WASHINGTON

Secretary of State

Elections Division

# Report of the Secretary of State on the Examination of

# Hart InterCivic Verity 2.7 Voting System

**April 2023**

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## Overview

### Application

On September 1, 2022, Hart InterCivic (Hart) submitted an application for Washington State Certification of Verity 2.7. 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 2.5) to the State of Washington. This system is a paper-based digital scan voting system with a commercial off the shelf (COTS) scanner.

### National Certification

After the completion of testing by a certified Voting System Test Lab (VSTL) the Election Assistance Commission (EAC) certified Verity 2.7 on June 7, 2022. The hardware and software of the system that was approved by the EAC can be found in the EAC's Certificate of Conformance and Scope.

### Testing & Inspection

Testing and evaluation of Verity 2.7 was conducted by Secretary of State staff at the Elections Division Building in Tumwater, Washington, on March 21, 2023. Examining the system for the Office of the Secretary of State were Les Bowen, Voting Systems Lead, and Callin Silvernail, Election Integrity Lead.

Due to Verity 2.7 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 2.7 successfully and accurately 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 2.7 was able to produce the state required reports for election results by precinct and cumulative.

### Presidential Primary

Verity 2.7 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

This table, containing information from the testing lab certification test report, depicts the limits the system has been tested and certified to meet.

| Election Data Limits | Testing Limit/Requirement Z240 or Z4 G4 Systems (all supported workstations except Data/Build/Count combined system) | Testing Limit/Requirement Data/Build/Count combined system) |
|---|---|---|
| Languages in a single election | 19 | 19 |
| Precincts in an election | 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 |
| Polling places in an election | 3,050 | 1,200 |
| Parties in a General Election | 24 | 24 |
| Parties in a Primary Election | 10 | 10 |
| Contests in an election (including propositions) | 2,000 | 200 |
| Contest choices (voting positions) in a single contest | 300 | 75 |
| Total number of Contest Choices in an Election (independent from ballot size) | 5,000 | 600 |
| Unique write-in values per contest (Count) | 500 | 500 |
| Unique write-in values per task (Count) | 40,000 | 40,000 |
| Voting Types in an Election | 10 | 10 |
| Tasks per Election (Central, Count) | 15 | 15 |
| Registered Voters per Precinct (Count) | 99,999 | 99,999 |
| Maximum Sheets per ballot | 4 | 4 |
| Ballot Stubs per ballot | 2 | 2 |
| Ballots per vDrive (Scan, 1 sheet ballot) | 25,000* | 25,000* |
| Ballots per vDrive (Controller) | 20,000 | 20,000 |
| Ballots per vDrive (Central) | 20,000 | 20,000 |
| Ballots per election (Central & Count) | 1,750,000 | 1,750,000 |
| vDrives per election (Count) | 3,050 | 3,050 |
| Ballot Sizes (Build, Central, Print, Touch Writer, Scan) | 8.5”x11”, 8.5”x14”, 8.5”x17”, 8.5”x20”, 8.5”x22”** | 8.5”x11”, 8.5”x14”, 8.5”x17”, 8.5”x20”, 8.5”x22”** |
| Ballot Sizes (Build, Central) | 11"x17" | 11"x17" |

* This is a recommended limit for the number of single-sheet ballots scanned on an individual Verity Scan during a single election. For a two-sheet ballot, divide this number by two; for a four-sheet ballot, divide this number by four.
** Older printer models may not support a 22” ballot.

## Ballot Scanning

Verity 2.7 uses Canon scanners capable of scanning up to 140 ballots per minute. During testing of a ballot measuring 8.5”x20” we experienced a scanning speed of about one ballot per second.

### Ballot Barcodes

Verity 2.7, similar to previous Hart 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 whitelists only certain applications so they can be run on the PC. Any application not on the whitelist cannot be run.

For certain process (e.g., 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 2.7 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 2.7 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 2.7 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.