of changes made to our ASSURE 1.2 certification submission, dated February 13, 2008. Below is a description and explanation of each of the changes we have made. Please amend our application for ASSURE 1.2 certification with these changes:

1. **HARDWARE REMOVAL:**

   The EMP (Election Media Processor) is a desktop PC with multiple PCMCIA card readers and a label printer. The EMP is used to download and upload PCMCIA storage cards for use on the AccuVote-TS/TSX. The EMP was removed from the certification submission for marketing reasons.

   Hardware
   Election Media Processor (EMP)

2. **SOFTWARE REMOVAL:**
   The EMP 4.7.1 is a software application that runs on a PC with a multiple PCMCIA card reader that is used to communicate with GEMS and create election media and transmit results from multiple cards.

   Software
   EMP 4.7.1

As per Section 4.5.1 of the EAC Voting System Testing and Certification Program Manual (v1.0), please find attached an updated Implementation Statement, functional diagram and System Overview.

Thank you for your consideration. If you need further information or have any questions, please feel free to contact us.

Sincerely:

Talbot Iredale, P.Eng.
Director Product Development
Premier Election Solutions, Inc.

Enclosures: Application Amendment #5 (Revised Product Components)
 Implementation Statement
 Functional Diagram
 System Overview

PREMIER™
ELECTION SOLUTIONS

Product Components
ASSURE™ 1.2

Software	Hardware
GEMS® 1.20.2	PC with MS Windows 2000/2003/XP (COTS)
AccuVote®-OS Precinct Count 1.96.10	AccuVote-OS Models A,B,C,D
AccuVote-OS Central Count 2.0.13	AccuVote-OS Models A,B,C,D AccuFeed Model A - optional
AccuVote-OSX 1.0.3	AccuVote-OSX Model A BL 1.3.9 and WinCE 500

BallotStation® 4.7.2	AccuVote-TS R6 Models A,B
	  BL 1.3.9 and WinCE 300
	  OSAA Model A – optional
	  UAID™ Model A - optional

	AccuVote-TSX Models A,B,C,D
	  BL 1.3.9 and WinCE 410
	  AVPM Model A – optional
	  OSAA Model A – optional
	  UAID Model A - optional

Key Card Tool™ 4.7.1	PC with MS Windows 2003/XP (COTS)
VCProgrammer™ 4.7.1	PC with MS Windows 2003/XP (COTS)
Voter Card Encoder 1.3.3	Voter Card Encoder (COTS)
ExpressPoll™ CardWriter 1.1.6	Express Poll 2000 (COTS), 4000 (COTS), 5000 (COTS)
Premier Central Scan 2.0.5	PC with MS Windows XP (COTS) AccuVote-OS Models A, B, C, D DRS PhotoScribe PS900 iM2 (COTS) , PS960 (COTS)
ASSURE Security Manager 1.0.4	PC w/ MS Windows XP (COTS)
AutoMARK™ AIMS 1.3 (P)	PC with MS Windows XP (COTS)
AutoMARK VAT 1.3 PAVR AutoMARK VAT 1.3 PVR	AutoMARK VAT Models A100, A200, A300
Support Files	
ABasic Report Files 2.2.3	Used by AccuVote-TS/TSX/OS/OSX
Support Files	
BootLoader 1.3.9	Used by AccuVote-TS/TSX/OSX
WinCE 300.3.4	Used by AccuVote-TS
WinCE 410.3.9	Used by AccuVote-TSX
WinCE 500.3.1	Used by AccuVote-OSX
WinCE 5.0.0.17	Used by AutoMARK VAT
AVPM 3.0.3	Used by AVPM

Declaration of Supported Voting Variations & Languages

Vendor Name: *Premier Election Solutions Inc.*   **Preparer:** *Premier Election Solutions Inc.*
Date Prepared: *February 2, 2007*   **Date Revised:** *December 13, 2007*
Identify the voting variations and languages supported or unsupported by marking with a ☑.
Insert Required descriptions where needed (Rotation, VVPAT, Open Primary, Closed Primary, etc).
(P & M= Paper and Marksense ballots)

Voting Variations Functionality & Languages				Required descriptions
Vol. 1 Sect 2.2.8,2.2.3,4.3.1 a, 2.4.3.3, 3.2.5.1.2, 3.2.5.1.3.4 4, & 10				
Voter Verified Paper Audit Trails				
VVPAT	✔			
Accessibility (vol. 1. sect. 2.2.7)				
Forward Approach	✔			
Parallel (Side) Approach	✔			
Closed Primary (vol. 1. sect. 2.2.8.2)				
Primary: Closed	✔			
Open Primary (vol. 1. sect. 2.2.8.2)				
Primary: Open Standard (provide definition of how supported)	✔			Open Primary, supported.
Primary: Open Blanket (provide definition of how supported)	✔			
Partisan & Non-Partisan: (vol. 1. sect. 2.2.8.2)				
Partisan & Non-Partisan: Vote for 1 of N race	✔			
Partisan & Non-Partisan: Multi-member ("vote for N of M") board races	✔			
Partisan & Non-Partisan: "vote for 1" race with a single candidate and write-in voting	✔			
Partisan & Non-Partisan "vote for 1" race with no declared candidates and write-in voting	✔			
Write-In Voting: (vol. 1. sect. 2.2.8.2)				
Write-in Voting: System default is a voting position identified for write-ins.	✔			
Write-in Voting: Without selecting a write in position.		✔		
Write-in: With No Declared Candidates	✔			
Write-in: Identification of write-ins for resolution at central count		✔		
Primary Presidential Delegation Nominations & Slates: (vol. 1. sect. 2.2.8.2)				
Primary Presidential Delegation Nominations: Displayed delegate slates for each presidential party	✔			
Slate & Group Voting: one selection votes the slate.	✔			
Ballot Rotation: (vol. 1. sect. 2.2.8.2)				
Rotation of Names within an Office; define all supported rotation methods for location on the ballot and vote tabulation/reporting	✔			
Straight Party Voting: (vol. 1. sect. 2.2.8.2)				
Straight Party: A single selection for partisan races in a general election	✔			
Straight Party: Vote for each candidate individually	✔			
Straight Party: Modify straight party selections with crossover votes	✔			
Straight Party: A race without a candidate for one party	✔			
Straight Party: "N of M race (where "N">1)	✔			
Straight Party: Excludes a partisan contest from the straight party selection.	✔			
Cross-Party Endorsement: (vol. 1. sect. 2.2.8.2)				
Cross party endorsements, multiple parties endorse one candidate.	✔			
Split Precincts: (vol. 1. sect. 2.2.8.2)				
Split Precincts: Multiple ballot styles	✔			

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Voting Variations Functionality & Languages Vol. 1 Sect 2.2.8.2, 2.3.1.3.1 a, 2.3.3.3.3.1.3.2.5.1.3.1.6.4, & 10				Required descriptions:
Split Precincts: P & M system support splits with correct contests and ballot identification of each split	✔			
Split Precincts: DRE matches voter to all applicable races.	✔			
Split Precincts: Reporting of voter counts (# of voters) to the precinct split level; Reporting of vote totals is to the precinct level	✔			Precinct Level Only
Vote N of M: (vol. 1. sect. 2.2.8.2)				
Vote for N of M: Counts each selected candidate, if the maximum is not exceeded.	✔			
Vote for N of M: Invalidates all candidates in an overvote (paper)	✔			
Recall Issues, with options: (vol. 1. sect. 2.2.8.2)				
Recall Issues with Options: Simple Yes/No with separate race/election. (Vote Yes or No Question)	✔			
Recall Issues with Options: Retain is the first option, Replacement candidate for the second or more options (Vote 1 of M)	✔			
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.)	✔			
Recall Issues with Options: Two contests with access to a second contest conditional upon any vote in contest one. (Must vote Yes or No to vote in 2nd contest)	✔			Overturned - US District Court 7/29/03: CA Election Code sect. 11383
Cumulative Voting (vol. 1. sect. 2.2.8.2, 10)				
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.		✔		
Ranked Order Voting (vol. 1. sect. 2.2.8.2, 10)				
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.		✔		
Ranked Order Voting: Voters can write in a ranked vote.		✔		
Ranked Order Voting: A ballot stops being counting when all ranked choices have been eliminated		✔		
Ranked Order Voting: A ballot with two choices ranked the same, stops being counted at the point of two similarly ranked choices.		✔		
Ranked Order Voting: A ballot with a skipped rank counts the vote for the next rank.		✔		
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.		✔		
Provisional or Challenged Ballots (vol. 1. sect. 2.2.8.2, 10)				
Provisional/Challenged Ballots: A voted provisional ballots is identified but not included in the tabulation, but can be added in the central count.	✔			
Provisional/Challenged Ballots: A voted provisional ballots is included in the tabulation, but is identified and can be subtracted in the central count.	✔			

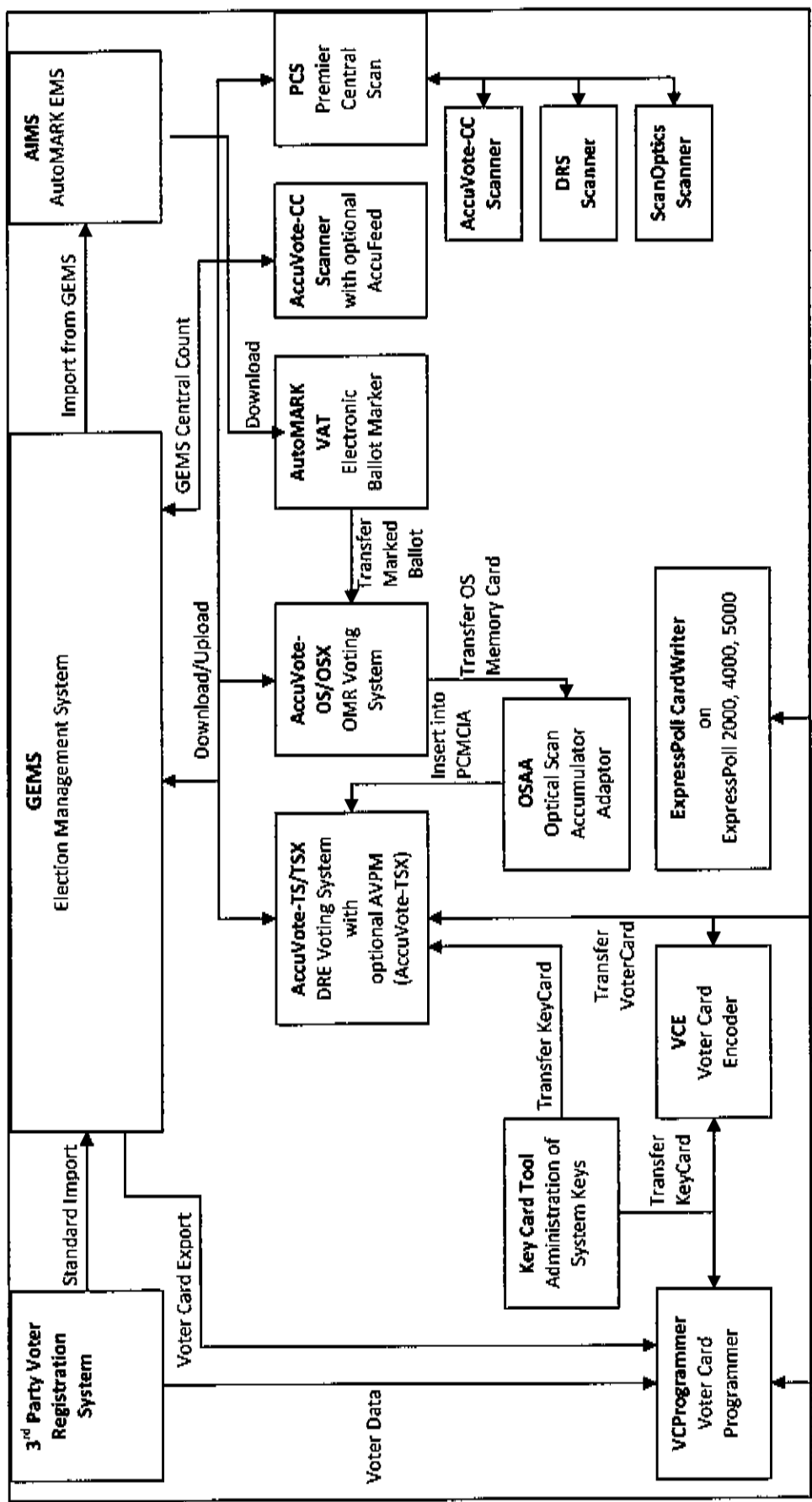| Voting Variations Functionality & Languages / Vol. 1 Sect. 2.2.8.2, 2.2.8.2.1, 2.2.8.3.1, 2.2.8.3.2, 2.2.5.1.3.4.5.6, & 10			Required descriptions
Split Precincts: P & M system support splits with correct contests and ballot identification of each split	✔		
Split Precincts: DRE matches voter to all applicable races.	✔		
Split Precincts: Reporting of voter counts (# of voters) to the precinct split level; Reporting of vote totals is to the precinct level	✔		Precinct Level Only
Vote N of M: (vol. 1. sect. 2.2.8.2)			
Vote for N of M: Counts each selected candidate, if the maximum is not exceeded.	✔		
Vote for N of M: Invalidates all candidates in an overvote (paper)	✔		
Recall Issues, with options: (vol. 1. sect. 2.2.8.2)			
Recall Issues with Options: Simple Yes/No with separate race/election. (Vote Yes or No Question)	✔		
Recall Issues with Options: Retain is the first option, Replacement candidate for the second or more options (Vote 1 of M)	✔		
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.)	✔		
Recall Issues with Options: Two contests with access to a second contest conditional upon any vote in contest one. (Must vote Yes or No to vote in 2nd contest)	✔		Overturned - US District Court 7/29/03: CA Election Code sect. 11383
Cumulative Voting (vol. 1. sect. 2.2.8.2, 10)			
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.		✔	
Ranked Order Voting (vol. 1. sect. 2.2.8.2, 10)			
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.		✔	
Ranked Order Voting: Voters can write in a ranked vote.		✔	
Ranked Order Voting: A ballot stops being counting when all ranked choices have been eliminated		✔	
Ranked Order Voting: A ballot with two choices ranked the same, stops being counted at the point of two similarly ranked choices.		✔	
Ranked Order Voting: A ballot with a skipped rank counts the vote for the next rank.		✔	
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.		✔	
Provisional or Challenged Ballots (vol. 1. sect. 2.2.8.2, 10)			
Provisional/Challenged Ballots: A voted provisional ballots is identified but not included in the tabulation, but can be added in the central count.	✔		
Provisional/Challenged Ballots: A voted provisional ballots is included in the tabulation, but is identified and can be subtracted in the central count.	✔		

Voting Variations Functionality & Languages Vol. 1 Sect 2.2.8.2, 2.3.1.3.1.a, 2.4.3.3, 3.2.5.1.2, 4.5.1.3.1.1.1, & 10			Required descriptions
Provisional/Challenged Ballots: Provisional ballots maintain the secrecy of the ballot.	✔		
Overvotes (vol. 1. sect. 4.4.4, 10)			Must support for specific type of voting system
Overvotes: P & M: Overvote invalidates the vote. Define how overvotes are counted.	✔		
Overvotes: DRE: Prevented from or requires correction of overvoting.	✔		
Overvotes: If a system does not prevent overvotes, it must count them. Define how overvotes are counted.	✔		Count as "overvote"
Overvotes: DRE systems that provide a method to data enter absentee votes must account for overvotes.		✔	We cannot enter absentee ballots on the TS units. We handle absentee ballots using AVOS.
Undervotes (vol. 1. sect. 4.4.4)			Must support
Undervotes: System counts undervotes cast for accounting purposes	✔		
Blank Ballots (vol. 1. sect. 2.4.3.3, 3.2.5.1.2, 3.2.5.1.3, & 4.4.4)			
Totally Blank Ballots: Any blank ballot alert is tested.	✔		
Totally Blank Ballots: If blank ballots are not immediately processed, there must be a provision to recognize and accept them	✔		
Totally Blank Ballots: If operators can access a blank ballot, there must be a provision for resolution.	✔		
Display/Printing Multi-Lingual Ballots (vol. 1. sect. 2.3.1.3.1.a)			Must support one ☑
Spanish	✔		
Alaska Native (Other Group specified)		✔	
Aleut		✔	
Athabascan		✔	Optionally created per customer.
Eskimo		✔	
Native (Other Group Specified)		✔	
Chinese (Mandarin, Cantonese)	✔		
Filipino (Tagalog)	✔		
Japanese	✔		
Korean	✔		
Vietnamese	✔		
Apache		✔	
Cent/So American		✔	
Cheyenne		✔	
Chickasaw		✔	
Choctaw		✔	
Navajo		✔	
Other Tribe-Specified		✔	
Paiute		✔	Optionally created per customer.
Pueblo		✔	
Seminole		✔	
Shoshone		✔	
Sioux		✔	
Tohono O'Odham		✔	
Tribe not specified		✔	
Ute		✔	
Yaqui		✔	

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Voting Variations Functionality & Languages Vol. 1 Sect 2.2.8.2 ,2.3.1.3.1.a: 2.3.3.3, 3.2.5.1.1, 3.2.5.1.3, 1.1.1, & 10			Required description(s)
Yuman		✔	
French	✔		
Haiti Creole	✔		
Demonstrates the voting system capability to handle the designated language groups. (vol. 1. sect. 2.3.1.3.1.a)			
Default language (English),	✔		
Secondary language using a Western European font	✔		
Ideographic language (such as Chinese or Korean),	✔		
Non-written languages requiring audio support		✔	Optionally created per customer.

System Overview / Functional Diagram
ASSURE® 1.2

3rd Party Voter Registration System

GEMS — Election Management System

AIMS — AutoMARK EMS

Standard Import

Import from GEMS

Voter Card Export

GEMS Central Count

Download/Upload

Download

PCS — Premier Central Scan

AccuVote-CC Scanner with optional AccuFeed

AutoMARK VAT — Electronic Ballot Marker

AccuVote-CC Scanner

DRS Scanner

ScanOptics Scanner

Transfer Marked Ballot

AccuVote-OS/OSX — OMR Voting System

Transfer OS Memory Card

Insert into PCMCIA

OSAA — Optical Scan Accumulator Adaptor

ExpressPoll CardWriter on ExpressPoll 2000, 4000, 5000

AccuVote-TS/TSX — DRE Voting System with optional AVPM (AccuVote-TSX)

VCE — Voter Card Encoder

Key Card Tool — Administration of System Keys

Transfer KeyCard

Transfer VoterCard

Transfer KeyCard

Voter Data

VCProgrammer — Voter Card Programmer

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System Overview / Product Descriptions
ASSURE® 1.2

SOFTWARE

GEMS

GEMS is Premier Election Solutions' Election Management System. This product is used to enter jurisdiction information (district, precincts, languages, etc.) as well as election specific information (races, candidates, voter groups (parties), etc). GEMS is also used to lay out the ballots, download election data to the voting devices, upload the results and produce final results reports.

AccuVote-OS PC

The AccuVote-OS PC (Precinct Count) is a mark-sense ballot counting device. Election data is stored on a 32KByte to 128KByte removable memory card. Election data is downloaded to the device from GEMS using a serial connection.

The AccuVote-OS is used to perform pre-election testing, election processing, and post election uploads and reporting.

The AccuVote-OS accepts 8 ½ by 11, 14, 17, and 18 inch ballots in any orientation, and uses the identifiers on the ballot to determine what ballot is being read.

AccuVote-OSX

The AccuVote-OSX is a mark-sense precinct counting device. Election data is stored on 32MByte to 512MByte PCMCIA storage cards. Election data is downloaded to the device from GEMS using an Ethernet connection or a serial PPP connection.

The AccuVote-OSX is used to perform pre-election testing, election processing, and post election uploads and reporting.

The AccuVote-OSX accepts 8 ½ by 11, 14, 17, and 18 inch ballots in any orientation and uses the identifiers on the ballot to determine what ballot is being read.

The AccuVote-OSX uses Windows CE 500.

AccuVote-OS CC

The AccuVote-OS CC (Central Count) is a mark-sense device that is used to scan ballots at a central location either using the GEMS Central Count system or PCS. The AccuVote-OS CC runs on the AccuVote-OS hardware but uses different firmware.

The AccuVote-OS CC is a simple scanner device that will accept 8 ½ by 11, 14, 17, and 18 inch ballots in any orientation.

The AccuVote-OS CC also supports the use of the optional AccuFeed feeder for automatically feeding ballots in both mode.

AccuVote-TS/TSX

The AccuVote-TS/TSX units are direct recording electronic (DRE) touch screen voting systems that also support audio ballots. These devices use the BallotStation software.

The AccuVote-TSX supports an optional voter verified printer module (AVPM).

Both the AccuVote-TS and AccuVote-TSX support the optional UAID (Sip&Puff) interface. The AccuVote-TS uses Windows CE 300 and the AccuVote-TSX uses Windows CE 410.

BallotStation

BallotStation is the DRE voting software that runs on the AccuVote-TS/TSX hardware. The election data is stored on 32MByte to 512MByte PCMCIA storage cards. The election data is downloaded to the device from GEMS using an Ethernet connection or a serial PPP connection.

The data stored on the PCMCIA cards is digitally signed and the results are also encrypted. The keys used for the signing and encrypting are loaded using a Key Card (See Key Card Tool for how these are created).

BallotStation is used to perform pre-election testing, election processing, and post election uploads and reporting.

Voting is activated by insertion of a Vote Access Card as created by an AccuVote-TS/TSX (using BallotStation), VCProgrammer, VCE, or ExpressPoll.

Key Card Tool

Key Card Tool can create a Key Card which is used to change the keys on the AccuVote-TS/TSX, VCProgrammer and VCE. Key Card Tool is also used to change the security keys on Supervisor and Central Administrator cards.

VCProgrammer

VCProgrammer is a PC-based application that is used to create vote access cards for the AccuVote-TS/TSX. VCProgrammer has the ability to be integrated with 3rd party Voter Registration Systems to allow those systems to create the voter access cards. VCProgrammer uses a file that is exported from GEMS along with the data provide by the VR system to create the Vote Card.

VCE

VCE (Voter Card Encoder) is a small hand-held device that is used to create voter access cards. The VCE is loaded with master voter access card images and then allows the user to create new voter access cards from those masters.

OSAA

OSAA (AccuVote-OS Accumulator Adapter) is used to accumulate AccuVote-OS results on an AccuVote-TS/TSX unit. The OSAA adapter is inserted into the AccuVote-TS/TSX PCMCIA slot and allows the AccuVote-OS memory cards to be read by the AccuVote-TS/TSX device.

PCS

PCS (Premier Central Scan) is used to scan and tally ballots at a central location. PCS supports a number of different scanners including the AccuVote-CC and the DRS scanners.

PCS downloads the election information from GEMS, scans and tallies ballots, and then uploads the results to GEMS.

PCS supports multiple work stations running multiple scanners processing ballots for the same election at the same time.

ExpressPoll CardWriter

The ExpressPoll 2000, 4000, and 5000 are small devices that can run the EZRoster electronic poll book application. They also provide the functionality, through the CardWriter software, to be able to create voter access cards for use by the AccuVote-TS/TSX devices.

AIMS

The AIMS software is used to prepare the data for the AutoMark electronic ballot marker. The AIMS software imports election data from GEMS and allows the user to modify it as necessary for the AutoMark EBM device.

AutoMark VAT

The AutoMark VAT devices are used to allow voters to electronically mark a ballot that will be scanned by the AccuVote-OS device. The AutoMark EBM supports audio ballot as well as visual ballot marking.

SUPPORT FILES

ABasic Compiler

ABasic is the tool that is used to generate report scripts for use by the AccuVote-OS and BallotStation. This tool is used to compile the ABasic report scripts into pseudo code for use by the voting devices.

ABasic Reports

The Abasic reports are the scripts that are used to generate the election reports on the counting devices. These scripts are compiled and digitally signed by the ABasic compiler.