



## United States Election Assistance Commission

### Certificate of Conformance

## Dominion Democracy Suite 5.0



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: Democracy Suite

Model or Version: 5.0

Name of VSTL: Pro V&V

EAC Certification Number: DVS-DemSuite-5.0

Date Issued: February 8, 2017

*Executive Director*  
U.S. Election Assistance Commission

**Scope of Certification Attached**

**Manufacturer:** *Dominion*  
**System Name:** *Democracy Suite 5.0*  
**Certificate:** *DVS-DemSuite5.0*

**Laboratory:** *Pro V&V*  
**Standard:** *2005 VVSG*  
**Date:** *February 8, 2017*



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## Scope of Certification

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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 D-Suite 5.0 Voting System is a paper-based optical scan voting system with a hybrid paper/DRE option consisting of the following major components: The Election Management System (EMS), the ImageCast Central (ICC), the ImageCast Precinct (ICP), and the ImageCast X (ICX).

**Election Management System (EMS):** The D-Suite 5.0 EMS consists of various components running as either a front-end/client application or as a back-end/server application. A listing of the applications and a brief description of each is presented below.

#### Front-end/Client applications:

- EMS Adjudication: Represents the server and client components responsible for adjudication, including reporting and generation of adjudicated result files from ImageCast Central tabulators and adjudication of write-in selections from ImageCast Precinct and ImageCast Central tabulators.
- EMS Audio Studio: A client application that represents an end-user helper application used to record audio files for a given election project. As such, it is utilized during the pre-voting phase of the election cycle.
- EMS Election Data Translator: End-user application used to export election data from election project and import election data into election project.
- EMS Election Event Designer: A client application that integrates election definition functionality together with ballot styling capabilities and represents a main pre-voting phase end-user application. ImageCast Voter Activation: An application, installed on a workstation or laptop at the polling place, which allows the poll workers to program smart cards for voters. The smart cards are used to activate voting sessions on ImageCast X.
- EMS Results Tally and Reporting: A client application that integrates election results acquisition, validation, tabulation, reporting, and publishing capabilities and represents the main post-voting phase end-user application.

#### Back-end/Server applications:

- EMS Adjudication Services: Represents a server side application which provides ballot information such as contests, candidates and their coordinates from EMS to the Adjudication application.
- EMS Application Server: Represents a server side application responsible for executing long running processes, such as rendering ballots, generating audio files and election files, etc.
- EMS Database Server: Represents a server side RDBMS repository of the election project database which holds all the election project data, including pre-voting and postvoting data.
- EMS Data Center Manager: A server application that represents a system level configuration application used in EMS back-end data center configuration.
- EMS Election Device Management: Application used for production and programming of election files, and other accompanying files, for ImageCast X terminals.
- EMS File System Service: A client application that acts as a stand-alone service that runs on client machines, enabling access to low level operating system API for partitioning CF cards, reading raw partition on ICP CF card, etc.
- EMS NAS Server: Represents a server side file repository of the election project file based artifacts, such as ballots, audio files, reports, log files, election files, etc.
- Smart Card Helper Service: A service that is installed on a workstation or laptop at the polling place, and provides required data format for programming smart cards for ImageCast devices, or, for jurisdiction's voting registration system in case of integration.

ImageCast Precinct (ICP): The ICP device is a hybrid precinct optical scan paper/DRE ballot counter designed to provide three major functionalities: ballot scanning and tabulation,

accessible voting, and ballot review and second chance voting. Accessible voting allows voters with disabilities to listen to an audio representation of a ballot and use a hand held controller called an Audio Tactile Interface (ATI) to make vote selections, which are then saved directly to the ICP when the voter casts their Accessible Voting ballot. The Ballot Review feature allows a voter to review their vote selections using an audio or visual representation, which displays or presents the voter with a complete listing of all contests contained on the ballot and an indication of the results which will be recorded for each contest once the voter's ballot is cast. Second Chance voting refers to scenarios in which an error has been detected on the voter's ballot (blank ballot, undervoted ballot, overvoted ballot, misread ballot, cross-over voted ballot), and the ICP notifies the voter by displaying a message or providing an audio visual cue, that one of these situations has been detected, and offers the voter an opportunity to reject and fix their ballot, or to cast the ballot as-is. The ICP scans marked paper ballots, interprets voter marks on the paper ballot and stores and tabulates each vote from each paper ballot. The ICP contains a small touch-screen LCD to allow the poll worker to initiate polling place activities, diagnostics and reports.

ImageCast Central (ICC) Count Scanner: The ICC is a high-speed, central ballot scan tabulator based on Commercial off the Shelf (COTS) hardware, coupled with the custom-made ballot processing application software. It is used for high speed scanning and counting of paper ballots.

ImageCast X (ICX) Ballot Marking Device (BMD): The Democracy Suite ImageCast X ballot marking platform is a solution that is used for creation of paper Electronic Mobile Ballots. These ballots can be scanned, reviewed, cast and tabulated at the polling location on an ImageCast Precinct device or later scanned and tabulated by the ImageCast Central optical ballot scanner. The ImageCast X also supports enhanced accessibility voting through optional accessories connected to the ImageCast X unit.

### Certified System before Modification:

NA

### Anomalies and/or Additions addressed in Democracy Suite 5.0:

Testing determined that the system and components used are not fully compliant to VVSG 1.0, Section 7 and RFI 2012-05. The deficiency is a result of the system using COT's software products in which the FIPS Certificates are no longer valid. The DVS 5.0 system shall be modified to bring it into compliance with the requirements of VVSG 1.0, Section 7 and RFI 2012-05. DVS has 30 days from the date of Certification of the DVS 5.0 system to submit a modification to make these changes.

## Mark definition:

50% or more of the target area marked consistently provides mark recognition. The manufacturer recommends black ink for marking ballot selections.

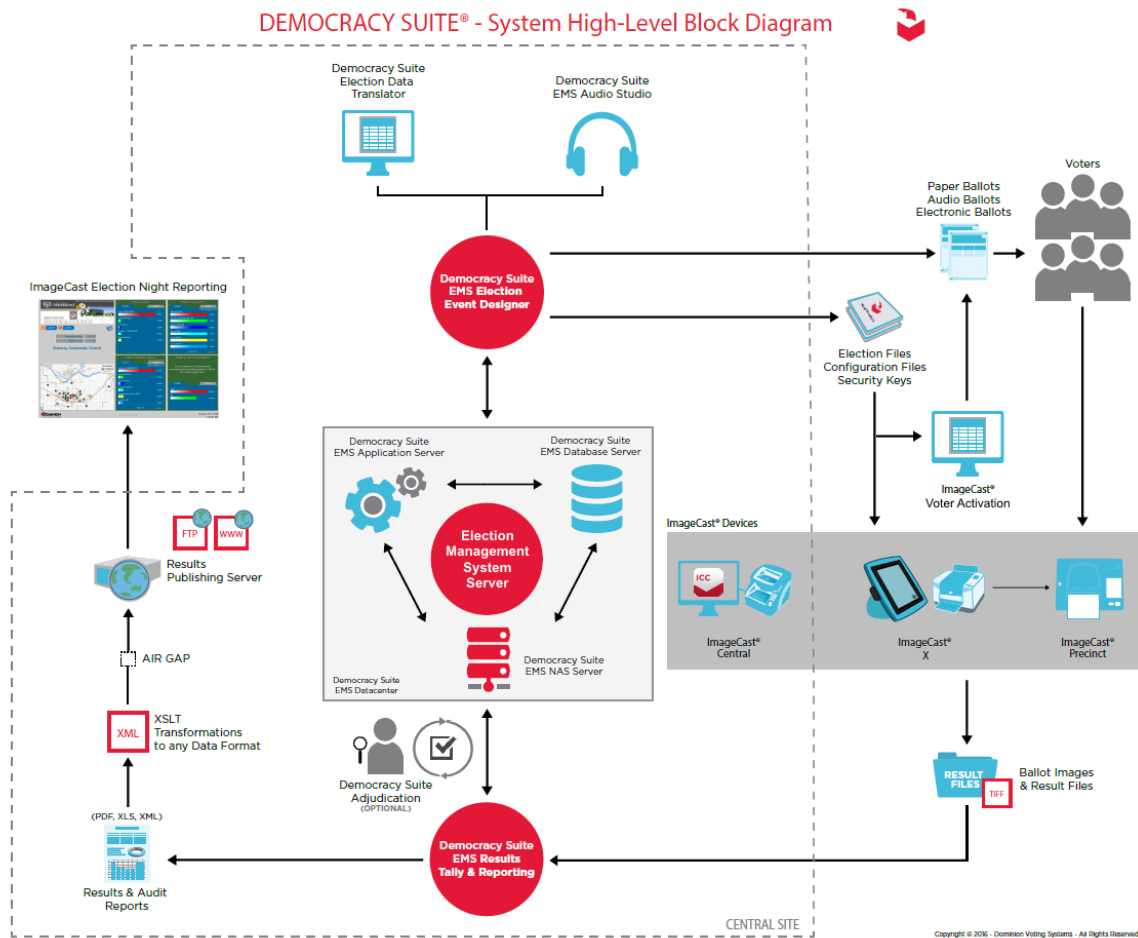
## Tested Marking Devices:

Sharpie brand markers, black ink.

## Language capability:

System supports Bengali, Chinese, English, French, Hindi, Japanese, Korean, Spanish, Thai.

## Democracy Suite 5.0 System Diagram



## Components Included:

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

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
EMS Election Event Designer (EED)	5.0.15.1		Windows 8.1 Pro	EMS

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
EMS Results Tally and Reporting (RTR)	5.0.15.1		Windows 8.1 Pro	EMS
EMS Application Server	5.0.15.1		Windows Server 2012 R2 Windows 8.1 Pro	EMS
EMS File System Service (FSS)	5.0.15.1		Window 8.1 Pro	EMS
EMS Audio Studio (AS)	5.0.15.1		Windows 8.1 Pro	EMS
EMS Data Center Manager (DCM)	5.0.15.1		Windows Server 2012 R2 Windows 8.1 Pro	EMS
ImageCast Voter Activation (ICVA)	5.0.15.1		Windows 8.1 Pro	EMS
EMS Adjudication (ADJ)	5.0.0.17002		Windows 8.1 Pro	EMS
EMS Adjudication Services	5.0.0.17002			
EMS Election Device Management (EDM)	5.0.15.1		Windows Server 2012 R2 Windows 8.1 Pro	EMS
Smart Card Helper Service	5.0.15.1		Windows 8.1 Pro	EMS
Election Firmware	5.0.1-US	PCOS-320A PCOS-320C	uClinux	ICP
Firmware Updater	5.0.1-US	PCOS-320A PCOS-320C	uClinux	ICP
Firmware Extractor	5.0.1-US	PCOS-320A PCOS-320C	uClinux	ICP
Kernel (uClinux)	5.0.1-US	PCOS-320A PCOS-320C	Modified COTS	ICP
Boot Loader (COLILO)	20040221	PCOS-320A PCOS-320C	Modified COTS	ICP
ImageCast Central Application	5.0.1-0001	Canon DR-G1130	Windows 8.1 Pro	ICC
ICX Application	5.0.6149.28963		Android 4.4 (Avalue) Android 5.0 (Samsung)	ICX
ICX Security Certificate	N/A			ICX
ICX Security Certificate Password	N/A			ICX
Microsoft Windows Server	2012 R2 Standard		Unmodified COTS	EMS Server SW Components
Microsoft Windows	8.1 Professional		Unmodified COTS	EMS Client/Server SW Components; EMS SW Build
.NET Framework	3.5		Unmodified COTS	EMS Client/Server SW Components; EMS SW Build
Microsoft Visual J#	2.0		Unmodified COTS	EMS Client/Server SW Components; EMS SW Build

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
Microsoft Visual C++ 2013 Redistributable	2013		Unmodified COTS	EMS Client/Server SW Components
Java Runtime Environment	7u76		Unmodified COTS	EMS Client/Server SW Components
Java Runtime Environment	8u77		Unmodified COTS	EMS Client/Server SW Components
Microsoft SQL Server 2012 Standard	2012 Standard		Unmodified COTS	EMS Client/Server Unmodified COTS SW Components
Microsoft SQL Server 2012 Service Pack 2	2012 SP2		Unmodified COTS	EMS Client/Server SW Components
Microsoft SQL Server 2012 SP@ Express with Advanced Services	2012 SP2		Unmodified COTS	EMS Client/Server SW Components
Cepstral Voices	6.2.3.81		Unmodified COTS	EMS Client/Server SW Components
Arial Narrow Fonts	N/A		Unmodified COTS	EMS Client/Server SW Components; EMS SW Build
Maxim iButton Driver	4.04		Unmodified COTS	EMS Client/Server SW Components
Adobe Reader DC	AcrobatDC		Unmodified COTS	EMS Client/Server SW Components; EMS SW Build
Microsoft Access Database Engine	2010		Unmodified COTS	EMS Client/Server SW Components
Open XML SDK 2.0 for Microsoft Office	2.0		Unmodified COTS	EMS Client/Server SW Components
Infragistics NetAdvantage Win Forms 2011.1	2011 Vol. 1		Unmodified COTS	EMS SW Platform; EMS SW Build
Infragistics NetAdvantage WPF 2012.1	2012 Vol. 1		Unmodified COTS	EMS SW Platform; EMS SW Build
TX Text Control Library for .NET	16.0		Unmodified COTS	EMS SW Platform; EMS SW Build
SOX	14.3.1		Unmodified COTS	EMS SW Platform; EMS SW Build
Log4net	1.2.10		Unmodified COTS	EMS SW Platform
NLog	1.0.0.505		Unmodified COTS	EMS SW Platform; EMS SW Build
iTextSharp	5.0.5.0		Unmodified COTS	EMS SW Platform; EMS SW Build
OpenSSL	1.2		Unmodified COTS	EMS SW Platform; EMS SW Build
SQLite	1.0.65.0		Unmodified COTS	EMS SW Platform; EMS SW Build
Lame	3.99.4		Unmodified COTS	EMS SW Platform; EMS SW Build

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
Speex	1.0.4		Unmodified COTS	EMS SW Platform; EMS SW Build
Ghostscript	9.04		Unmodified COTS	EMS SW Platform; EMS SW Build
PdfToImage.dll	1.2		Unmodified COTS	EMS SW Platform; EMS SW Build
SharpSSH package	1.1.1.13		Unmodified COTS	EMS SW Platform; EMS SW Build
One Wire API for .NET	4.0.2.0		Unmodified COTS	EMS SW Platform; EMS SW Build
Avalon-framework-cvs-20020806	20020806		Unmodified COTS	EMS SW Platform; EMS SW Build
Batik	0.20-5		Unmodified COTS	EMS SW Platform; EMS SW Build
Fop	0.20-5		Unmodified COTS	EMS SW Platform; EMS SW Build
Microsoft Visual J# 2.0 Redistributable Package – Second Edition (x64)	2.0		Unmodified COTS	EMS SW Platform
Entity framework	4.3.1		Unmodified COTS	EMS SW Platform; EMS SW Build
Spreadsheetlight	3.4.3		Unmodified COTS	EMS SW Platform; EMS SW Build
Open XML SDK 2.0 for Microsoft Office	2.0.5022.0		Unmodified COTS	EMS SW Platform; EMS SW Build
Open SSL	1.1.2		Unmodified COTS	ICP
PNG Reference Library	1.2.24		Unmodified COTS	ICP
Zlib	1.2.3		Unmodified COTS	ICP
ASP.NET AJAX Control Toolkit	15.1.4.0		Unmodified COTS	ICX incl. EDM
Entity Framework	6.1.3.net45		Unmodified COTS	ICX incl. EDM
Ionics Zip Library	1.9.1.8		Unmodified COTS	ICX incl. EDM
NLog Library	1.0.0.505		Unmodified COTS	ICX incl. EDM
SQLite	1.0.98.0		Unmodified COTS	ICX incl. EDM
Google Text-to-Speech Engine	3.8.16		Unmodified COTS	ICX incl. EDM
OpenSSL	1.2.3		Unmodified COTS	ICC SW Build Library
1-Wire Driver (x86)	4.04		Unmodified COTS	ICC Runtime SW
1-Wire Driver (x64)	4.04		Unmodified COTS	ICC Runtime SW
Kofax VRS	4.5 Build 269		Unmodified COTS	ICC Runtime SW
Kofax VRS Service Pack 1	4.5.1		Unmodified COTS	ICC Runtime SW
Canon DR-G1130 Driver	1.2 SP4		Unmodified COTS	ICC Runtime SW
Canon DR-G1130 Component Installer	4.50		Unmodified COTS	ICC Runtime SW
Visual C++ 2013	12.0.30501		Unmodified COTS	ICC Runtime SW



System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
Redistributable (x86)				
Zxing Barcode Scanner	4.7.5		Modified COTS	ICX SW
SoundTouch	1.9.2		Modified COTS	ICX SW
7-Zip	9.20 (64 Bit)		Unmodified COTS	EMS SW Build
Internet Information Server (IIS)	6		Unmodified COTS	EMS SW Build
Visual Studio 2013 Premium	2013.5		Unmodified COTS	EMS SW Build
ImgBurn	2.5.7.0		Unmodified COTS	EMS SW Build
Active Perl	5.20.2		Unmodified COTS	EMS SW Build
Patch	2.5.9-7			EMS SW Build
ISONewspaper	30.4		Unmodified COTS	EMS SW Build
Ogg Vorbis Encoder	2.88		Unmodified COTS	EMS SW Build
Ogg Vorbis Encoder	1.10.1		Unmodified COTS	EMS SW Build
Prism Mvwm	1.1.1		Unmodified COTS	EMS SW Build
PDF Printing	2.9.5.2		Unmodified COTS	EMS SW Build
WiX	3.10		Unmodified COTS	EMS SW Build
NASM Assembler	2.09.07		Unmodified COTS	ICC SW Build
Open SSL	1.2.3		Unmodified COTS	ICC SW Build
Ajax Control Toolkit	15.1.4		Unmodified COTS	EDM SW Build
SQLite	1.0.98.0		Unmodified COTS	EDM SW Build
Ionic	1.9.1.8		Unmodified COTS	EDM SW Build
Google Text-to-Speech Engine – Architecture Arm	3.8.16		Unmodified COTS	EDM SW Build
Google Text-to-Speech Engine – Architecture x86	3.8.16		Unmodified COTS	EDM SW Build
Microsoft Enterprise Library	5.0		Unmodified COTS	Adjudication SW Build
Microsoft Prism	4.0-November 2010		Unmodified COTS	Adjudication SW Build
Microsoft Identity Foundation	4.0		Unmodified COTS	Adjudication SW Build
Toggle Switch Control Library	1.1.1		Unmodified COTS	Adjudication SW Build
Infragistics NetAdvantage 2013.1	2013.1		Unmodified COTS	Adjudication SW Build
iTextSharp	5.5.1		Unmodified COTS	Adjudication SW Build
CLR Security	June 2010		Unmodified COTS	Adjudication SW Build
Open SSL	1.0.2e		Unmodified COTS	Adjudication SW Build
Community MSI	1.4		Unmodified COTS	Adjudication

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
Extensions				SW Build
TreeViewEx	3.0.0.0		Unmodified COTS	Adjudication SW Build
SharpZibLib	0.86.0		Unmodified COTS	ICL SW Build
Microsoft Visual Studio 2013 Installer Projects Extension	2013		Unmodified COTS	ICL SW Build
Visual Basic Power Packs	12.0		Unmodified COTS	ICL SW Build
G++(GNU C++ compiler)	gcc3.4.0-20040603		Unmodified COTS	ICP Election Firmware Compiler
Ubuntu 10.04 LTS – Long-term support	10.04		Unmodified COTS	ICP Firmware Build
Toolchain Installation Script	NA		Unmodified COTS	ICP Firmware Build
M68k uClinux tools base gcc	3.4.0-20040603		Unmodified COTS	ICP Firmware Build
M68k uClinux tools c++ gcc	3.4.0-20040603		Unmodified COTS	ICP Firmware Build
M68k uClinux tools gdb	20040603		Unmodified COTS	ICP Firmware Build
OpenSSL	1.1.2		Unmodified COTS	ICP Firmware Build
Ubuntu	14.04.4		Unmodified COTS	ICP Firmware Build
ImageCast Precinct Optical Scanner	5.0.1-US	PCOS-320C		Available from Dominion Voting
ImageCast Precinct Optical Scanner	5.0.1-US	PCOS-320A		Available from Dominion Voting
ICP Ballot Box		BOX-330A		Available from Dominion Voting
ICX UPS Inline EMI Filter		1.0		Available from Dominion Voting
ICX Tablet	5.0.6149.28963	Samsung		Available from Dominion Voting
ICX Tablet	5.0.6149.28963	Avalue 15" Tablet (SID-15V)	COTS	
ICX Tablet	5.0.6149.28963	Avalue 21" Tablet (SID-21V)	COTS	
Server		Dell PowerEdge R630	Windows Server 2012 R2	
Client HW		Dell Precision T3420 PC	Windows 8.1 Pro	
Client HW		Dell Latitude E7450 Laptop	Windows 8.1 Pro	
Printer		HP LaserJet Pro Printer M402dn	COTS	
ICC Workstation HW		Dell OptiPlex 7440 All in One	Windows 8.1 Pro	
ICC Workstation HW		Dell OptiPlex 9030 All In One	Windows 8.1 Pro	
Scanner		Canon imageFormula DR-	COTS	

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
		G1130		
Monitor		Dell Ultrasharp 24" Monitor U2414H	COTS	
Monitor		Dell Monitor KM632	COTS	
Monitor		Dell Monitor P2414Hb	COTS	
Ballot Printer		Brother Laser Printer HL-L2300D	COTS	
CD/DVD Reader		Dell DVD Multi Recorder	COTS	
iButton Programmer		Maxim iButton Programmer DS9490P# with DS1402	COTS	
UPS		APC Smart-UPS SMT1500	COTS	
Network Switch		Dell X1008 Network Switch	COTS	
Network Switch		Dell X1018 Network Switch	COTS	
Network Switch		Dell X1026 Network Switch	COTS	
Network Switch		Dell PowerConnect 2808 Network Switch	COTS	
Interface Hub		Tecla ShieldDos KDL-02001	COTS	
Sip and Puff		Enabling Devices Sip and Puff	COTS	
Headphones		Cyber Acoustics Headphones ACM-70	COTS	
Joystick		4-way joystick controller S26	COTS	
Paddles		Enablemart #88906 Rocker (Paddle) Switch	COTS	
Footswitches		ABLENET Jelly Bean Twist 10033400	COTS	
CF Card Reader		IOGEAR SDHC/microSDHC 0U51USC410 Card Reader	COTS	
CF Card Reader		Lexar USB 3.0 Dual-Slot reader	COTS	
CF Card Reader		Hoodman Steel USB 3.0 UDMA Reader 102015	COTS	
CF Card Reader		Lexar Professional CF card reader workflow CFR1	COTS	
ATI		ATI handset		Available from

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
				Dominion Voting
ATI		ATI-USB handset		Available from Dominion Voting
Smart Card Reader		ACS PC-Linked Smart Card Reader ACR39U	COTS	

## System Limitations

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

Characteristic	Limiting Component	Limit	Comment
Ballot positions	The ballot	462	Both
Precincts in an election	EMS	1000; 250	Standard; Express
Contests in an election	EMS	4000; 250	Standard; Express
Candidates/Counters in an election	EMS	40000; 2500	Standard; Express
Candidates/Counters in a precinct	Tabulator	462	Both
Candidates/Counters in a tabulator	Tabulator	10000; 2500	Standard; Express
Ballot Styles in an election	Tabulator	4000; 750	Standard; Express
Ballot IDs in a tabulator	Tabulator	200	Both
Contests in a ballot style	Tabulator	125	Standard; Express
Candidates in a contest	EMS	462; 231	Standard; Express
Ballot styles in a precinct	Tabulator	5	Both
Number of political parties	Tabulator	30	Both
“vote for” in a contest	Tabulator	30	Both
Supported languages in an election	Tabulator	5	Both
Number of write-ins	The ballot	462	Both

## Functionality

### 2005 VVSG Supported Functionality Declaration

Feature/Characteristic	Yes/No	Comment
Voter Verified Paper Audit Trails		
VVPAT	N/A	
Accessibility		
Forward Approach	YES	
Parallel (Side) Approach	YES	
Closed Primary		
Primary: Closed	YES	
Open Primary		
Primary: Open Standard (provide definition of how supported)	YES	
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	

Feature/Characteristic	Yes/No	Comment
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.	YES	
Ballot Rotation:		
Rotation of Names within an Office; define all supported rotation methods for location on the ballot and vote tabulation/reporting	YES	Equal time rotation
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	
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.	N/A	
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)	NO	
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 2 <sup>nd</sup> 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 2 <sup>nd</sup> contest.)	NO	

Feature/Characteristic	Yes/No	Comment
<b>Cumulative Voting</b>		
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	
<b>Ranked Order Voting</b>		
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	
<b>Provisional or Challenged Ballots</b>		
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	
<b>Overvotes (must support for specific type of voting system)</b>		
Overvotes: P & M: Overvote invalidates the vote. Define how overvotes are counted.	YES	Overvotes cause a warning to the voter and can be configured to allow voter to override.
Overvotes: DRE: Prevented from or requires correction of overvoting.	N/A	
Overvotes: If a system does not prevent overvotes, it must count them. Define how overvotes are counted.	YES	If allowed via voter override, overvotes are tallied separately.
Overvotes: DRE systems that provide a method to data enter absentee votes must account for overvotes.	N/A	
<b>Undervotes</b>		
Undervotes: System counts undervotes cast for accounting purposes	YES	

Feature/Characteristic	Yes/No	Comment
<b>Blank Ballots</b>		
Totally Blank Ballots: Any blank ballot alert is tested.	YES	Precinct voters receive a warning; both precinct and central scanners will warn on blank ballots.
Totally Blank Ballots: If blank ballots are not immediately processed, there must be a provision to recognize and accept them	YES	Blank ballots are flagged. These ballots can be manually examined and then be scanned and accepted as blank; or precinct voter can override and accept.
Totally Blank Ballots: If operators can access a blank ballot, there must be a provision for resolution.	YES	Operators can examine a blank ballot, re-mark if needed and allowed, and then re-scan it.
<b>Networking</b>		
Wide Area Network – Use of Modems	NO	
Wide Area Network – Use of Wireless	NO	
Local Area Network – Use of TCP/IP	YES	Client/server only
Local Area Network – Use of Infrared	NO	
Local Area Network – Use of Wireless	NO	
FIPS 140-2 validated cryptographic module	YES	
<b>Used as (if applicable):</b>		
Precinct counting device	YES	ImageCast Precinct
Central counting device	YES	ImageCast Central

## Baseline Certification Engineering Change Orders (ECO)

Not applicable in new system test campaign.