CDOS Certification Number: 2007-CDOS-HAR-001-0404
Manufacturer: Hart Intercivic
Application Date: 04/04/2007

Test Number

CA1-P3 - 116
The ballot definition subsystem shall be capable of handling at least 500 potentially active voting positions, arranged to identify party affiliations in a primary election, offices and their associated labels and instructions, candidate names and their associated labels and instructions, and issues or measures and their associated text and instructions.

### Purpose:

The purpose of this test is to verify that the DRE can handle up to 500 active voting positions as described.

### Test Procedures:

Document the system’s ability to program, print and vote ballots when programmed for up to 500 voting positions.

### Prerequisites:


### Variances Used During Testing:


### Test Expected Outcome:

The voting system ballot definition subsystem has the ability of maintaining a minimum of 500 active voting positions, as prescribed within the requirements.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retuning, stop and restoring the system as necessary.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Operator</th>
<th>Activities and Entries</th>
<th>Incident/Reports</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Operator</th>
<th>Activities and Events</th>
<th>Incident Reports</th>
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<tbody>
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</table>

Attachments

- **Documents**: No [ ] Yes [ ]
  - (list all documents)

- **Videos**: No [ ] Yes [ ]
  - (list all videos)
  - SEE VIDEO FROM 11/14/09
  - 11/30/09

- **Photos**: No [ ] Yes [ ]
  - (list all photos)

Acceptable Compensating Controls

Results Summary

**TEST DOES NOT MEET EXPECTED OUTCOME**

<table>
<thead>
<tr>
<th>1st Review</th>
<th>2nd Review</th>
<th>Supervisor Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jerome Lando</td>
<td></td>
<td>John Gardner</td>
</tr>
<tr>
<td>Printed name</td>
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<td>11/31/09</td>
<td>12/3/09</td>
<td>12/3/09</td>
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<tr>
<td>Date</td>
<td>Date</td>
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</table>

Final Test Status

**FAIL**
**Observations:**
The voting system vendor failed to provide programming to accommodate this requirement. Ballots and programming were submitted to testing board for review on 11/19. The testing board discovered that the default template files would need to be modified to accommodate the requirement. Default templates were not ITA tested, nor did the vendor provide the ITA tested version within the time frame of testing.

**Findings:**
Voting system does not meet the requirements of this test.
CDOS Certification Number: **2007-CDOS-HAR-001-0404**

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

**Test Number**

CA2-P3 - 205
The ballot definition subsystem shall be capable of handling at least 500 potentially active voting positions, arranged to identify party affiliations in a primary election, offices and their associated labels and instructions, candidate names and their associated labels and instructions, and issues or measures and their associated text and instructions.

Purpose:
The purpose of this test is to verify that the OS unit can handle up to 500 active voting positions as described.

Test Procedures:
Document the system's ability to program, print and vote ballots when programmed for up to 500 voting positions.

Prerequisites:

Variance Used During Testing:

The voting system ballot definition subsystem has the ability of maintaining a minimum of 500 active voting positions, as prescribed within the requirements.
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Operator</th>
<th>Activities and Events</th>
<th>Incident Report</th>
</tr>
</thead>
</table>

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, stop and restoring the system as necessary.
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Operator</th>
<th>Activities and Findings</th>
<th>Incident Reports</th>
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**Attachments**

<table>
<thead>
<tr>
<th>Documents (list all documents)</th>
<th>No</th>
<th>Yes</th>
<th>Videos (list all videos)</th>
<th>No</th>
<th>Yes</th>
<th>Photos (list all photos)</th>
<th>No</th>
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</table>

**Acceptable Compensation Controls**

**Results Summary**

<table>
<thead>
<tr>
<th>Test Date</th>
<th>Test Time</th>
<th>Test Description</th>
<th>Test Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TEST DOES NOT MEET EXPECTED OUTCOME</td>
<td>FAIL</td>
</tr>
</tbody>
</table>

**Supervisor Approval**

<table>
<thead>
<tr>
<th>Signature</th>
<th>Date</th>
<th>Printed name</th>
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<tbody>
<tr>
<td></td>
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<td>John Gardner</td>
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<th>Signature</th>
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<th>Signature</th>
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</table>
Additional Observations and Findings

Observations:
The voting system vendor failed to provide programming to accommodate this requirement. Ballots and programming were submitted to testing board for review on 11/19. The testing board discovered that the default template files would need to be modified to accommodate the requirement. Default templates were not ITA tested, nor did the vendor provide the ITA tested version within the time frame of testing.

Findings:
The voting system is not capable of this programming in the system as submitted by the vendor.

1st Review:  
Seveva Lavo  
Printed name

2nd Review:  
Printed name

Supervisor Approval:  
John Gardner  
Printed name

Signature  Date 11/30/07  
Signature  Date 12/3/07
CDOS Certification Number: 2007-CDOS-HAR-001-0404

Manufacturer: Hart Interivic

Application Date: 04/04/2007

Test Number

CA2-P3 - 222
The voting system provider shall provide documentation detailing voting system security in the areas listed below. The system shall contain documented configurations, properties and procedures to prevent, detect and log changes to system capabilities for: Preventing access to voter identification data and data for votes cast by the voter such that an individual can determine the content of specific votes cast by the voter.

Purpose:
The purpose of this test is to verify that the software prevents, detects and logs changes to system capabilities related to preventing access to vote data to unauthorized individuals to determine the content of specific votes cast.

Test Procedures:
Use vendor documentation to verify security settings of physical device.

Prerequisites:

Variance Used During Testing:

Test Expected Outcome:
The voting system prevents access to voter identification data and data for votes cast by the voter that matches documentation provided.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, stop and restoring the system as necessary.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Operator</th>
<th>Activities and Policies</th>
<th>Incident Reports</th>
</tr>
</thead>
</table>

Continue to next page...
**Documents** (list all documents) | No [x] | Yes [ ]  
**Videos** (list all videos) | No [ ] | Yes [x]  
**Photos** (list all photos) | No [x] | Yes [ ]

See video from 11/21

---

**Result Summary**

**TEST DOES NOT MEET EXPECTED OUTCOME**

**Fail**

**1st Review**

Seanne [Signature] 11/3/07  
**Printed name**

**2nd Review**

Danny [Signature] 12/6/07

**Supervisor Approval**

John Gardner  
**Printed name**
**Observations:**
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. HART has agreed during re-testing that the system cannot meet the requirements of this test. Documentation was provided by Hart, but after discussion with the testing board, the vendor declared that their system did not protect the cast vote records properly. Additional testing was not conducted by the testing board to validate their statements.

**Findings:**
The voting system fails to meet the test requirements.

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<tr>
<th>1st Review</th>
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<th>Supervisor Approval</th>
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<tbody>
<tr>
<td>Jerome Lasto</td>
<td>Danny Castles</td>
<td>John Gardner</td>
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<td>Date</td>
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</table>
State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290

Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: 2007-CDOS-HAR-001-0404

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

Test Number

CA4-P3 - 402
Purpose:
The purpose of this test is to verify that the software prevents, detects and logs changes to system capabilities related to reporting vote totals.

Test Procedures:
Use vendor documentation to verify security settings of physical device.

Prerequisites:

Variance Used During Testing:

Test Expected Outcome:
The voting system configurations, properties and procedures to detect and log changes to the system capabilities for Reporting vote totals matches documentation provided.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, stop and restoring the system as necessary.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Operation</th>
<th>Activities and Notes</th>
<th>Incident/Report</th>
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<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Operator</th>
<th>Test Log</th>
<th>Activities and Tests</th>
<th>Incident Report</th>
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### Attachments

- **Documents** (list all documents):
  - 11-21-HAR-0-0100
  - 11-21-HAR-0-0150

- **Videos** (list all videos):
  - See video from 11-21-07

- **Photos** (list all photos):
  - No ☐ Yes ☒

### Acceptable Compensating Controls

### Result Summary

**TEST DOES NOT MEET EXPECTED OUTCOME**

**Final Test Status**: FAIL

---

**1st Review**:
- **Printed name**: Jeanne Lovato
- **Signature**: 11/30/07
- **Date**: 11/30/07

**2nd Review**:
- **Printed name**: [Redacted]
- **Signature**: 12/9/07
- **Date**: 12/9/07

** Supervisor Approval**: John Gardner
- **Printed name**: John Gardner
- **Signature**: [Redacted]
- **Date**: 12/13/07
Observations:
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-19-2007 Addendum: No change

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. HART has agreed during re-testing that the system cannot meet the requirements of this test. Documentation was provided by Hart, but after discussion with the testing board, the vendor declared that their system did not protect the cast vote records properly. Additional testing was not conducted by the testing board to validate their statements.

Findings:
The voting system fails to meet the test requirements.
CDOS Certification Number: 2007-CDOS-HAR-001-0404
Manufacturer: Hart Intercivic
Application Date: 04/04/2007

Test Number

CA4-P3 - 405
**Rule or Statute:**
45.5.2.6.2(b)

The voting system provider shall provide documentation detailing voting system security in the areas listed below. The system shall contain documented configurations, properties and procedures to prevent, detect and log changes to system capabilities for casting and recording votes.

<table>
<thead>
<tr>
<th>Test Procedure Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose:</strong></td>
</tr>
<tr>
<td>The purpose of this test is to verify that the software prevents, detects and logs changes to system capabilities related to casting and recording votes.</td>
</tr>
<tr>
<td><strong>Prerequisites:</strong></td>
</tr>
<tr>
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<tr>
<td><strong>Test Procedures:</strong></td>
</tr>
<tr>
<td>Use vendor documentation to verify security settings of physical device.</td>
</tr>
<tr>
<td><strong>Variances Used During Testing:</strong></td>
</tr>
<tr>
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<tr>
<td><strong>Test Expected Outcome:</strong></td>
</tr>
<tr>
<td>The voting system configurations, properties and procedures to detect and log changes to the system capabilities for casting and recording votes matches documentation provided.</td>
</tr>
</tbody>
</table>
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, step and restoring the system as necessary.

<table>
<thead>
<tr>
<th>Date</th>
<th>Type</th>
<th>Operation</th>
<th>Activities and Controls</th>
<th>Incident/Report</th>
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</thead>
<tbody>
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</tbody>
</table>
# Test Log

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Operator</th>
<th>Activities/Abnormalities</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

## Attachments

- **Documents**
  - List all documents:
    - [SEE 121-HAR-0-0717.png](#)
    - [121-HAR-0-0717.png](#)

- **Videos**
  - List all videos:
    - [SEE VIDEO FROM 11/21/07](#)

- **Photos**
  - List all photos:
    - [No](#)
    - [Yes](#)

## Acceptable Compensating Controls

## Result Summary

**TEST DOES NOT MEET EXPECTED OUTCOME**

<table>
<thead>
<tr>
<th>1st Review</th>
<th>2nd Review</th>
<th>Supervisor Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>T. Bishop</td>
<td>M. Comstock</td>
<td>John Gardner</td>
</tr>
</tbody>
</table>

**Printed name**  

**Date**

- [T. Bishop](#)
  - Signature: [Signature](#)
  - Date: [11-26-07](#)

- [M. Comstock](#)
  - Signature: [Signature](#)
  - Date: [11-27-07](#)

- [John Gardner](#)
  - Signature: [Signature](#)
  - Date: [2/16/07](#)
**Additional Observations and Findings**

**Observations:**
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-19-2007 Addendum: No change

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. Audit logs maintained by the system are extremely limited in their ability to capture information. HART has agreed during re-testing that the system cannot meet the requirements of this test.

> Additional testing was not conducted to validate the vendor statements.

**Findings:**
The voting system fails to meet the test requirements.
CDOS Certification Number: 2007-CDOS-HAR-001-0404
Manufacturer: Hart Intercivic
Application Date: 04/04/2007

Test Number
CA4-P3 - 406
2007-CDOS-HAR-001-0404

Purpose:
The purpose of this test is to verify that the software prevents, detects and logs changes to system capabilities related to calculating vote totals.

Prerequisites:

Test Procedures:
Use vendor documentation to verify security settings of physical device.

Variance Used During Testing:

Test Expected Outcome:
The voting system configurations, properties and procedures to detect and log changes to the system capabilities for calculating vote totals consistent with defined ballot formats matches documentation provided.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retaring, stop and restoring the system as necessary.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
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**Attachments:**

- **Documents** (list all documents): Yes
- **Videos** (list all videos): Yes
- **Photos** (list all photos): No

**Acceptable Compensating Controls:**

**Results Summary:**

**Final Test Status:**

TEST DOES NOT MEET EXPECTED OUTCOME | FAIL

**1st Review**

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**2nd Review**

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**Supervisor Approval**

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<tr>
<td>John Gardner</td>
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</table>
Observations:
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-19-2007 Addendum: No change

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. HART has agreed during re-testing that the system cannot meet the requirements of this test. Documentation was provided by Hart, but after discussion with the testing board, the vendor declared that their system did not protect the cast vote records properly. Additional testing was not conducted by the testing board to validate their statements.

Findings:
The voting system fails to meet the test requirements.
CDOS Certification Number: 2007-CDOS-HAR-001-0404

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

Test Number
CA4-P3 - 408
The voting system provider shall provide documentation detailing voting system security in the areas listed below. The system shall contain documented configurations, properties and procedures to prevent, detect and log changes to system capabilities for: Changing, or preventing the recording of, a vote.

**Purpose:**
The purpose of this test is to verify that the software prevents, detects and logs changes to system capabilities related to changing or preventing the recording of a vote.

**Test Procedures:**
Use vendor documentation to verify security settings of physical device.

**Prerequisites:**

**Variances Used During Testing:**

**Test Expected Outcome:**
The voting system configurations, properties and procedures to detect and log changes to the system capabilities for Changing, or preventing the recording of, a vote matches documentation provided.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, stop and restoring the system as necessary.

<table>
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<tr>
<th>Date</th>
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<th>Operator</th>
<th>Activities and Entries</th>
<th>Incident Reports</th>
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## 2007-CDOS-HAR-001-0404

**Voting - Post Election**

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**Test Log**

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**Documents** (list all documents):

- Evidence Items:
  - 1121-HAR-C-Q19A - Q19B

**Videos** (list all videos):

- See 11/21/07 Video

**Photos** (list all photos):

- No [x] Yes [ ]

**Acceptable Compensating Controls**

- [ ]

**Results Summary**

**Test Does Not Meet Expected Outcome**

**1st Review**

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<th>Name</th>
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<tr>
<td>T. Bishop</td>
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**2nd Review**

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**Supervisor Approval**

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<tr>
<td>John Gardner</td>
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</table>
Observations:
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-19-2007 Addendum: No change

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. Audit logs maintained by the system are extremely limited in their ability to capture information. HART has agreed during re-testing that the system cannot meet the requirements of this test.

Findings:
The voting system fails to meet the test requirements.
State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290

Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: 2007-CDOS-HAR-001-0404

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

Test Number

CA4-P3 - 409
<table>
<thead>
<tr>
<th>Rule or Statue</th>
<th>45.5.2.6.2(h)</th>
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<tbody>
<tr>
<td>The voting system provider shall provide documentation detailing voting system security in the areas listed below, the system shall contain documented configurations, properties and procedures to prevent, detect and log changes to system capabilities for: Changing calculated vote totals;</td>
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**Test Procedure Specification**

**Purpose:**
The purpose of this test is to verify that the software prevents, detects and logs changes to system capabilities related to changing calculated vote totals.

**Prerequisites:**

**Test Procedures:**
Use vendor documentation to verify security settings of physical device.

**Variances Used During Testing:**

**Test Expected Outcome:**
The voting system configurations, properties and procedures to detect and log changes to the system capabilities for Changing calculated vote totals matches documentation provided.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retiring, stop and restoring the system as necessary.
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### Test Log

**Event Log**

- **Event ID**: 1121-HAR-0-015/1

### Test Results

- **Document**: Yes
- **Video**: Yes
- **Photo**: No

### Result Summary

**Test Result**: TEST DOES NOT MEET EXPECTED OUTCOME

**Review**

- **1st Review**: T. Bishop
- **2nd Review**: G. Cuddiff
- **Supervisor Approval**: John Gardner

**Signature**

- T. Bishop: 
  - Date: 1/26/07
- G. Cuddiff: 
  - Date: 1/28/07
- John Gardner: 
  - Date: 2/6/07

---

**Test Number**: CA4-P3 - 409

**Document**: 2007-CDOS-HAR-001-0404
Additional Observations and Findings

Observations:
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-19-2007 Addendum: No change

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. Audit logs maintained by the system are extremely limited in their ability to capture information. HART has agreed during re-testing that the system cannot meet the requirements of this test.

Findings:
The voting system fails to meet the test requirements.
State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290

Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: 2007-CDOS-HAR-001-0404
Manufacturer: Hart Intercivic
Application Date: 04/04/2007

Test Number
CA4-P3 - 410
Rule of Statute
45.5.6.2(l)

The voting system provider shall provide documentation detailing voting system security in the areas listed below. The system shall contain documented configurations, properties and procedures to prevent, detect and log changes to system capabilities for: Preventing access to vote data, including individual votes and vote totals, to unauthorized individuals.

Purpose:
The purpose of this test is to verify that the software prevents, detects and logs changes to system capabilities related to preventing access to vote data to unauthorized individuals.

Test Procedures:
Use vendor documentation to verify security settings of physical device.

Prerequisites:

Variances Used During Testing:

Test Expected Outcome:
The voting system configurations, properties and procedures to detect and log changes to the system capabilities for Preventing access to vote data, including individual votes and vote totals, to unauthorized individuals matches documentation provided.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

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<tr>
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<th>Operator</th>
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<th>Incident Reports</th>
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<table>
<thead>
<tr>
<th>Environment</th>
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<tbody>
<tr>
<td>Voting - Post Election</td>
<td>CA4-P3 - 410</td>
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<table>
<thead>
<tr>
<th>Documents (list all documents)</th>
<th>No</th>
<th>Yes</th>
<th>Videos (list all videos)</th>
<th>No</th>
<th>Yes</th>
<th>Photos (list all photos)</th>
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<table>
<thead>
<tr>
<th>Acceptable Compensating Controls</th>
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<table>
<thead>
<tr>
<th>Results Summary</th>
<th>Final Test Status</th>
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</thead>
<tbody>
<tr>
<td>TEST DOES NOT MEET EXPECTED OUTCOME</td>
<td>FAIL</td>
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<table>
<thead>
<tr>
<th>1st Review</th>
<th>2nd Review</th>
<th>Supervisor Approval</th>
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<tbody>
<tr>
<td>Jerome Jones</td>
<td>John Bishop</td>
<td>John Gardner</td>
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</table>
Additional Observations and Findings

Observations:
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. HART has agreed during re-testing that the system cannot meet the requirements of this test. Documentation was provided by Hart, but after discussion with the testing board, the vendor declared that their system did not protect the cast vote records properly. Additional testing was not conducted by the testing board to validate their statements.

Findings:
The voting system will meet the requirements provided operators of the system do not use the autoresolve function of the system.

1st Review

2nd Review

Supervisor Approval

[Signatures and dates]
CDOS Certification Number: 2007-CDOS-HAR-001-0404

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

Test Number

CA4-P3 - 412
Demonstrate the ability for a user to generate and maintain a maximum of 500 remote voting locations each with the ability to contain one or multiple precincts, which does not affect the other counter groups and how many precincts they are able to maintain.

Purpose:
The purpose of this test is to verify that the system will handle up to 500 remote voting locations with multiple precincts

Test Procedures:
Document the systems ability to meet the volume requirements.

Prerequisites:

Variances Used During Testing:

The voting system will generate and maintain a maximum of 500 remote voting locations each with the ability to contain one or multiple precincts, which does not affect the other counter groups and how many precincts they are able to maintain.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.
<table>
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<th>Date</th>
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<th>Incident Report</th>
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**Documents**
(list all documents)
11:10-HAR-0-009/A

**Videos**
(list all videos)
11-19-2007

**Photos**
(list all photos)
Attached

**Acceptable Compromising Controls**

**Result Summary**

TEST DOES NOT MEET EXPECTED OUTCOME

- Fail

**1st Review**

T. Bishop

Printed name

Signature 11-9-07

**2nd Review**

Michael L. Peterson

Printed name

Signature 12-4-07

**Supervisor Approval**

John Gardner

Printed name

Signature 12-4-07

Created by the Colorado Secretary of State's Office
Additional Observations and Findings

Observations:
N/A

11-30-2007 Addendum: See attached report and evidence in bag # 1119-HAR-0-009/A. The voting system provider did supply ballots in an attempt to meet the requirements of this test however the programming required the use of an un-tested (by the VSTL) template (BOSS 34.xml, 9.xml). Since the template was not Federally certified during the allowed time frame of testing, the voting system fails to meet the requirements of this test.

Findings:
The voting system provider did not provide the information necessary to test this requirement.

11-19-2007 Addendum: The voting system does not meet the requirements of this test.

First Review
T. Bishop
Printed name
Signature Date

Second Review
Michael L. Chadwell
Printed name
Signature Date

Supervisor Approval
John Gardner
Printed name
Signature Date
CDOS Certification Number: 2007-CDOS-HAR-001-0404

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

Test Number

CA4-P3 - 414
**Purpose:**

The purpose of this test is to verify that the system will handle up to 2000 precincts each with 50 splits in the precinct.

**Prerequisites:**

**Test Procedures:**

Document the systems ability to meet the volume requirements.

**Variance Used During Testing:**

The voting system will generate and maintain the definitions and descriptions of precincts and precinct splits/sub-precincts. The system will be capable of programming for a maximum of 2000 precincts, each precinct having the potential for 50 splits.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, stop and restoring the system as necessary.

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### Test Log

**Date:**

**Time:**

**Operator:**

**Activities and Events:**

**Incident Reports:**

### Attachments

**Documents** (list all documents)

- 1119-HAR-0-003/A
- 1119-HAR-0-004/A

**Videos** (list all videos)

- 11-19-07

**Photos** (list all photos)

- No  Yes

### Acceptable Compensating Controls

### Results Summary

**Test Does Meet Expected Outcome:**

- Pass

### Final Test Status

**1st Review:**

**T. Bishop**

- Printed name
- Signature
- Date: 11-20-07

**2nd Review:**

**Jerome Lamb**

- Printed name
- Signature
- Date: 11-21-07

**Supervisor Approval:**

**John Gardner**

- Printed name
- Signature
- Date: 12-27-07
Additional Observations and Findings

Observations:
N/A

11-19-07 Addendum:

See attached screenshots, Voting system provider provided programming demonstrating the requirements of this test. Additionally see CA4-P3-429 attachments and Evidence bags # 1119-HAR-0-003/A and 004/A for precinct and district reports.

Findings:
The voting system provider did not provide the information necessary to test this requirement.

The voting system meets the requirements of this test.
CDOS Certification Number: 2007-CDOS-HAR-001-0404

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

Test Number

CA4-P3 - 415
The voting system provider shall provide documentation detailing voting system security in the areas listed below. The system shall contain documented configurations, properties, and procedures to prevent, detect, and log changes to system capabilities for: Preventing access to voter identification data and data for votes cast by the voter such that an individual can determine the content of specific votes cast by the voter.

Purpose:
The purpose of this test is to verify that the software prevents, detects, and logs changes to system capabilities related to preventing access to vote data to unauthorized individuals to determine the content of specific votes cast.

Prerequisites:

Test Procedures:
Use vendor documentation to verify security settings of physical device.

Variance Used During Testing:

Test Expected Outcome:
The voting system prevents access to voter identification data and data for votes cast by the voter that matches documentation provided.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retaring, stop and restoring the system as necessary.

<table>
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<tr>
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<th>Incidents Reports</th>
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Continue to next page...
Additional Observations and Findings

Observations:
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-19-2007 Addendum: No change

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. HART has agreed during re-testing that the system cannot meet the requirements of this test. Documentation was provided by Hart, but after discussion with the testing board, the vendor declared that their system did not protect the cast vote records properly. Additional testing was not conducted by the testing board to validate their statements.

Findings:
The voting system fails to meet the test requirements.
CDOS Certification Number: 2007-CDOS-HAR-001-0404

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

Test Number: CA4-P3 - 416
The voting system provider shall provide documentation detailing voting system security in the areas listed below. The system shall contain documented configurations, properties and procedures to prevent, detect and log changes to system capabilities for: Defining ballot formats.

**Purpose:**

The purpose of this test is to verify that the software prevents, detects and logs changes to system capabilities related to defining ballot formats.

**Test Procedures:**

Use vendor documentation to verify security settings of physical device.

**Prerequisites:**

**Variance Used During Testing:**

The voting system configurations, properties and procedures to detect and log changes to the system capabilities for Defining ballot formats matches documentation provided.
The log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, stop and restoring the system as necessary.

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**Attachmenrs**

- **Documents (list all documents)**
  - 12/1-11/12-0-01/0/0 - 01/0/0

- **Videos (list all videos)**
  - SEE VIDEO #2 on 11/21/07

- **Photos (list all photos)**
  - No ☒ Yes ☐

**Acceptable Compromising Controls**

**Results Summary**

TEST DOES NOT MEET EXPECTED OUTCOME

**1st Review**

T. Bishop

**2nd Review**

Michael L. Carozzi

**Supervisor Approval**

John Gardner

Printed name

Signature Date

12/4/07

12/4/07

12/4/07
Observations:
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-19-2007 Addendum: No change

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. HART has agreed during re-testing that the system cannot meet the requirements of this test. Documentation was provided by Hart, but after discussion with the testing board, the vendor declared that their system did not protect the cast vote records properly. Additional testing was not conducted by the testing board to validate their statements.

Findings:
The voting system fails to meet the test requirements.
State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290

Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-HAR-001-0404**

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

---

Test Number

CA4-P3 - 417
The voting system provider shall provide documentation detailing voting system security in the areas listed below. The system shall contain documented configurations, properties and procedures to prevent, detect and log changes to system capabilities for: Introducing data for a vote not cast by a registered voter.

Purpose:
The purpose of this test is to verify that the software prevents, detects and logs changes to system capabilities related to introducing data for a vote not cast by a voter.

Test Procedures:
Use vendor documentation to verify security settings of physical device.

Prerequisites:

Variance Used During Testing:

Test Expected Outcome:
The voting system configurations, properties and procedures to detect and log changes to the system capabilities for introducing data for a vote not cast by a registered voter matches documentation provided.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retesting, stop and restoring the system as necessary.
Observations:
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-19-2007 Addendum: No change

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. HART has agreed during re-testing that the system cannot meet the requirements of this test. Documentation was provided by Hart, but after discussion with the testing board, the vendor declared that their system did not protect the cast vote records properly. Additional testing was not conducted by the testing board to validate their statements.

Findings:
The voting system fails to meet the test requirements.
State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290

Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: 2007-CDOS-HAR-001-0404

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

Test Number

CA4-P3 - 421
The voting system provider shall provide documentation detailing voting system security in the areas listed below: the system shall contain documented configurations, properties and procedures to prevent, detect and log changes to system capabilities for: Alteration of voting system audit records.

**Purpose:**

The purpose of this test is to verify that the software prevents, detects and logs changes to system capabilities related to altering audit records.

**Prerequisites:**


**Test Procedures:**

Use vendor documentation to verify security settings of physical device.

**Variance Use During Testing:**

The voting system configurations, properties and procedures to detect and log changes to the system capabilities for Alteration of voting system audit records matches documentation provided.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, step and restoring the system as necessary.

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### Test Log

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**Attachments**

- **Documents** (list all documents): 121-HAR-O-COA, 121-HAR-O-COA
- **Videos** (list all videos): See Video from 11/21/07
- **Photos** (list all photos):

**Result Summary**

**Final Test Status**: Fail

**1st Review**

- **T. Bishop**
  - Printed name
  - Signature
  - Date: 12/4/07

**2nd Review**

- **Michael Chadwell**
  - Printed name
  - Signature
  - Date: 12/9/07

**Supervisor Approval**

- **John Gardner**
  - Printed name
  - Signature
  - Date: 12/4/17
Additional Observations and Findings

Observations:
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-19-2007 Addendum: No change

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. HART has agreed during re-testing that the system cannot meet the requirements of this test. Documentation was provided by Hart, but after discussion with the testing board, the vendor declared that their system did not protect the cast vote records properly. Additional testing was not conducted by the testing board to validate their statements.

Findings:
The voting system fails to meet the test requirements.

T. Bishop
Printed name
Signature 12-4-07  Date

Michael L. Castor
Printed name
Signature 12-04-07  Date

John Gardner
Printed name
Signature 12-4-07  Date
CDOS Certification Number: 2007-CDOS-HAR-001-0404

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

Test Number
CA4-P3 - 423
### Purpose:
The purpose of this test is to verify that the OS unit can handle up to 500 active voting positions as described.

### Test Procedures:
Document the system's ability to program, print and vote ballots when programmed for up to 500 voting positions.

### Prerequisites:

### Variance Used During Testing:

The voting system ballot definition subsystem has the ability of maintaining a minimum of 500 active voting positions, as prescribed within the requirements.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, returing, step and restoring the system as necessary.

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**Attachments**

- **Documents** (list all documents): No ☒ Yes ☐
- **Videos** (list all videos): No ☒ Yes ☐
- **Photos** (list all photos): No ☒ Yes ☐

**Acceptable Compensating Controls**

**Result Summary**

**Test Does Not Meet Expected Outcome**

FAIL

**1st Review**

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**2nd Review**

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**Supervisor Approval**

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Additional Observations and Findings

Observations:
The voting system vendor failed to provide programming to accommodate this requirement. Ballots and programming were submitted to testing board for review on 11/19. The testing board discovered that the default template files would need to be modified to accommodate the requirement. Default templates were not ITA tested, nor did the vendor provide the ITA tested version within the time frame of testing.

Findings:
The voting system is not capable of this programming in the system as submitted by the vendor.
State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290

Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: 2007-CDOS-HAR-001-0404
Manufacturer: Hart Intercivic
Application Date: 04/04/2007

Test Number
CA4-P3 - 425

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The voting system application shall provide a facility for the definition of the ballot, including the definition of the number of allowable choices for each office and contest, and for special voting options such as write-in candidates. It shall provide for all voting options and specifications as provided for in Articles 5 and 7, Title 1, C.R.S. The system shall generate all required masters and distributed copies of the voting program in conformance with the definition of the ballot for each voting device and remote site. The distributed copies, resident or installed in each voting device, shall include all software modules required to: monitor system status and generate machine-level audit reports, accommodate device control functions performed by remote location officials and maintenance personnel, and register and accumulate votes.

Purpose:
The purpose of this test is to verify that the voting system will allow for a copy of the ballot and ballot media as required within.

Prerequisites:
DB3-P3-307

Test Procedures:

Variances Used During Testing:

Test Expected Outcome:
Voting system allows for the creation of all required copies of ballot and ballot media. The copies include all software modules needed to monitor the system status, generate reports, register and accumulate votes.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, stop and restoring the system as necessary.
Observations:
See attached documents, and notes on DB3-P3-307. The audit report does not contain enough detail to properly audit the device and findings. Also, ballots on deck HAR 1CO were not counted correctly on the two scanning devices (eScan and Ballot Now).

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. HART has agreed during re-testing that the system cannot meet the requirements of this test. Documentation was provided by Hart, but after discussion with the testing board, the vendor declared that their system did not protect the cast vote records properly. Additional testing was not conducted by the testing board to validate their statements.

Findings:
The voting system meets the test requirements.
CDOS Certification Number: 2007-CDOS-HAR-001-0404

Manufacturer: Hart Intercivic

Application Date: 04/04/2007

Test Number

CA4-P3 - 429
Demonstrate how a user can generate and maintain the definitions and descriptions of political subdivisions and offices within the jurisdiction. The system shall be capable of programming for a maximum of 100 jurisdiction types, each containing a potential of 100 districts within each one.

Purpose:
The purpose of this test is to verify that the system will handle up to 100 jurisdiction types each containing 100 districts.

Test Procedures:
Document the systems ability to meet the volume requirements.

Prerequisites:

Variance Used During Testing:

Test Expected Outcome:
The voting system will generate and maintain the definitions and descriptions of political subdivisions and offices within the jurisdiction. The system will be capable of programming for a maximum of 100 jurisdiction types, each containing up to 100 dist
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarget, step and restoring the system as necessary.
2007-CDOS-HAR-001-0404

Date: 11-19-2007

Documents
(list all documents)

1119-HAR-0-003/A
1119-HAR-0-004/A

Videos
(list all videos)

Final Test Status: Pass

TEST DOES MEET EXPECTED OUTCOME

1st Review: T. Bishop
2nd Review: Jerome Landa
Supervisor Approval: John Gardner

Printed name

Signature Date

[Signatures and dates]
Additional Observations and Findings

Observations:
N/A

11-19-07 Addendum:
See CA4-P3-414_11-19-07_003a (Screenshot from BOSS 2nd CO CERT DB). The system is capable of programming to the test requirements.
CA4-P3-429_11-19-07_001a show that all precincts were assigned.
Additionally see reports in evidence bags # 1119-HAR-0-003/A and 1119-HAR-0-004/A.

Findings:
The voting system provider did not provide the information necessary to test this requirement.

11-19-07 Addendum:
The voting system does meet the requirements of this test.

T. Bishop
Printed name
Signature 11-20-07
Date

Severe Lents
Printed name
Signature 11-3-07
Date

John Gardner
Printed name
Signature 1-3-07
Date

Voting Systems Certification - Testing Log rev 2.1
approved 9/6/07

Created by the Colorado Secretary of State's Office
State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290

Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: 2007-CDOS-HAR-001-0404
Manufacturer: Hart Intervic
Application Date: 04/04/2007

Test Number
CB3-P3 - 304

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**2007-CDO-S-HAR-001-0404**

**Rule or Statute:** 45.5.2.3.10

The voting system application shall provide a facility for the definition of the ballot, including the definition of the number of allowable choices for each office and contest, and for special voting options such as write-in candidates. It shall provide for all voting options and specifications as provided for in Articles 5 and 7, Title 1, C.R.S. The system shall generate all required masters and distributed copies of the voting program in conformance with the definition of the ballot for each voting device and remote site. The distributed copies, resident or installed in each voting device, shall include all software modules required to: monitor system status and generate machine-level audit reports, accommodate device control functions performed by remote location officials and maintenance personnel, and register and accumulate votes.

**Purpose:**

The purpose of this test is to verify that the voting device can create copies of the ballot and ballot media as required herein.

**Prerequisites:**

DB3-P3-307; CA4-P3-425

**Test Procedures:**

**Variance Used During Testing:**

Voting system allows for the creation of all required copies of ballot and ballot media. The copies include all software modules needed to monitor the system status, generate reports, register and accumulate votes.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, stop and restoring the system as necessary.
### 2007-CDOS-HAR-001-0404

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#### Test Log

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#### Attachments

- **Documents** (list all documents): Yes
  - See Evidence Bags
    - 1121-HAR-0-10A-HAR
    - 1121-HAR-0-10A

- **Videos** (list all videos): Yes
  - See video from 11/21

- **Photos** (list all photos): No

#### Acceptable Compensating Controls

#### Result Summary

- **Test Does Not Meet Expected Outcome:** FAIL

#### 1st Review
- **Printed Name:** Bishop
- **Date:** 12-3-07
- **Signature:**

#### 2nd Review
- **Printed Name:** Danny Casias
- **Date:** 12-5-07
- **Signature:**

#### Supervisor Approval
- **Printed Name:** John Gardner
- **Date:** 12-4-07
- **Signature:**
Additional Observations and Findings

Observations:
See notes and findings from DB3-P3-307. The voting system fails to correctly tabulate "special voting options" (vote for more than one) as required. Additionally, see notes on CA4-P3-425 as the voting device does not have the ability to report through audits the errors of the device.

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. HART has agreed during re-testing that the system cannot meet the requirements of this test. Additional testing was not conducted to validate their statements on the record.

Findings:
The voting system does not meet the test requirements.

First Review

Second Review

Superior Approval

Printed name

Signature Date

Signature Date

Signature Date
CDOS Certification Number: 2007-CDOS-HAR-001-0404
Manufacturer: Hart Intercivic
Application Date: 04/04/2007
The ballot definition subsystem shall be capable of handling at least 500 potentially active voting positions, arranged to identify party affiliations in a primary election, offices and their associated labels and instructions, candidate names and their associated labels and instructions, and issues or measures and their associated text and instructions.

**Purpose:**

The purpose of this test is to verify that the voting system can handle up to 500 voting positions as required within.

**Test Procedures:**

Document the system’s ability to program, print and vote ballots when programmed for up to 500 voting positions.

**Prerequisites:**

**Variances Used During Testing:**

The voting system ballot definition subsystem has the ability of maintaining a minimum of 500 active voting positions, as prescribed within the requirements.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, returing, step and restoring the system as necessary.
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**Documents** (list all documents)  
No ☐  Yes ☒

**Videos** (list all videos)  
No ☐  Yes ☐

**Photos** (list all photos)  
No ☐  Yes ☒

**Acceptable Compensating Controls**  

**Results Summary**  
**TEST DOES NOT MEET EXPECTED OUTCOME**  
FAIL

**1st Review**  
[Signature] [Date]  
Jerome Lando  
Printed name

**2nd Review**  
[Signature] [Date]  
[Printed name]  
[Signature] [Date]  
[Printed name]  
[Signature] [Date]  
[Printed name]

**Supervisor Approval**  
John Gardner  
Printed name

Created by the Colorado Secretary of State's Office
**Observations:**
The voting system vendor failed to provide programming to accommodate this requirement. Ballots and programming were submitted to testing board for review on 11/19. The testing board discovered that the default template files would need to be modified to accommodate the requirement. Default templates were not ITA tested, nor did the vendor provide the ITA tested version within the time frame of testing.

**Findings:**
The voting system is not capable of this programming in the system as submitted by the vendor.
CDOS Certification Number: **2007-CDOS-HAR-001-0404**

Manufacturer: **Hart Intercivic**

Application Date: **04/04/2007**

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2007-CDOS-HAR-001-0404

Rule or Statute
45.5.2.6.2(i)

The voting system provider shall provide documentation detailing voting system security in the areas listed below. The system shall contain documented configurations, properties and procedures to prevent, detect and log changes to system capabilities for: Preventing access to voter identification data and data for votes cast by the voter such that an individual can determine the content of specific votes cast by the voter.

Cross Reference 1

Cross Reference 2

Cross Reference 3

Purpose:
The purpose of this test is to verify that the system provides controls to prevent, detect and log changes to the system regarding access to change voter identification data and data for votes such that an individual could determine the content of a vote.

Test Procedures:

Prerequisites:
Completion of trusted build, documentation from voting system vendors.

Variances Used During Testing:

Test Expected Outcome:
The voting system prevents access to voter identification data and data for votes cast by the voter that matches documentation provided.
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, stop and restoring the system as necessary.

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Additional Observations and Findings

**Observations:**
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-21-07 Addendum: This test is not applicable to this voting device as it is not used to maintain and/or track voter information/identification data.

**Findings:**
The test is not applicable for this device.

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<thead>
<tr>
<th>1st Review</th>
<th>2nd Review</th>
<th>Supervisor Approval</th>
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<tbody>
<tr>
<td>Michael L. Kennedy</td>
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<td>John Gardner</td>
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This page is part of the Voting Systems Certification - Testing Log rev. 2.1.
CDOS Certification Number: **2007-CDOS-HAR-001-0404**

Manufacturer: **Hart Intercivic**

Application Date: **04/04/2007**

Test Number: **CB3-P3 - 315**
**Purpose:**

The purpose of this test is to verify that the system provides controls to prevent, detect and log changes to the system regarding access to change vote data, vote totals or individual votes to other than unauthorized individuals.

**Prerequisites:**

**Variance Used During Testing:**

The voting system configurations, properties and procedures to detect and log changes to the system capabilities for Preventing access to vote data, including individual votes and vote totals, to unauthorized individuals matches documentation provided.

**Test Procedure Specification:**

- **Use vendor documentation to verify security settings of physical device.**
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, restarting, stop and restoring the system as necessary.

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<thead>
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Continue to next page...
**Observations:**
The voting system does not maintain logs that are detailed enough to determine if a security setting has been violated.

11-21-07 Addendum: Please see evidence bags 1121-HAR-0-010/A thru 1121-HAR-0-015/A. Audit logs maintained by the system are extremely limited in their ability to capture information. HART has agreed during re-testing that the system cannot meet the requirements of this test.

**Findings:**
The voting system fails to meet the test requirements.

---

**1st Review:**
T. Bishop

**2nd Review:**
Missouli L. Gamber

**Supervisor Approval:**
John Gardner

**Signature**
11-27-07

**Date**
11-27-07