



# BUREAU OF VOTING SYSTEMS CERTIFICATION: AccuVote OS 32K MEMORY CARD – TEST REPORT

April 2013

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## Purpose:

On April 5, 2013, Dominion Voting Systems, Inc. contacted the Bureau of Voting System Certification (BVSC) to request that the AccuVote OS (AVOS) 32k memory card be added to the certification of Dominion's Premier Election Solutions, Inc. Release - GEMS 1.21.6, Version 1 voting system (Certification #120502-DVS, May 2012). This memory card was not included as part of that certification but has been certified with several prior versions of the GEMS Assure voting system. This request required that the memory card undergo regression testing to ensure that the card still functioned as expected with this modified version of GEMS.

## Scope:

To evaluate whether the AccuVote OS (AVOS) 32k memory card continues to properly function as a valid storage medium for Primary and General Election activities, including the download of an election onto these cards, the casting of ballots through the AccuVote OS, and the upload of election results into the above-referenced certified system.

## Test(s):

On April 9, 2013, BVSC conducted regression testing on the AVOS 32k memory card. The BVSC used the 2012 General and 2012 Primary Elections and previously marked ballots that were used in the GEMS 1.21.6, Version 1 certification process.

- Firmware:
  - BVSC verified that the firmware version (1.96.14) installed on the AccuVote OS was the appropriate version for GEMS Assure, Release 1.21.6, Version 1.
- GEMs Functional Testing (Pre-election mode testing):
  - BVSC downloaded precincts for the election definition of the respective elections from the certified GEMS 1.21.6 server to the AVOS 32k memory card as follows:
    - 1) 2012 General Election:
      - Precinct 10
      - Precinct 300
      - Precinct 9000
    - 2) 2012 Primary Election:
      - Precinct 1800
      - Precinct 2500
      - Precinct 5000
      - 20-30-40
      - Early Voting



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➤ AccuVote OS Functioning (Election & Post-election modes testing):

- The 32k memory cards with the loaded election definitions were tested, one at a time, by inserting them into an AccuVote OS and performing the following activities:
  - 1) OS was "set for election" (i.e. polls were opened)
  - 2) Printed zero tape
  - 3) Cast one test ballot, that was marked in the first oval position, across all races
  - 4) Closed polls
  - 5) Printed OS results tape
  - 6) Audited OS results tape for accuracy
  - 7) Uploaded results to GEMS server
  - 8) Audited server upload results for accuracy

## Test Results:

1. 2012 Florida Certification General Election

Precinct	Download Election	Upload Results	Verify Results
10	Pass	Pass	Pass
300	Pass	Pass	Pass
9000	Pass	Pass	Pass

2. 2012 Florida Certification Primary Election

Precinct	Download Election	Upload Results	Verify Results
1800	Pass	Pass	Pass
2500	Pass	Pass	Pass
5000	Pass	Pass	Pass
20-30-40	Pass	Pass	N/A No ballots scanned
Early Vote	NO	N/A	N/A



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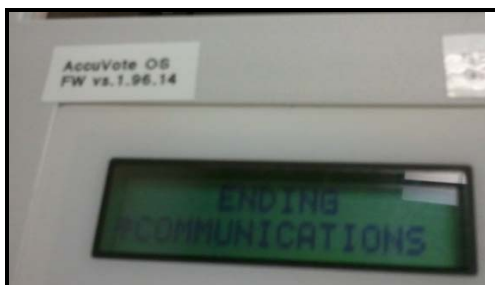
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3. For this specific testing activity, the AVOS 32K memory card was capable of storing at least three precincts on a single card with no errors.\*

*\* NOTE: The number of precincts that may be stored on a card will vary depending on the size of the election. This is because the “space available” on an AVOS memory card is determined by the number of “vote targets” in a given election. Thus, a larger election, with more vote targets, would theoretically, limit the storage to fewer precincts on a single card.*

4. As was the expected result, the tester was unable to successfully create an AccuVote 32K memory card that contained all available precincts (i.e. an ‘early voting’ card). The AccuVote OS properly produced three error messages when trying to download the election definition; images follow:

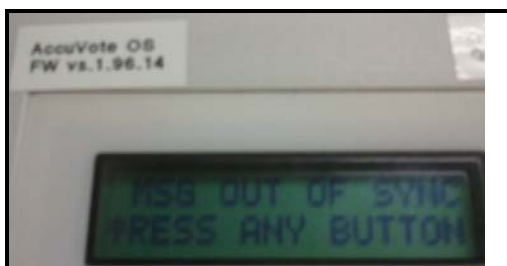
- 1) Ending Communications



- 3) Receive Failed Try Again?



- 2) MSG Out of Sync Press Any Button





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## **Conclusion**

Based on the results of this examination, BVSC has determined that the AVOS 32k memory card functions as expected with the Dominion Voting Systems, Inc., - GEMS 1.21.6, Version 1; Certification #120502-DVS, May 2012.

The certificate will be edited to add this card as a valid media storage option and will be amended as Dominion Voting Systems, Inc., - GEMS 1.21.6, Version 1 (Revision 1), Certification #120502-DVS (Revision 1).

This revised Dominion Voting Systems, Inc., - GEMS 1.21.6, Version 1 (Revision 1), Certification #120502-DVS (Revision 1) certificate supersedes Dominion Voting Systems, Inc., - GEMS 1.21.6, Version 1, Certificate #120502-DVS.