United States Election Assistance Commission

VVSG 2005 VER. I

EAC

CERTIFIED

Certificate of Conformance

Hart Verity Voting 2.6

The voting system identified on this certificate has been evaluated at an accredited voting system testing laboratory for conformance to the *Voluntary Voting System Guidelines Version 1.0 (VVSG 1.0)* . 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: Verity Voting

Model or Version: 2.6

Name of VSTL: SLI Compliance

EAC Certification Number: HRT-VERITY-2.6

Date Issued: April 20, 2021

Mona Harrington

Executive Director

Scope of Certification Attached

Manufacturer:	Hart InterCivic	Laboratory:	SLI Compliance
System Name:	Verity Voting 2.6	Standard:	2005 VVSG
Certificate:	HRT-Verity-2.6	Date:	04/20/2021

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 **Verity Voting 2.6** system represents a set of software applications for pre-voting, voting and post-voting election project activities for jurisdictions of various sizes and political division complexities.

- **Verity Voting 2.6** functions include: Defining the political divisions of the jurisdiction and organizing the election with its hierarchical structure, attributes and associations.
- Defining the election events with their attributes such as the election name, date and type, as well as contests, candidates, referendum questions, voting locations and their attributes.
- Preparing and producing ballots for polling place and absentee voting or by mail voting.
- Preparing media for precinct voting devices and central count devices.

- Configuring and programming the **Verity Scan** digital scanners for marked paper ballots and **Verity Touch Writer** printed vote records.
- Configuring and programming the **Verity Touch Writer** BMD devices.
- Configuring and programming the **Verity Controller** with **Verity Touch Writer Duo** BMD devices.
- Configuring and programming the **Verity Touch Writer Duo Standalone** BMD devices.
- Configuring and programming the **Verity Print** on-demand ballot production device.
- Transmission of the election results via **Verity Relay**.
- Producing the election definition and auditing reports.
- Providing administrative management functions for user, database, networking and system management.
- Import of the Cast Vote Records from **Verity Scan** devices and **Verity Central**.
- Preview and validation of the election results.
- Producing election results tally according to voting variations and election system rules.
- Producing a variety of reports of the election results in the desired format.
- Publishing of the official election results. Auditing of election results including ballot images and log files.

Verity Scan is a digital scanning device (tabulator) that is used in conjunction with an external ballot box. The unit is designed to scan marked paper ballots or Verity Touch Writer Duo printed vote records, interpret and record voter marks on the marked paper ballot or record voter selections on the printed vote records, and deposit into the secure ballot box.

Verity Touch Writer is a standalone Ballot Marking Device (BMD) which also includes an Audio Tactile Interface (ATI). Touch Writer allows voters who cannot hand-mark a paper ballot to generate a machine-readable and human readable paper ballot, based on vote selections made through the accessible electronic interface.

The **Verity Touch Writer Duo** is a daisy chained configuration of a **Verity Controller** device configured with up to twelve **Verity Touch Writer Duo** BMD devices, which allows voters to utilize the touchscreen or optional Audio Tactile Interface to generate a machine-readable and human readable printed vote record, based on vote selections made.

The **Verity Touch Writer Duo Standalone** is a standalone Ballot Marking Device (BMD) which allows voters to utilize the touchscreen or optional Audio Tactile Interface to generate a machine-readable and human readable printed vote record, based on vote selections made.

Verity Print is an on-demand ballot production device for unmarked paper ballots.

Verity Election Management allows users with the Administrator role to import and manage election definitions. Imported election definitions are available through the Elections chevron in Build. Users can also delete, archive, and manage the election definitions.

Verity User Management enables users with the correct role and permissions to create and manage user accounts within the **Verity Voting** system for the local workstation in a standalone configuration, or for the network in a networked configuration.

Verity Desktop enables users, with the correct roles, to set the workstations' date and time, gather **Verity** application hash codes (in order to validate the correctness of the installed applications), and access to the Windows desktop.

Verity Data provides the user with controls for entering and proofing data and audio. **Verity Data** also performs validation on the exported information to ensure that it is ready for use in **Verity Build**.

Verity Build opens the election to proof data, view reports, and print ballots, and allows for configuring and programming the **Verity Scan** digital scanners, **Verity Touch Writer** BMD, **Verity Controller/Touch Writer Duo** BMD devices, and **Verity Print** as well as producing the election definition and auditing reports.

Verity Central is a high-speed, central digital ballot scanning system used for high-volume processing of ballots (such as vote by mail). Verity Central is based on COTS scanning hardware coupled with custom **Hart-**developed ballot processing application software which resides on an attached workstation.

Verity Count is an application that tabulates election results and generates reports. **Verity Count** can be used to collect and store all election logs from every **Verity** component/device used in the election, allowing for complete election audit log reviews.

Verity Relay provides remote transmission capability to the **Verity Voting 2.6** system. Utilizing an optional modem with **Verity Scan**, at close of polls, results are transmitted from the polling place device to the **Verity Relay** workstation.

Verity AutoBallot is an optional barcode scanner kit for **Verity Controller, Verity Print,** and **Verity Touch Writer** that allows air-gapped integration between an e-pollbook check-in process and the task of selecting the ballot style for the voting system.

Certified System before Modification (If applicable):
Verity Voting 2.5

Anomalies and/or Additions addressed in Verity Voting 2. 6:
• Two anomalies were corrected:
> 1) In Verity Central, a user was unable to import a Certified Write-in Candidates list that had just been exported.

2) In Verity Count, Voting types were not following sequential order in the Reporting Options Screen.

- The following additions were made:

  - **Proposition text wrapping**
    Affected Software and Devices: Verity Data. If the proposition text of a contest does not fit entirely in the remaining space of a column, the system now supports wrapping proposition text to adjacent columns.

  - **Ballot Layout Validations**
    Affected Software and Devices: Verity Data. Verity Data now includes ballot validation for propositions that do not fit on a single page. Validation for propositions that do not fit in a single column is removed.

  - **Column forces by precinct-split**
    Affected Software and Devices: Verity Data. Verity Data now allows users to apply column and page forces to contest by precinct-split.

  - **No candidates have filed**
    Affected Software and Devices: All. Support has been added for contests where no candidates have filed.

  - **Concurrent write-in assignment**
    Affected Software and Devices: Verity Count. Verity Count now supports the simultaneous adjudication of write-in within a single task on multiple Count Client workstations.
    - A new "Refresh" button and "Last Updated" time indicator are added.
    - Adds a new contest selection dropdown experience, that will show all contest that are currently checked out by users.
    - New button "Post" added to the election dashboard, to the "write-in resolution" section of the screen. The post button captures the entire write in resolution state of the task and moves it to become available for reporting.

  - **Support for 10 voting types**
    Affected Software and Devices: Verity Count. Now supports 10 voting types system-wide.
    - A new "Results by Category" report supporting up to 10 Voting Types.
    - The following Count reports and exports now display up to 10 voting types
      - Cumulative
      - Precinct
      - District
      - Canvass
      - HTML Cumulative

- HTML Precinct
- HTML Canvass
- Detailed Vote Total export

- **Verity Count MVR Improvement**
  Affected Software and Devices: Verity Count. Verity Count supports batch subtraction of records during a Manual Vote Recording session. Supported use cases may include changing election data source or other error corrections.

- **Configuration Changes to Devices**
  The Verity series of Direct Recording Electronic (DRE) devices are not included in the Verity Voting 2.6 configuration. The DRE devices include Verity Touch and Verity Touch with Access.

- **Configuration Changes to Workstations**
  Verity Voting 2.6 only supports workstation models that are equipped with 64GB of memory. As such, the Hewlett Packard Z230 workstation model is not supported in this configuration.

Mark definition:

System supports marks that cover a minimum of 4% of the rectangular marking area.

Tested Marking Devices:

System supports Black and Blue ballpoint pens; testing was performed with black, blue, dark blue, pink, light green, green, orange, and red pens, as well as #2 pencil lead.
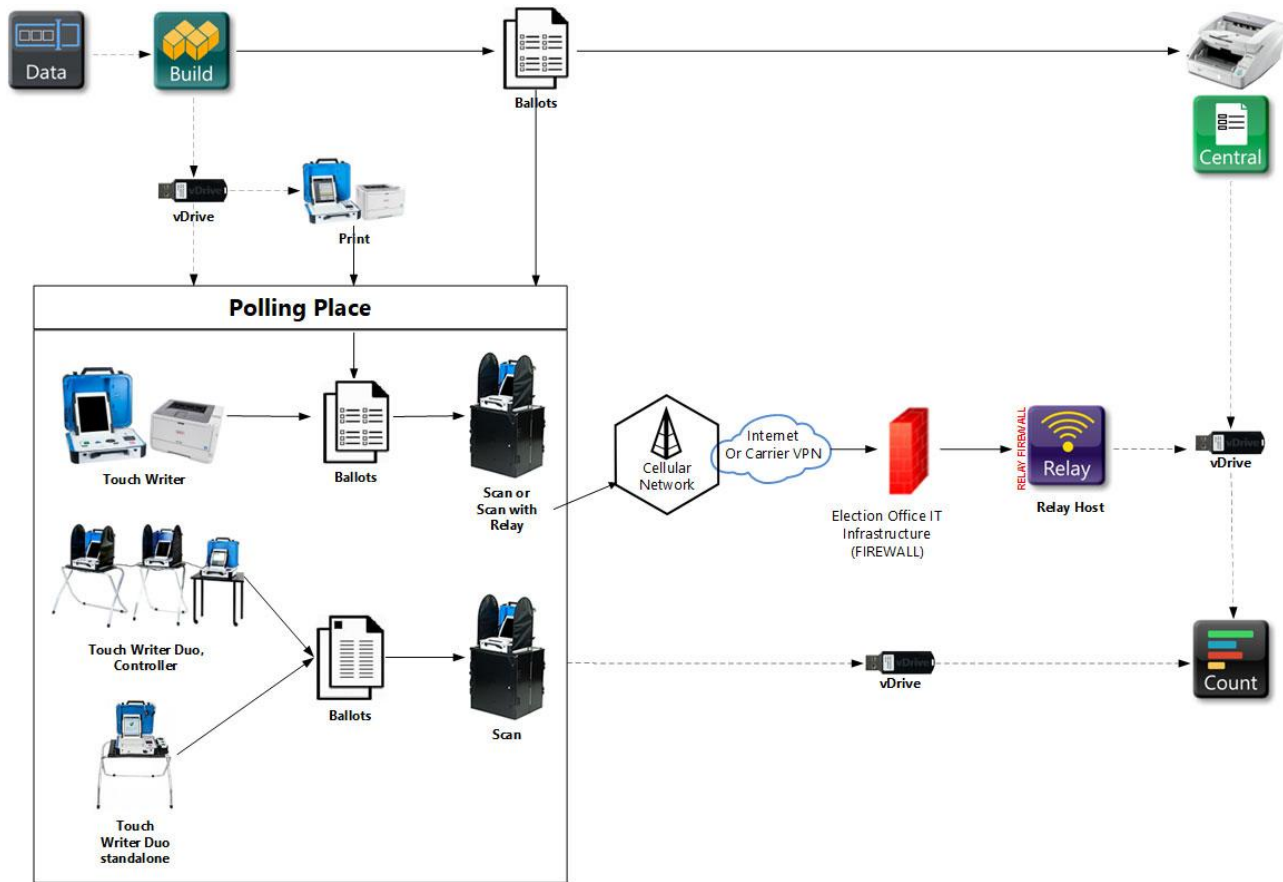
Language capability:

System supports English, Spanish, Chinese, Japanese, Korean, Khmer, Thai, Vietnamese, Tagalog, Ilocano, Haitian Creole, and Hindi.

Components Included:

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

• **System Diagram**

Proprietary Software

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
Verity Data	2.6.0			Data management software
Verity Build	2.6.0			Election definition software
Verity Central	2.6.0			High speed digital scanning software
Verity Count	2.6.0			Tabulation and reporting software
Verity Relay	2.6.0			Data transmission software (receiving station)
Verity Print	2.6.0			On-demand ballot printing device firmware
Verity Scan	2.6.0			Digital scanning device firmware

Verity Touch Writer	2.6.0			Ballot marking device
Verity Touch Writer Duo	2.6.0			Ballot marking device, with internal COTS ballot summary printer and optional audio tactile interface
Verity Touch Writer Duo Standalone	2.6.0			Ballot marking device, with internal COTS ballot summary printer and optional audio tactile interface
Verity Controller	2.6.0			Polling place management device

COTS Software and Firmware

Description	Version
Verity Data, Build, Central, Count, Relay, Print, Scan – Paper Ballot Scanner (additional item below), Touch Writer – Electronic BMD Device, Touch Writer Duo – Electronic BMD Device, Controller.	
Microsoft Windows 10 Enterprise 2019 LTSC	10.0.17763
Microsoft SQL Server Standard 2017	14.0.1000.169
McAfee Application Control for Devices (McAfee Solidifier)	8.2.1-143
Verity Scan – Paper Ballot Scanner	
Nuance Western OCR, Desktop, OEM	V20

Hardware

Description	Version
Verity Print – Ballot Printer	3005356 Rev E
Verity Print – Ballot Printer	3005856 Rev B
Verity Scan – Paper Ballot Scanner	3005350 Rev I
Verity Scan – Paper Ballot Scanner	3005800 Rev B
Verity Touch Writer – Electronic BMD Device	3005352 Rev H
Verity Touch Writer – Electronic BMD Device	3005852 Rev B
Verity Touch Writer Duo – Electronic BMD Device	3005700 Rev B
Verity Touch Writer Duo Standalone – Electronic BMD Device	3005730 Rev A
Verity Controller – Networked Centralized Management Device	3005351 Rev E
Verity Controller – Networked Centralized Management Device	3005825 Rev B

COTS Equipment

Description	Version
Verity Data, Build	
Verity Data and Build Applications and Workstation Kit • HP Z4 G4 Workstation • HP Z230 and Z240 Workstations supported for existing customers only	A
OKI Data C831dn Color Printer for existing customers only	N35100A
OKI Data C844dn Color Printer	N35301A
OKI Data C911dn color Printer for existing customers only	N36100A
OKI Data C931e Color Printer	N36100A

OKI Data B432dn Mono Report and Ballot Printer	N22500A
OKI Data B431d Mono Report Printer for existing customers only	N22202A
8-port Ethernet Switch	1405-8GV3
Vinpower Digital USB Duplicator 7-targets	USBShark-7T-BK
Vinpower Digital USB Duplicator 23-targets	USBShark-23T-BK
Verity Central	
Verity Central Applications and Workstation Kit • HP Z4 G4 Workstation • HP Z230 and Z240 Workstations supported for existing customers only	A
Canon DR-G1100 High-Speed Scanner	M111181
Canon DR-G1130 High-Speed Scanner	M111171
Canon DR-G2110 High-Speed Scanner	6130030
Canon DR-G2140 High-Speed Scanner	6130020
OKI Data B432dn Mono Printer Report Printer	N22500A
OKI Data B431d Mono Report Printer for existing customers only	N22202A
8-port Ethernet Switch	1405-8GV3
Verity Count	
Verity Count Applications and Workstation Kit • HP Z4 G4 Workstation • HP Z230 and Z240 Workstations supported for existing customers only	A
OKI Data B432dn Mono Printer Report Printer	N22500A
OKI Data B431d Mono Report Printer for existing customers only	N22202A
HP 8-port Ethernet Switch	1405-8GV3
Verity Relay	
Verity Relay Applications and Workstation Kit • HP Z4 G4 Workstation • HP Z240 Workstation supported for existing customers only	A
OKI Data B432dn Mono Printer Report Printer	N22500A
OKI Data B431d Mono Report Printer for existing customers only	N22202A
HP 8-port Ethernet Switch	1405-8GV3
Verity Print	
OKI Data C831dn Color Printer for existing customers only	N35100A
OKI Data B432dn Mono Printer Report Printer	N22500A
OKI Data C844dn Color Printer	N35301A
OKI Data B431d Mono Report Printer for existing customers only	N22202A
Optional AutoBallot Barcode Scanner Kit Includes the following 2d barcode scanner: • Hart part number: 1003672 • Motorola/Zebra part number: DS4308 or DS4608	C
Verity Scan – Paper Ballot Scanner	
Verity Ballot Box	B
Optional Relay Accessory Kit (4G LTE Cat-M1) Includes the following COTS modem • Hart part number: 1005248 • MultiTech part number: MTD-MNA1-2.0	A
Verity Touch Writer – Electronic BMD Device	
OKI Data B432dn Mono Printer Report Printer	N22500A

OKI Data B431d Mono Report Printer for existing customers only	N22202A
Accessible Voting Booth	D
Optional AutoBallot Barcode Scanner Kit Includes the following 2d barcode scanner: • Hart part number: 1003672 • Motorola/Zebra part number: DS4308 or DS4608	C
Headphones • Brand: V7, part number HA300-2NP or HA310-2NP	2005230
Verity Touch Writer Duo – Electronic BMD Device	
Brother PJ700 Series Thermal Printer	PJ723
Accessible Voting Booth with ATI Tray	D
Standard Voting Booth	D
Optional Detachable ATI Kit	A
Optional headphones for ATI Kit Brand: V7, part number HA300-2NP or HA310-2NP	C
Verity Touch Writer Duo Standalone– Electronic BMD Device	
Brother PJ700 Series Thermal Printer	PJ723
Accessible Voting Booth with ATI Tray	D
Standard Voting Booth	D
Optional Detachable ATI Kit	A
Optional headphones for ATI Kit Brand: V7, part number HA300-2NP or HA310-2NP	C
Verity Controller	
Optional AutoBallot Barcode Scanner Kit Includes the following 2d barcode scanner: • Hart part number: 1003672 • Motorola/Zebra part number: DS4308 or DS4608	C

System Limitations

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

Element	Testing Limit/Requirement Z240 or Z4 G4 64GB Systems (does not include Data/Build/Count combined system)	Testing Limit/Requirement Data/Build/Count combined system)
Precincts	3,000	2,000
Splits per Precinct	20	20
Total Precincts + Splits in an election	3,000	2,000
Districts for voting devices and applications	400	75
Parties in a General Election	24	24
Parties in a Primary Election	10	10
Contests in an election	2,000	200
Choices in a single contest	300	75

Total contest choices (voting positions) in an election	5,000	600
Max length of choice name	100 characters	100 characters
Max write-in length	25 characters	25 characters
Voting Types	10	10
Max polling places per election	3,050	1,200
Max devices per election	N/A	N/A
vDrive capacity – Scan voting device	25,000 sheets per vDrive	25,000 sheets per vDrive
vDrive capacity – Verity Central	25,000 sheets per vDrive	25,000 sheets per vDrive
Number of voters definable per election	2,500,000	1,000,000
Number of total ballots cast per election	1,750,000	1,000,000
Max number of sheets per ballot	4 sheets	4 sheets
Max number of sheets – Verity Scan	25,000	25,000
Max number of CVRs – Verity Count	7,000,000	7,000,000
Ballot Sizes	8.5"x11", 8.5"x14", 8.5"x17", 8.5"x20", 11"x17" (Central only)	8.5"x11", 8.5"x14", 8.5"x17", 8.5"x20", 11"x17" (Central only)
Number of languages in a single election (including English)	12	12

Functionality

2005 VVSG Supported Functionality Declaration

Feature/Characteristic	Yes/No	Comment
Voter Verified Paper Audit Trails		
VVPAT	No	
Accessibility		
Forward Approach	Yes	
Parallel (Side) Approach	Yes	
Closed Primary		
Primary: Closed	Yes	Supports standard closed primary and modified closed primary
Open Primary		
Primary: Open Standard (provide definition of how supported)	Yes	Open Primary
Primary: Open Blanket (provide definition of how supported)	Yes	General "top two"
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.	No	By default, the number of write-ins available in a contest is zero, users may increment as necessary
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	Rotation by precinct and precinct split
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.	Yes	
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.)	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	
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.	Yes	
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	N/A	Tabulation rules are unique per jurisdiction
Ranked Order Voting: A ballot with a skipped rank counts the vote for the next rank.	N/A	Tabulation rules are unique per jurisdiction
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	N/A	Tabulation rules are unique per jurisdiction
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.	N/A	Tabulation rules are unique per jurisdiction
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	Yes	
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	If the system detects more than the valid number of marks in a contest, it is counted as an overvote
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 the system detects more than the valid number of marks in a contest, it is counted as an overvote
Overvotes: DRE systems that provide a method to data enter absentee votes must account for overvotes.	Yes	
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	With optional Verity Relay
Wide Area Network – Use of Wireless	Yes	With optional Verity Relay
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	Yes	
Used as (if applicable):		
Precinct counting device	Yes	
Central counting device	Yes	