



FLORIDA DEPARTMENT *of* STATE

CHARLIE CRIST
Governor

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Secretary of State

May 28, 2008

Mr. Tucker Omel, Certification Services Specialist
Election Systems and Software, Inc.
11208 John Galt Blvd.
Omaha, NE 68137

Re: **ES&S Voting System, Release 4.0.0.1, Version 2**

Mr. Omel:

This letter documents the Test Status Report and the Qualification Test Report for "*Election Systems & Software (ES&S), Release 4.0.0.1, Version 2*" voting system.

Test Status Report:

The Bureau of Voting Systems Certification conducted a qualification exam as described in the Florida Voting Systems Standards (FVSS) from March 26 - 27, 2008 in Tallahassee, FL.

The Bureau's testing did not yield any unresolved anomalies in the referenced election system software or firmware. Furthermore, hardware elements are identical to items contained in the previous certification for "*Release 4.0.0.1, Version 1*" and those elements performed as expected.¹ In addition, the intElect Digital Scan 200 (DS200) optical scanner completed its qualification test for its simultaneous tri-lingual capability. Therefore, the DS200 is part of this voting system.

The "*Release 4.0.0.1, Version 2*" qualification activity included:

- complete and acceptable application for Florida certification,
- acceptable review of the technical data package, and
- acceptable results from the Florida qualification tests.

It is the determination of the Bureau of Voting Systems Certification that the results of the qualification tests provided objective evidence that "*Release 4.0.0.1 Version 2*" is in compliance with the FVSS and applicable Florida Statutes.

¹ ES&S Voting Systems, Release 4.0.0.1, Version 1 Test Report, Florida Division of Elections, dated May 28, 2008

Qualification Test Report:

This report documents the conduct of Florida qualification tests, the results of those tests, and Florida Division of Election's findings of compliance.

Background:

Qualification test for "Release 4.0.0.1, Version 1" system was held in Omaha, Nebraska during January and February 2008. Initially, "Release 4.0.0.1, Version 1" included the iVotronic touchscreen, the AutoMARK system, the Model 650 central count optical scanner, the M100 precinct optical scanner, and the DS200 precinct scanner. That firmware for the DS200 precinct count scanner was new to Florida, although an older version with the DS200 was previously tested as part of "Release 3.0.1.3, Version 2".² However, during the "Release 4.0.0.1, Version 1" qualification test, the DS200 translations for Spanish and Haitian-Creole were found to be grammatically incorrect and required a change to its firmware. For that reason, the "Release 4.0.0.1, Version 1" voting system was certified without the DS200.

Conduct of Tests:

The test objectives are to verify that "Election Systems & Software, Inc. Release 4.0.0.1, Version 2" voting system meets the applicable requirements of Florida Statutes and Florida Voting Systems Standards (FVSS). The scope of this qualification is to verify the correct translation and proper functionality of the DS200 precinct count scanner.

Qualification activities include the following actions:

- Installed and verified DS200 with firmware version 1.3.6.0.
- Utilized Hardware Programmer Manager (HPM) and the Unity election definitions to load the election parameters into a USB flash drive (DS200).
- Utilized a pre-marked test deck to replicate different screen conditions for displaying the voting status to the voter.
- Uploaded results into Election Reporting Manager (ERM).

Test Results and Findings of Compliance

The bureau completed the successful qualification tests for the following activities:

Phase I

- *Setup*
 - Installed the firmware for DS200
 - Audited the physical configuration
 - Performed the functional configuration audit
- *Election definition*

² ES&S Voting Systems, Release 3.0.1.3, Version 2 Test Report, Florida Department of State, dated August 29, 2007.

- Used the same “*Release 4.0.0.1, Version 1*” qualification test for the election definitions
- Created relevant election media (e.g., USB flash drives)
- Four sets of pre-marked ballot test decks:
 - Set 1 – Marked in such a way as to produce certain scenarios which will display various messages to the poll worker / voter
 - Set 2 – General Election ballots by precinct ID
 - Set 3 – Primary Election ballots by precinct ID
 - Set 4 – Municipal Election ballots by ballot styles
- Two or more DS200 scanners w/ Plastic Ballot Boxes

Phase II

- *Mock elections*
 - Demonstrated early voting for DS200
 - Examined ballot by ballot styles using DS200’s manual selection for a precinct to allow precinct level reporting
 - Examined the primary and general elections for ballot by precinct ID
 - Voted the municipal, primary and general elections on DS200
 - Verified DS200’s simultaneous tri-lingual voter interface with the acceptable translations
- *Post-election*
 - Completed election reporting activities for the municipal, primary and general election
 - Tabulated the paper ballots and compact flashes from all three elections
 - Examine DS200 results report, audit log, precinct report summary and poll report summary
- *Additional tests*
 - Verified the DS200 partition table

The following issues were noted for the DS200:

- DS200 simultaneous tri-lingual capability for firmware version 1.3.6.0

Background:

DS200 firmware version 1.3.6.0 has a voter interface using tri-lingual capability with the correct grammatically translations. However, this tri-lingual capability uses all three languages simultaneously. ES&S’ Florida customers required the DS200 to allow using either English only or a combination of English with the other languages.

Status:

The current use of simultaneous tri-lingual is acceptable. However, ES&S has recommended a revision for HPM and DS200 to allow Florida election officials the capability to select English only, or a combination of English with Spanish and/or Haitian-Creole. The Bureau accepts ES&S’ recommendation as part of a new voting system (i.e., Release 4.0.0.2).

- DS200 has the capability to capture ballot images and segregated ballot images with one or more write-ins.

Background:

The DS200 can capture digital ballot images and can segregate a copy of ballot images that contain one or more write-ins. The DS200 plastic ballot box does not use a diverter for segregating ballots with a write-in. The intent is to allow election officials to examine a ballot with a write-in using a digital image. Both the ballot images and the write-in images are not encrypted.

Status:

The Division of Elections is concerned with using ballot images that are not encrypted. Therefore, ballot images cannot be used for official tabulations including audits. However, election officials may use write-in ballot images to verify that the write-in is valid. Ballot images, if present, are public records. Therefore, Florida counties that contemplate using ballot images should consider creating the digital hash prior to releasing the ballot images. ES&S recommended a revision to the DS200 to allow the storage of all ballot images, write-in ballot images only, or no ballot images. The Bureau accepts ES&S' recommendation as part of a new voting system (i.e., Release 4.0.0.2).

- DS200 has the capability to display the number of overvotes along with the first title for the overvote.

Background:

Voter can observe the number of races with an overvote, if any, on the DS200 display. The first overvoted race will be displayed to the voter and to the public. Thus, the voter's security is a concern.

Status:

ES&S has recommended a revision to the DS200 to allow only the number of overvoted races without displaying the race. The Bureau accepts ES&S' recommendation as part of a new voting system (i.e., Release 4.0.0.2).

Summary:

"Release 4.0.0.1, Version 2" is identical to the certified "Release 4.0.0.1, Version 1" with the inclusion of the DS200 precinct scanner. "Release 4.0.0.1, Version 1" did not include the DS200 optical scanner, because the simultaneous translations for Spanish and Haitian-Creole were grammatically incorrect. This qualification of the DS200 verified that the translations are acceptable. Test results confirmed the hardware and software functioned as expected and met the FVSS requirements.

Therefore, the Bureau of Voting Systems Certification recommended certification of the referenced voting system based on the demonstrated acceptable performance.

The voting system under test consisted of:

“ES&S Voting System – Release 4.0.0.1, Version 2”

Election Management System:

- Unity Version 4.0.0.1 consisting of:
 - Audit Manager, version **7.5.0.0**
 - Election Data Manager (EDM), version **7.8.0.0**
 - ES&S Ballot Image Manager (ESSIM), version **7.7.0.0**
 - *Optional* Ballot on Demand (BOD) using ESSIM.bod, version **7.7.0.0** (*manual ballot selection*)
 - *Optional* ES&S Ballot Image Manager (ESSIM), version **7.8.1.0** (*for converting ESSIM for VR interaction*)
 - *Optional* Ballot on Demand (BOD) using ESSIM.bod, version **7.8.1.0** (*w/ VR interaction*)
 - Hardware Programming Manager (HPM), version **5.6.2.1**
 - COTS OmniDrive or similar PCMCIA interface (*for use with Model 100*)
 - COTS Zip drive (*for use with Model 650*)
 - COTS San Disk Image Mate or similar compact flash interface (*for use with iVotronic compact flash cards*)
 - Election Reporting Manager (ERM), version **7.4.0.3**
 - *Optional software*
 - Data Acquisition Manager (DAM), version **6.1.2.1** (*for modem communications*)
 - AutoMARK Information System (AIMS), version **1.3.57** (*for use with VAT*)
 - iVotronic Image Manager (IVIM), version **3.1.0.0**
 - *Optional hardware*
 - One or more Equinox SST-MM4P or MM8P multi-modem (*for use with DAM*)
 - One or more Sealevel Systems COMM+8.PCI, +8.LPCI, or +4.LPCI serial interface (*for use with modem(s) and DAM*)
 - One or more Digi Multi-Modem Acceleport RAS, 4 or 8 ports (*for use with DAM*)
 - One or more Perle RAS 4 or 8 modem adapters (*for use with DAM*)
 - OKI Data Printer, model 9300 or higher
 - Compact Flash Multi-Card Reader / Writer, Version 1.0
 - iVotronic Battery Charger, version 1.0
 - iVotronic Supervisor Terminal (12" or 15")
 - USB PEB Reader/Writer, iVI.1
 - COTS software
 - Windows 2003 Server and/or Windows XP Professional, Service Pack 2 or later
 - Adobe Reader, version 7.0 Standard or later
 - Adobe Type Basic 65 (*for Helvetica fonts*)
 - Adobe Type Manager Lite, version 4.1 (*or similar font manager*)
 - PC Card Manager, version 1.3 (1.60)
 - Java 2 Runtime Environment, version 1.4.2_08
 - MS Office 2003 Standard Edition or later
 - RM COBOL Runtime System, version 11.01 or later
 - Winzip, version 11.1 or later
 - Microsoft .Net Framework, version 1.1 (*for use with AIMS*)
 - Intel® PRO Ethernet Adapter and Software (*for use with DAM*)
 - *Optional* Irfanview, version 4.1 or higher

Precinct Count (*one or more of the following*):

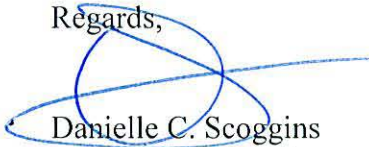
- Model 100 Ballot Counter, hardware version 1.3,
 - w/ firmware version **5.2.1.1**
 - Metal ballot box
 - *Optional* internal modem

- Digital Scan 200 (DS200), hardware version 1.2.1,
 - Firmware version **1.3.6.0**
 - Power Management firmware version 1.1.0.0
 - Scanner firmware version 2.8.0.0
 - intElect Plastic Ballot Box
- *ADA polling equipment for either AutoMARK and/or iVotronic DRE*
 - AutoMARK 1.3 (*for use with M100 and/or DS200*)
 - AutoMARK Voter Assist Terminal (VAT), Model A100 or A200 w/visible light ink
 - w/ version **1.3.2904**
 - *Auxiliary equipment for the AutoMARK VAT:*
 - COTS headphones for audio ballots
 - COTS two-switch assistive technology devices compatible with the VAT
 - iVotronic DRE (*12" or 15" w/ ADA*), hardware version 1.0 or 1.1
 - w/ firmware version **9.2.0.1**
 - *Auxiliary equipment for iVotronic DRE*
 - PEB hardware revs: iV1.7-PEB-S, iV1.7b1-PEB-S, iV1.7b2-PEB-S, iV1.7c-PEB-S
 - w/ firmware version **1.07**
 - COTS headphones for audio ballots (*for ADA iVotronic*)
 - Communications Pack

Central / Absentee Count (*one or more of the following*):

- Model 100 Ballot Counter, hardware version 1.3 (*as defined for precinct count*)
- Digital Scan 200 (DS200), hardware version 1.2.1.0 (*as defined for precinct count*)
- Model 650 Central Count Ballot Tabulator, hardware version 1.0 or 1.1
 - w/ firmware version **2.2.1.0**
 - Two COTS printers

Régards,


Danielle C. Scoggins
Manager, Voting Systems Certification