Elections Division
Office of the Secretary of State

Report of the Secretary of State on the Examination of HART Intercivic Verity 2.5 Voting System

January 2021

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Overview

Application

On November 17th HART InterCivic submitted an application for Washington State Certification of Verity 2.5. HART applied to certify the full functionality of all the Verity Voting System which includes Verity Data, Build, Central, Count, User Management, Election Management, Touch Writer, Scan, and Print. Copies of operating and maintenance manuals, training materials, technical and operational specifications were provided as part of the EAC's Technical Data Package.

New Voting System

This is a modification of a currently certified voting system (HART Verity 2.0) to the State of Washington. This system is paper based digital scan voting system with a commercial off the shelf (COTS) scanner.

This system is in the certification process in the State of Alabama, the State of Kentucky, the State of Idaho, the State of Texas, and the State of Wisconsin.

National Certification

After the completion of testing by a certified Voting System Test Lab (VSTL) the Election Assistance Commission (EAC) certified Verity 2.5 on September 9, 2020. The hardware and software of the system that was approved by the EAC can be found in the EAC's Certificate and Scope.

Testing & Inspection

Testing and evaluation of Verity 2.5 was conducted by Secretary of State staff at the Elections Division Building in Olympia, WA on January 25th. Examining the system for the Office of the Secretary of State was Heather Sorgen, VoteWA Manager.

Due to Verity 2.5 receiving National Certification from the EAC, a two phase testing program was developed and approved by Secretary of State EIS Supervisor for state certification testing.

> **Delivery acceptance testing** of the equipment and software to determine if the correct model and versions of the equipment and software are delivered and that the equipment, software and system operate as documented by the vendor.

Election Results Testing to ensure that the equipment, software and system perform each of the functions required by federal, state and local law in order to administer an election from the beginning to the end.

Ballots were manually voted using the accessible voting unit, Touch Writer, and incorporated into the results to ensure proper tabulation.

Executive Summary of Findings of Secretary Of State Staff

Voting System Accuracy

Verity 2.5 successfully and accurate tabulated all ballots including additional hand marked and manually voted ballots from the accessible voting units. Results were manually audited and reviewed by a team of two.

Results Reporting

Verity 2.5 was able to produce the state required reports for election results by precinct and cumulative.

Presidential Primary

Verity 2.5 can perform all the functions necessary to comply with current state requirements for the Presidential Primary, which means it can detect cross-party voting in a Presidential Primary without manual intervention.

System Limits

Item	Upper Limit
External ID (maximum value for any ID field)	2,147,483,647
Languages in a single election	12*
Precincts in an Election	3,000
Splits per Precinct	20
Total Precincts and Splits in an Election	3,000
Districts in an Election	400
Polling Places in an Election	3,050
Parties in a General Election	24
Parties in a Primary Election	10
Contests (incl. Propositions) in an Election	2,000
Contest Choices (voting positions) in a Contest	300
Total number of Contest Choices in an Election (independent from ballot size)	5,000
Unique write-in values per contest (Count)	500
Unique write-in values per task (Count)	40,000
Voting Types in an Election	5
Tasks per Election (Central, Count)	15
Registered Voters per Precinct (Count)	99,999
Maximum Sheets per ballot	4
Ballot Stubs per ballot	2
Ballots per vDrive: Scan (1 sheet ballot)	25,000*
Ballots per vDrive: Controller	20,000
Ballots per vDrive: Central	20,000
Ballots per *election*: Central & Count	1,750,000
vDrives per *election*: Count	3,050
Ballot Sizes - Build, Central, Print, Touch Writer, Scan	8.5"x11", 8.5"x14", 8.5"x17", 8.5"x20"
Ballot Sizes - Build, Central (also includes)	11"x17"
Printed Vote Record page size - Touch Writer Duo	8.5"x11", 8.5"x14"

Ballot Scanning

The Verity uses Canon or OKI Data high-speed scanners capable of scanning up to 100 ballots per minute. During testing of an 8.5x14 ballot size we have experienced a scanning speed of about a ballot per second.

Ballot Barcodes

Verity 2.5, similar to previous HART InterCivic voting systems, utilizes a ballot serial number to ensure that ballots cannot be scanned into the database more than once. Using this feature in conjunction with manual processes helps prevent ballots being tabulated twice.

Counties can hide the human readable serial number or can disable the serial number all-together. If counties use the serial number on the ballots, then they are required to have processes in place to ensure voter privacy.

Ballot Processing

The system will allow multiple users to adjudicate ballots simultaneously, including in the same batch. However, the most common procedure would be for one team to process one batch and another team process a different batch. User roles can be restricted so they can only perform certain tasks within the application which will reduce the risk of accidental or intentional changes.

System Security

Windows automatically boots into 'kiosk' mode which doesn't allow the user to run or access any other programs or functions of the PC. Additionally, HART 'white lists' only certain applications so they can be run on the PC. Any application not on the 'white list' cannot be run.

For certain process (i.e. tabulating ballots) the user must insert a USB key and enter the password in order to proceed. The key must be recreated before each election with a password.

Verity 2.5 also uses USB 'vDrives' to securely transfer information from one application to another. Once a 'vDrive' has been used to tabulate ballots it cannot be used again in that election.

Verity also has detailed audit logs for the entire election as well as for the user, workstation, batch, ballot, etc.

Physical Security

HART's security recommendations are:

- **Use security cameras** in the voting system storage facility.
- **Use a secure access system** and limit the number of keys to the voting system storage facility.
- **Use a burglar and fire alarm system** in the storage facility.
- **Verify that all voting devices are returned** to storage after each election.
- **Maintain an inventory of all election materials**, including any serial numbers and location information
    - Voting devices
    - vDrives
    - Security seals and keys
    - Voter registration lists/poll books
    - Election results tapes. printouts, logs and reports
- **Use chain-of-custody forms and seals** when transporting equipment for any reason. Create and follow local procedures, such as sealing the inner box with serialized tamper-evident tape, logging the seal number on the chain-of-custody form, and using an outer shipping box.
- **Always check device seals** and confirm that they have not been tampered with during transport; sign the chain-of-custody document(s) upon receipt of the voting devices.

- **When accepting equipment being returned from Hart**: perform acceptance testing within 10 business days to confirm functionality and firmware version. Perform hash code testing to confirm that the certified firmware has not been compromised.

Write-Ins

Verity 2.5 allows for entering write-in candidates on the fly or selecting from a list of certified write-ins. Additionally, write-ins do not have to be processed prior to tabulation. In the event that the county determines write-ins need to be processed individually, they can be processed in the tabulation system (Count).

Accessible Voting

Verity 2.5 has an accessible voting unit that is touchscreen or has the use of accessible switches, sip-n-puff, or audio. Once the voter has completed voting, their ballot is printed onto regular ballot paper and following the county's ballot processing procedures would be incorporated in the canvassing process.

Conclusion

After an evaluation of the system, staff believes the system and its components meet current Washington State requirements for Presidential Primary, Special, Primary, and General Elections.