



United States Election Assistance Commission

Certificate of Conformance

DVS Assure 1.3



The voting system identified on this certificate has been evaluated at an accredited voting system testing laboratory for conformance to the *2002 Voting System Standards (2002 VSS)*. 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: Dominion Assure

Model or Version: Version 1.3

Name of VSTL: SLI Global Solutions

EAC Certification Number: DVS-Assure1.3

Date Issued: June 29, 2012

Chief Operating Officer and Acting Executive Director
U.S. Election Assistance Commission

Scope of Certification Attached

Manufacturer: *Dominion Voting Systems*
System Name: *Assure 1.3*
Certificate: *DVS-Assure1.3*

Laboratory: *SLI Global Solutions*
Standard: *VSS 2002*
Date: *June 29, 2012*



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**:

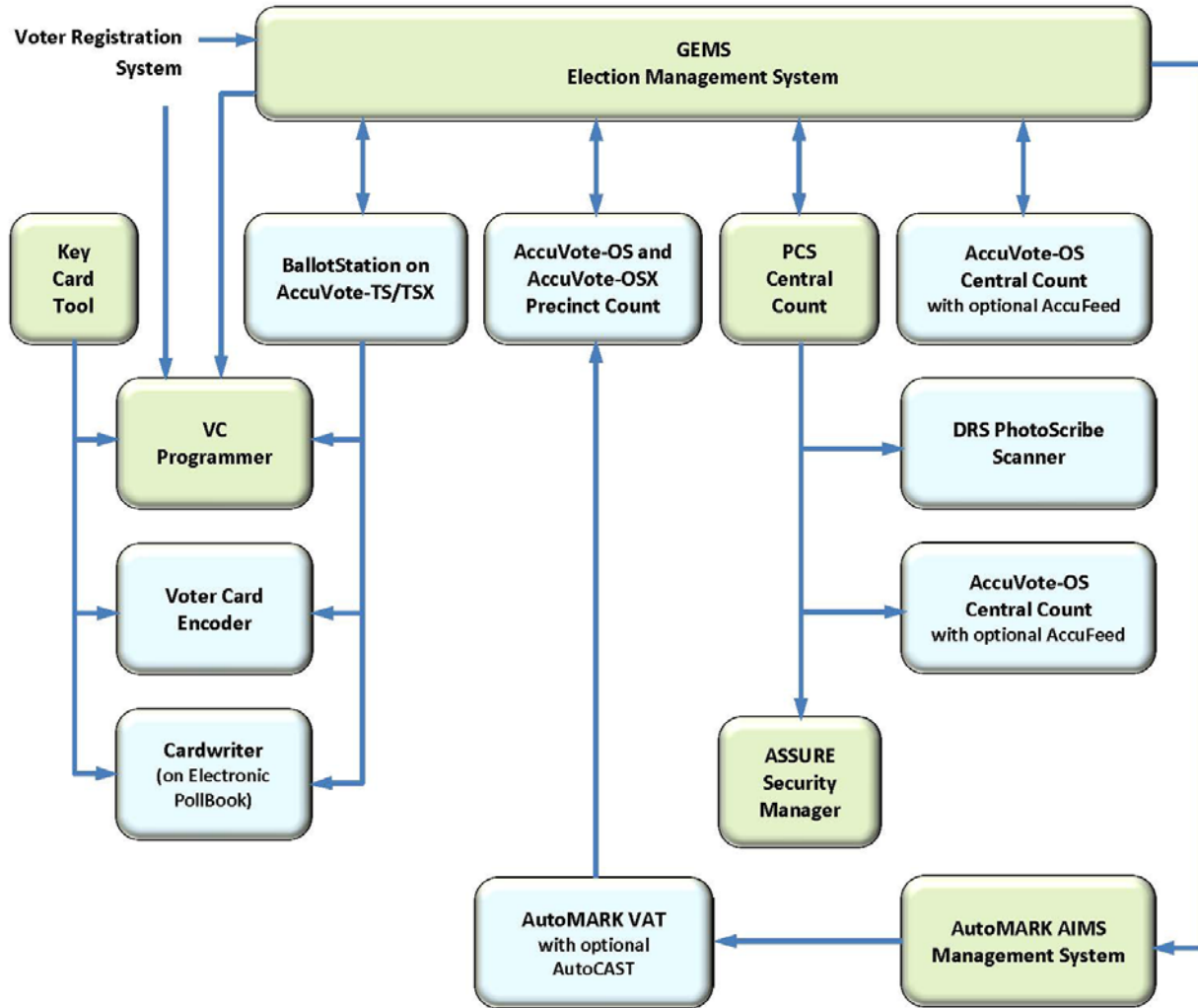
- An endorsement of a Manufacturer, voting system, or any of the system's components.
- A Federal warranty of the voting system or any of its components.
- A determination that a voting system, when fielded, will be operated in a manner that meets all HAVA requirements.
- A substitute for State or local 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 Assure 1.3 system is a comprehensive end to end voting system. It provides optical scan paper-based and DRE touchscreen-based voting interfaces with accessibility options for both. The system provides products for election management, security key coding, ballot generation, device programming, polling place voting, early voting, central count, absentee/mail-in voting, electronic adjudication, and precinct results tabulation/reporting into a central system.



Certified System before Modification:

Premier Election Solutions

Certificate ID: PES-Assure1.2

Anomalies and/or Additions addressed in Assure 1.3:

Assure 1.3 was created to add improvements to the system and to correct some issues with a few system components. The primary changes were as follows:

- A new AV-OS memory card was added to the system.

- The GEMS Cards Cast report was updated to resolve an issue where the total number of registered voters was not accurately reported for split precincts:
- Improvements were made to the GEMS AVServer Console indicators for reporting successful uploads and postings to the database.
- The AV-OSX was modified to resolve an issue in saving the protective counter after a hardware reset.
- The AV-OSX date stamp for report printouts was modified to use the date from the local timezone instead of the system timezone (UTC).
- TheTSX BallotStation was modified to allow a ballot to be cancelled when in the audio ballot mode with the screen blanked.
- The AV-OS PC firmware was modified to provide the correct machine IDs on labels for vote centers with multiple memory cards.
- An Abasic script for Vermont was added to the GEMS install.
- The OSAA was removed from the system.
- A new model of the DRS PS960 scanner was added to the system.
- Documentation was modified to include updates pursuant to some of the above software changes and to incorporate a Dominion Product Report procedure (for preventing a GEMS Runtime Error when GEMS is launched).

Further details on the above changes are available in the Assure 1.3 Test Plan and Test Report.

Mark definition:

The amount of contrast between the ballot background and a mark's reflectance determines whether a mark is designated as valid, invalid, or no mark. The Assure 1.3 system will indicate a valid mark for reflectance contrasts that are at least 32%. Reflectance is dependent on a variety of factors; the ballot color, paper density and texture, the marking device type, the area of coverage, and the position of the mark in relation to the center of the voting oval. All ballots must meet the criteria of the Ballot Specifications Guide to provide valid reference levels and mark detection when scanned. All marks must be made with marking devices that have a high absorption (low reflectance) in the visible red light spectrum and be of sufficient density and color for the ballot scanner to register it as black. Most black, dark blue and brown pens and markers meet this requirement.

To ensure detection of a mark on the ballot, the recommendation is to completely fill the voting position oval, regardless of marking device type. However, the minimum mark contrast relative to the background reflectance to produce a detectable mark can be made by certain marking devices covering less of the voting position oval. Using a Black Sharpie® Fine Point marker, a dot with a diameter of 1/16 inch, in the center of the voting position oval, can be detected as a valid mark due to the high density of the light absorbing materials in the marker's ink and the position of the mark in relation to the center of the voting oval.

The system can also detect a 1/32 inch thick horizontal line across the center of the voting position oval as it covers a sufficient area in the voting position oval to absorb enough light to constitute a valid mark.

Tested marking devices:

Any dark colored (i.e., black, blue, or brown), felt-tipped, ball-point, or roller-ball pen, or 2B pencil capable of leaving clearly discernible marks in voting position ovals, with a minimum of potential bleed through onto the opposing face of the ballot, and fast dry time may be used.

Note: *Under no circumstances should red, orange, or yellow pens be used for marking ballots.*

The recommended marking device for use with the Assure 1.3 system is the Black Sharpie® Fine Point, which uses a solvent based ink that has a fast dry time, and a high coverage area with the least amount of effort. This pen is also recommended for jurisdictions that have high humidity environments. If a jurisdiction chooses to use other marking devices, they should always test those marking devices on the product to ensure that it produces clearly discernible marks (see previous Mark Definition section) and meets their needs for their election environment. Note that the humidity of the environment in which a marking device is used can affect the dry time.

Language capability:

The voting system has the capability of presenting the ballot, ballot selections, review screens and instructions in the following languages:

- English
- Spanish
- Chinese
- Tagalog (Filipino)
- Japanese
- Korean
- Vietnamese
- French
- Haitian Creole

Other languages may be optionally created and installed.

The voting system has the capability of supporting the following language groups:

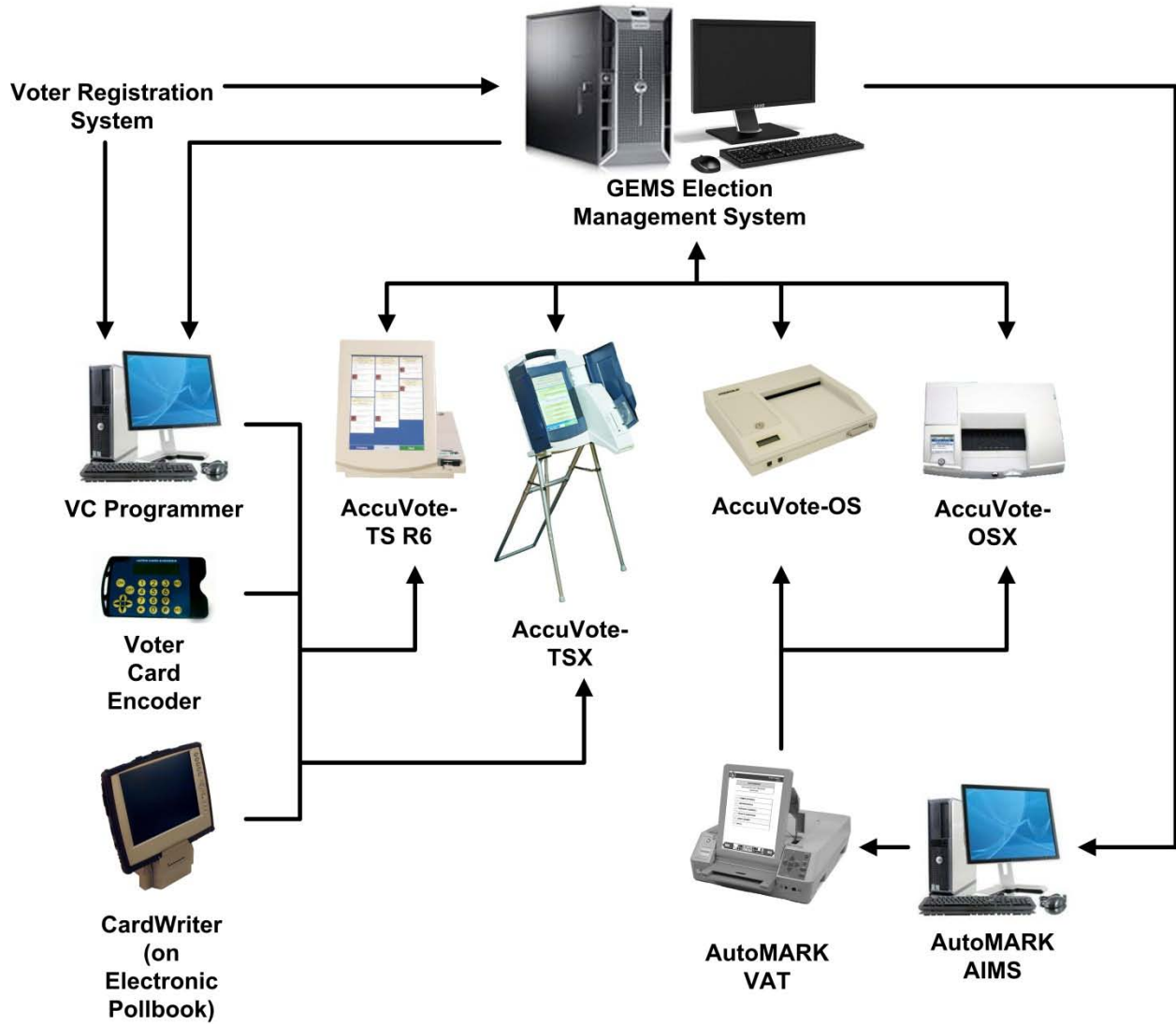
- English (default)
- Secondary language using a Western European font
- Ideographic language (such as Chinese or Korean)

Non-written languages requiring audio support may be optionally created.

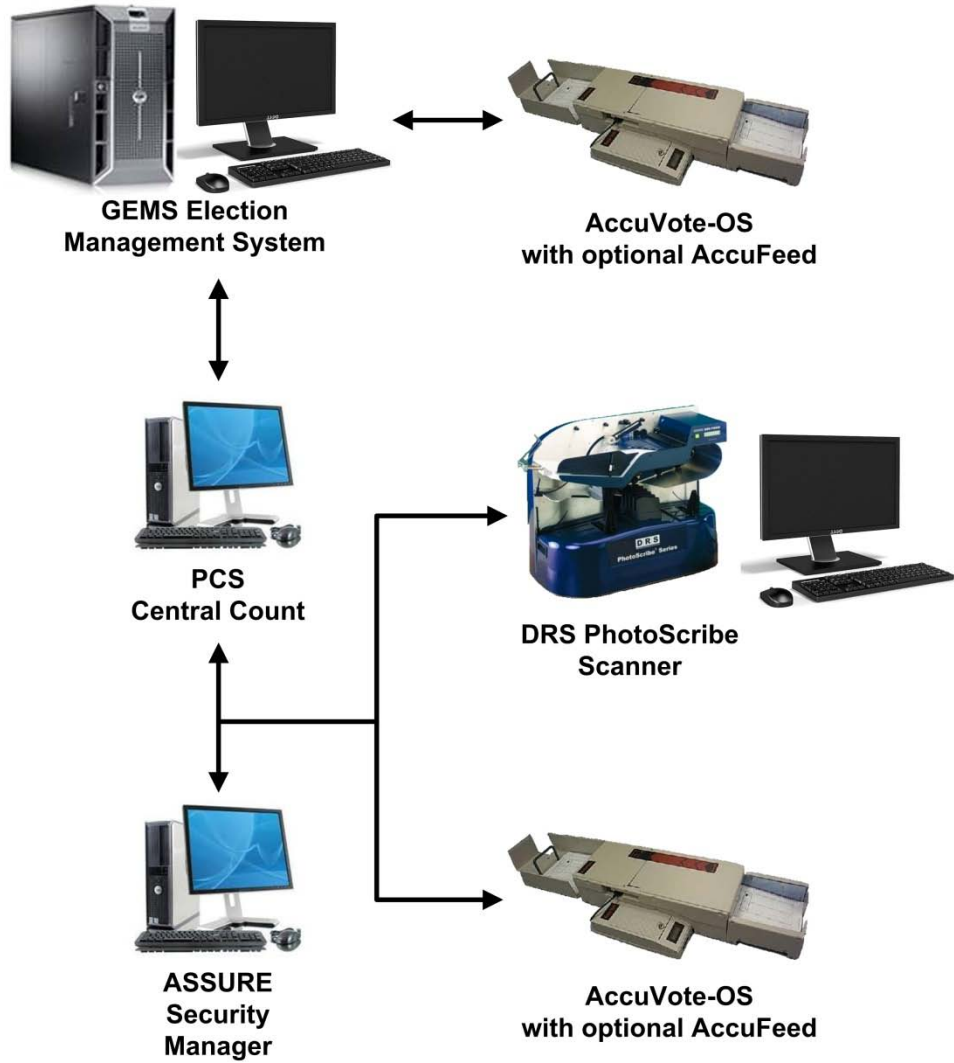
Components Included:

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

Polling Place and Early Voting



Central Count and Absentee/Mail-in Voting



System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
Ballot Preparation and Central Count				
GEMS	1.21.6		Dimension 3100 Windows XP SP3 PowerEdge 2900 Windows XP SP3 PowerEdge 1800 Windows Server 2003 SP2	
ASSURE Security Manager	1.2.5		Dimension 3100 Windows XP SP3	
Abasic Report Files	2.2.5			Installed on AccuVote-OS/OSX and AccuVote-TS/TSX
AutoMARK AIMS	1.3 (MDE 1.3.572,		PowerEdge 2900	

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
	Template 1.3.572)		Windows XP XP3	
Key Card Tool	4.7.8		Same as GEMS	
PCS Central Count	2.2.5		PowerEdge 2900 Windows XP SP3	
PhotoScribe PS900 iM2	2.6.2	Model A	Windows XP SP3	COTS scanner from DRS
PhotoScribe PS960	2.6.2	Model A and B	Windows XP SP3	COTS scanner from DRS
Polling Place				
VCProgrammer	4.7.8		Same as GEMS	
Voter Card Encoder	1.3.3			
CardWriter	1.1.6			On electronic Pollbooks
AccuVote-OS Precinct Count				
AccuVote-OS	1.96.14	Models A, B, C, and D		Also Ballot Box
AccuVote-OS Central Count				
AccuVote-OS	2.0.15	Models A, B, C, and D		
AccuFeed		Model A		
AccuVote-OSX				
AccuVote-OSX	1.2.7	Model A	Windows CE 500.4.1 Bootloader 1.3.11	Also Ballot Box
BallotStation				
AccuVote-TS R6	4.7.10	Model A and B	Windows CE 300.3.5 Bootloader 1.3.11	
UAID		Model A		Optional
AccuVote-TSX	4.7.10	Model A, B, C and D	Windows CE 410.3.10 Bootloader 1.3.11	
AVPM		Model A		Optional
UAID		Model A		Optional
Optical Scanner				
AutoMARK VAT	1.3 PAVR (Build 1.3.3460)	Model A100, A200 and A300	Windows CE 5.00.20	Firmware for the AutoMARK with optional AutoCAST that supports Audio Only
AutoMARK VAT	1.3 PVR (Build 1.3.3460)	Model A100, A200 and A300	Windows CE 5.00.20	Firmware for the AutoMARK with optional AutoCAST that supports Audio and Visual
Other				
Visually Impaired BallotStation (VIBS) Keypad and Headset				
Universal ADA Interface Device (UAID) with ADA switch kit or Sip & Puff				
Privacy Filter		3M		

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
Smart Card Terminal		ST100 ST120		SecureTech
Finger Print Reader U.are.U® 4000 and 4500				DigitalPersona
Dual Speed 160 Port Hub				3Com
Transport Printer				DRS
Printer		LP440C		Ricoh

System Limitations

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

Characteristic	Limiting Component	Limit	Comment
Ballots			
Maximum Ballots or Cards in Election	AccuVote-OS/OSX	8,000	Typical 6,000
Maximum Ballots Cast per Machine		15,000	Typical 2,000
Precincts			
Maximum Precincts in Election	AccuVote-OS/OSX	5,000	Typical 1,000
Maximum Number of Races per Base unit		500	Typical 100
Races			
Maximum Races in Election		8,000	Typical 1,000
Maximum Candidates in a Race		400	Typical 20
Maximum Candidates/Counters in Election		20,000	Typical 5,000
Vote Centers			
Maximum Precincts per Vote Center		5,000	Typical 1,000
Maximum Number of Ballot Styles per Vote Center		8,000	Typical 4,000
Maximum Number of Vote Centers		10,000	Typical 2,000
Maximum Number of Memory Cards per Vote Center		50	Typical 20
Jurisdictional			
Maximum Number of Voter Group Categories		2	Typical 2
Maximum Number of Voter Groups per Category		50	Typical 10
GEMS Database File Size		2GB	

AccuVote-OS Unique Limitations

#	Limitation
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1	Maximum number of card styles per machine is approximately 50 but is dependent on content.
2	Maximum number of precincts per machine is approximately 16 but is dependent on content.
3	Maximum number of races baseunit per machine is approximately 100 but is dependent on content.
4	Maximum number of races machine is approximately 250 but is dependent on content.
5	Maximum number of candidates per machine is approximately 500 but is dependent on content.

Functionality

Supported Functionality Declaration for Assure 1.3

Feature/Characteristic	Yes/No	Comment
Voter Verified Paper Audit Trails		
VVPAT	Yes	
Accessibility		
Forward Approach	Yes	
Parallel (Side) Approach	Yes	
Closed Primary		
Primary: Closed	Yes	
Open Primary		
Primary: Open Standard (provide definition of how supported)	Yes	Open Primary, supported
Primary: Open Blanket (provide definition of how supported)	Yes	
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	No	
Primary Presidential Delegation Nominations & Slates:		
Primary Presidential Delegation Nominations: Displayed delegate slates for each presidential party	Yes	
Slate & Group Voting: one selection votes the slate.	Yes	
Ballot Rotation:		
Rotation of Names within an Office; define all supported rotation methods for location on the ballot and vote tabulation/reporting	Yes	
Straight Party Voting:		
Straight Party: A single selection for partisan races in a general election	Yes	
Straight Party: Vote for each candidate individually	Yes	
Straight Party: Modify straight party selections with crossover votes	Yes	
Straight Party: A race without a candidate for one party	Yes	
Straight Party: “N of M race (where “N”>1)	Yes	
Straight Party: Excludes a partisan contest from the straight party selection	Yes	

Feature/Characteristic	Yes/No	Comment
Cross-Party Endorsement:		
Cross party endorsements, multiple parties endorse one candidate.	Yes	
Split Precincts:		
Split Precincts: Multiple ballot styles	Yes	
Split Precincts: P & M system support splits with correct contests and ballot identification of each split	Yes	
Split Precincts: DRE matches voter to all applicable races.	Yes	
Split Precincts: Reporting of voter counts (# of voters) to the precinct split level; Reporting of vote totals is to the precinct level	Yes	Precinct Level Only
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.)	Yes	
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.)	Yes	Overtaken – US District Court 7/29/03: CA Election Code sect. 11383
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.	No	
Ranked Order Voting: A ballot stops being counting when all ranked choices have been eliminated	No	
Ranked Order Voting: A ballot with a skipped rank counts the vote for the next rank.	No	
Ranked Order Voting: Voters rank candidates in a contest in order of choice. A candidate receiving a majority of the first choice votes wins. If no candidate receives a majority of first choice votes, the last place candidate is deleted, each ballot cast for the deleted candidate counts for the second choice candidate listed on the ballot. The process of eliminating the last place candidate and recounting the ballots continues until one candidate receives a majority of the vote	No	
Ranked Order Voting: A ballot with two choices ranked the same, stops being counted at the point of two similarly ranked choices.	No	
Ranked Order Voting: The total number of votes for two or more candidates with the least votes is less than the votes of the candidate with the next highest number of votes, the candidates with the least votes are eliminated simultaneously and their votes transferred to the next-ranked continuing candidate.	No	
Provisional or Challenged Ballots		

Feature/Characteristic	Yes/No	Comment
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 ballots are not included in tabulation.
Provisional/Challenged Ballots: A voted provisional ballots is included in the tabulation, but is identified and can be subtracted in the central count	Yes	
Provisional/Challenged Ballots: Provisional ballots maintain the secrecy of the ballot.	Yes	No connection is made between the voter and the cast ballot.
Overvotes (must support for specific type of voting system)		
Overvotes: P & M: Overvote invalidates the vote. Define how overvotes are counted.	Yes	If a contest is overvoted, the number of overvotes always equals the M number. Overvotes are stored per contest.
Overvotes: DRE: Prevented from or requires correction of overvoting.	Yes	
Overvotes: If a system does not prevent overvotes, it must count them. Define how overvotes are counted.	Yes	If a contest is overvoted, the number of overvotes always equals the M number. Overvotes are stored per contest.
Overvotes: DRE systems that provide a method to data enter absentee votes must account for overvotes.	Yes	Absentee ballots cannot be entered onto the AV-TS unit. Absentee ballots are handled using an AV-OS unit.
Undervotes		
Undervotes: System counts undervotes cast for accounting purposes	Yes	
Blank Ballots		
Totally Blank Ballots: Any blank ballot alert is tested.	Yes	
Totally Blank Ballots: If blank ballots are not immediately processed, there must be a provision to recognize and accept them	Yes	
Totally Blank Ballots: If operators can access a blank ballot, there must be a provision for resolution.	Yes	
Networking		
Wide Area Network – Use of Modems	Yes	Optional
Wide Area Network – Use of Wireless	No	
Local Area Network – Use of TCP/IP	Yes	
Local Area Network – Use of Infrared	No	
Local Area Network – Use of Wireless	No	
FIPS 140-2 validated cryptographic module	No	
Used as (if applicable):		
Precinct counting device	Yes	AccuVote-OS, AccuVote-OSX, AccuVote-TS R6, AccuVote-TSX
Central counting device	Yes	PCS, DRS PhotoScribe Scanner, AccuVote-OS with optional AccuFeed

Baseline Certification Engineering Change Order's (ECO)

This table depicts the ECO's certified with the voting system:

Change ID	Date	Component	Description	Inclusion
PS960-001	09/28/2011	PS960	Increased HDD and memory capacity	Optional
ASR-001	10/31/2011	AV-OS	Added MRAM memory card accessory	Optional
ASR-002	11/14/2011	AV-OS	Connected pin 39 to 40 on MRAM memory card accessory	Optional
AVOS-001	04/30/2012	AV-OS	Hardware modifications to pass emissions testing on the Model A	Required
AVOS-002	04/30/2012	AV-OS	Hardware modifications to pass emissions testing on Models B, C, and D	Required