



United States Election Assistance Commission



Certificate of Conformance

ES&S Unity 3.2.0.0 Rev. 1
(Modification)

The voting system identified on this certificate has been evaluated at an accredited voting system testing laboratory for conformance to the *2002 Voting System Standards (2002 VSS)* with the modification being tested to the *2005 Voluntary Voting System Guidelines (2005 VVSG)*. Components evaluated for this certification are detailed in the attached Scope of Certification document. This certificate applies only to the specific version and release of the product in its evaluated configuration. The evaluation has been verified by the EAC in accordance with the provisions of the *EAC Voting System Testing and Certification Program Manual* and the conclusions of the testing laboratory in the test report are consistent with the evidence adduced. This certificate is not an endorsement of the product by any agency of the U.S. Government and no warranty of the product is either expressed or implied.

Product Name: Unity

Model or Version: Version 3.2.0.0 Rev. 1 (Modification)

Name of VSTL: iBeta Quality Assurance

EAC Certification Number: ESSUnity3200Rev1

Date Issued: October 8, 2010

A handwritten signature in black ink, appearing to read "S. S. Unity", written over a horizontal line.

Executive Director, U.S. Election Assistance Commission

Scope of Certification Attached



Scope of Certification: System Modification

Manufacturer: Election Systems and Software Inc. (ES&S) *Product:* Unity 3.2.0.0 Rev. 1 (Modification)

Laboratory: IBeta Quality Assurance *Certificate:* ESSUnity3200R1 *Standard:* VVSG 2005 *Date:* 10/08/2010

This document describes the scope of the certification of the modified system identified above, which is the system certified under certificate ESSUnity3200 with changes modifying the system to 3.2.0.0. Rev 1 (Modified). Any use, configuration changes, revision changes, additions or subtractions from the described system defined in this document are not included in this evaluation.

Significance of EAC Certification:

An EAC certification is an official recognition that a voting system (in a specific configuration or configurations) has been tested to and has met an identified set of Federal voting system standards. An EAC certification is **not**:

- An endorsement of a Manufacturer, voting system, or any of the system's components.
- A Federal warranty of the voting system or any of its components.
- A determination that a voting system, when fielded, will be operated in a manner that meets all HAVA requirements.
- A substitute for State or local certification and testing.
- A determination that the system is ready for use in an election.
- A determination that any particular component of a certified system is itself certified for use outside the certified configuration.

Representation of EAC Certification:

Manufacturers may not represent or imply that a voting system is certified unless it has received a Certificate of Conformance for that system. Statements regarding EAC certification in brochures, on Web sites, on displays, and in advertising/sales literature must be made solely in reference to specific systems. Any action by a Manufacturer to suggest EAC endorsement of its product or organization is strictly prohibited and may result in a Manufacturer's suspension or other action pursuant to Federal civil and criminal law.

Language capability:

In addition to English, the voting system has the capability of presenting the ballot, ballot selections, review screens and instructions in Spanish.

Definition of Modification:

A modification is any change to a previously EAC-certified voting system's software, firmware or hardware that is not determined to be a de minimis change. All modifications to a voting system require testing and review by the EAC in accordance to the requirements of Chapter 4 of the Voting System Testing & Certification Program Manual.

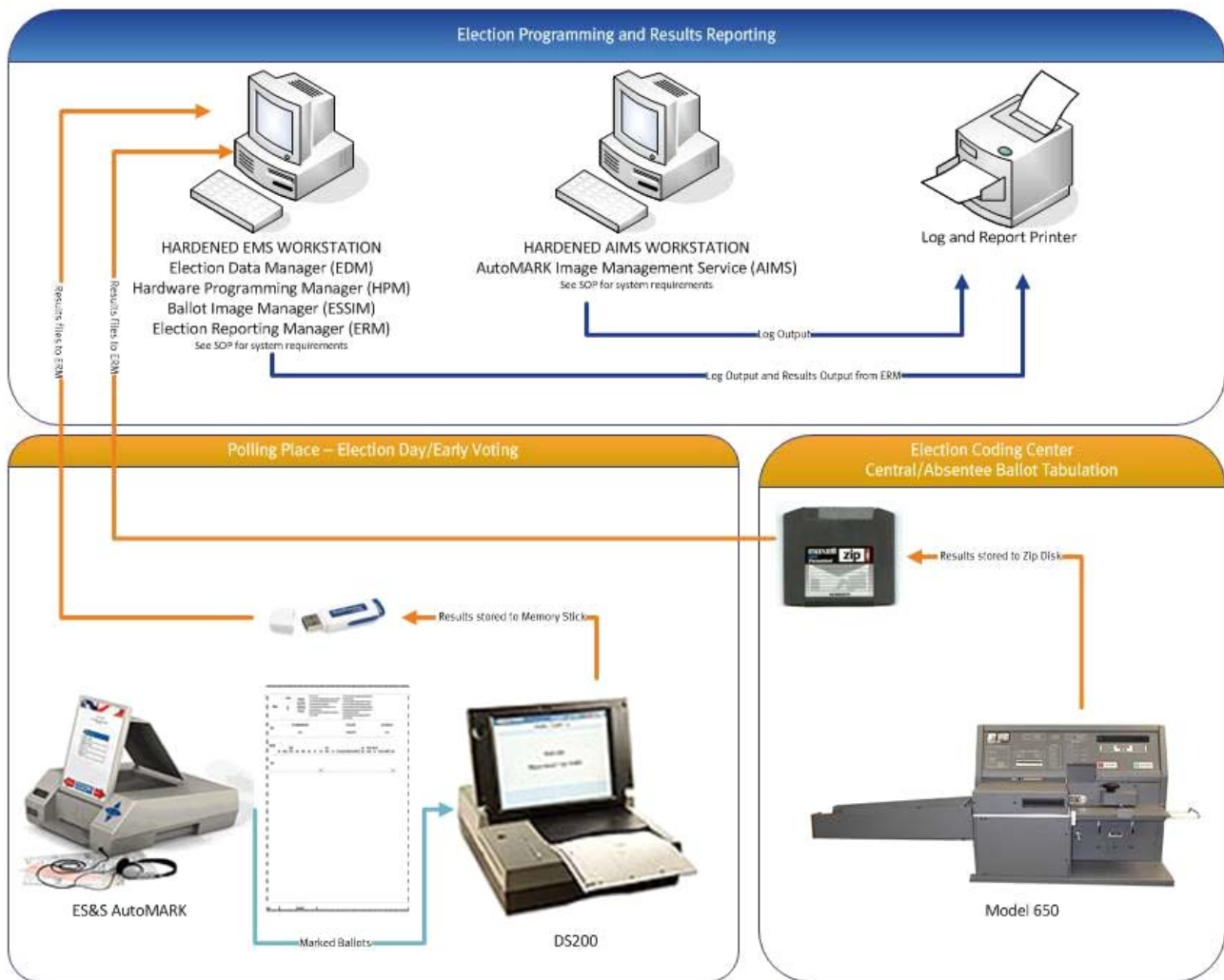
Certified System before Modification:

Election Systems and Software Unity 3.2.0.0

Certificate ID: **ESSUnity3200**

Components Included:

This section provides information describing the components and revision level of the primary components included in this Validation.



System Component	Software or Firmware Revision	Hardware Revision	COTS Information	Dependency Notes
DS200	Firmware v. 1.4.5.0 Power Mgmt v.1.2.0.1 Scanner v. 2.20.0.0	Hardware v. 1.2.0 v. 1.2.1	Linux Kernel 2.6.16.27	Firmware, Power Mgmt, Scanner, and Hardware Unity 3.2.0.0 Rev. 1 Linux Kernel Both Certified Systems
Model M650	Firmware v. 2.2.2.0	Hardware v. 1.1 v. 1.2	QNX Kernel 4.25	Both Certified Systems
AutoMark Model A100-00	1.3.2906	Rev. 1.0 Printer Engine Board (PEB) 1.65 Single Board Computer (SBC) 1.0	WinCE 5.0.1400	Both Certified Systems
AutoMark Model A200-00	1.3.2906	Rev. 1.1 Printer Engine Board (PEB) 1.65 Single Board Computer (SBC) 2.0	WinCE 5.0.1400	Both Certified Systems
AutoMark Model A200-00	1.3.2906	Rev. 1.3.1 Printer Engine Board (PEB) 1.65 Single Board Computer (SBC) 2.5	WinCE 5.00.19	Both Certified Systems
AutoMark Model A200-00	1.3.2906	Rev. 1.3.1 Printer Engine Board (PEB) 1.70 Single Board Computer (SBC) 2.5	WinCE 5.00.19	Both Certified Systems
Ballot Prep and Central Count				
Election Data Manager	v. 7.8.1.0	-----	See Below	Both Certified Systems
ES&S Ballot Image Manager (ESSIM)	v. 7.7.1.0	-----	See Below	Both Certified Systems
Audit Manager (AM)	v. 7.5.2.0	-----	See Below	Both Certified Systems
Hardware Programming Manager (HPM)	v. 5.7.1.0	-----	See Below	Both Certified Systems
Election Reporting Manager (ERM)	v. 7.5.4.0	-----	See Below	Both Certified Systems

Desktop	-----	Dell GX260 computer desktop with monitor, keyboard & mouse	Dell PC, 1 GHz or faster processor, 512 MB RAM, 40 GB hard drive, 48x CD-ROM or DVD drive, 3.5-inch drive, Super VGA (800x600) or higher resolution video adapter and monitor, appropriate drivers	Both Certified Systems
Laptop	-----	Dell Latitude 600, Model #PP05L	Dell, Intel Pentium Processor 1400 MHz 587 MHz 1.00 GB Ram	Both Certified Systems
Windows	XP Professional, 2002 SP 3	-----	Microsoft Corporation	Both Certified Systems
Zip Drive	-----	Z250USBPCMBP	Iomega	Both Certified Systems
San Disk Reader/Writer	-----	Image mate CF Models #SDDR-91 & #SDDR-92	SanDisk	Both Certified Systems
Printer	-----	HP LaserJet Inkjet Printer HP4050N	HP	Both Certified Systems
Visual Studio	6.5 SP5	-----	Microsoft Corporation	Both Certified Systems
Codebase	6.5 rev 3	-----	Sequiter	Both Certified Systems
Crystal Reports	9.0	-----	Seagate	Both Certified Systems
Xerces XML Parser	2.7	-----	Apache	Both Certified Systems
RM/Cobol	v.11.01	-----	Cobol	Both Certified Systems
Adobe Acrobat Standard	V9	-----	Adobe	Both Certified Systems
Adobe Type Manager Light	None	-----	Adobe	Both Certified Systems
Adobe Type Basics	none	-----	Adobe	Both Certified Systems
Anti Virus	2009 for Windows XP Pro	-----	Norton	Both Certified Systems

AIMS (Automark Information Management System)	v. 1.3.157	Dell Optiplex GX270 computer desktops with monitor, keyboard & mouse (AIMS)	PC, 2.2 GHz Pentium 4 minimum, 256 MB memory minimum, 20 GB hard drive minimum, CD-ROM, USB port, Flash memory card drive.	Both Certified Systems
MS Excel	V 5	-----	Microsoft	Both Certified Systems
Drivers	Not specified	-----	ScanDisk	Both Certified Systems
.NET Framework	Not specified	-----	Microsoft	Both Certified Systems
Anti Virus	2009 for Windows XP Pro	-----	Norton	Both Certified Systems

Certified Configuration Notice:

All applicable ECO's that are designated "mandatory" must be applied to the ES&S Unity 3.2.0.0 Rev 1 in order for it to be considered in a certified configuration. If a Unity 3.2.0.0 Rev 1 system is being fielded as an EAC certified system in an incorrect configuration, the manufacturer will be subject to the provisions in the Certification Manual and may result in a Manufacturer's suspension or other action pursuant to Federal civil and criminal law.

System Limitations:

This table depicts the limits of the system has currently been exercised and the manufacturer calculated design limits.

Characteristic	Limiting Component	Limit	Comment
Maximum Precincts in Election	HPM/ERM	2900	
Maximum Contests in Election		Depends on Content	
Maximum Candidates/ Counters in Election	ERM	21,000	M650 max of 3,750
Maximum Candidates/ Counters in Precinct	ERM Import	1,000	
Maximum Ballot Styles in Election	HPM	5,000	
Maximum Contests in a Ballot Style	HPM	1,100	
Maximum Candidates in a Contest	HPM	175	
Maximum Count for any Precinct Element	ERM	999,000	65,535 on import
Maximum Ballot Styles in a Precinct	HPM	5,000	DS200 40 ballot styles max
Maximum Number of Parties	HPM	18	
Maximum Vote For in Contest	HPM	90	

DS200 Unique

#	Limitation
1	Does not support more than 30 type codes, 40 split codes, and 1639 sequence codes
2	An early vote station will support a maximum of 9999 precincts.
3	Does not support to the use a modem to transmit totals
4	An early vote station will not be able print a precinct by precinct report by default

Model M650 Unique

#	Limitation
1	Ballots must be fed in one particular direction
2	Does not support more than 100 ballot styles for a single absentee precinct.

Functionality:

The table below specifics the features that the system supports, which is the same as Unity 3.2.0.0.

Feature/Characteristic	Inclusion	Comment
<i>Voter Verified Paper Audit Trails</i>		
VVPAT		
<i>Accessibility (vol. 1. sect. 2.2.7)</i>		
Forward Approach	Yes	
Parallel (Side) Approach		
<i>Closed Primary (vol. 1. sect. 2.2.8.2)</i>		
Primary: Closed	Yes	
<i>Open Primary (vol. 1. sect. 2.2.8.2)</i>		
Primary: Open Standard (provide definition of how supported)	Yes	
Primary: Open Blanket (provide definition of how supported)	Yes	
<i>Partisan & Non-Partisan: (vol. 1. sect. 2.2.8.2)</i>		
Partisan & Non-Partisan: Vote for 1 of N race	Yes	
Partisan & Non-Partisan: Multi-member (“vote for N of M”) board races	Yes	
Partisan & Non-Partisan: “vote for 1” race with a single candidate and write-in voting	Yes	
Partisan & Non-Partisan “vote for 1” race with no declared candidates and write-in voting	Yes	
<i>Write-In Voting: (vol. 1. sect. 2.2.8.2)</i>		
Write-in Voting: System default is a voting position identified for write-ins.	Yes	
Write-in Voting: Without selecting a write in position.	Yes	
Write-in: With No Declared Candidates	Yes	
Write-in: Identification of write-ins for resolution at central count	Yes	
<i>Primary Presidential Delegation Nominations & Slates: (vol. 1. sect. 2.2.8.2)</i>		
Primary Presidential Delegation Nominations: Displayed delegate slates for each presidential party		
Slate & Group Voting: one selection votes the slate.		
<i>Ballot Rotation: (vol. 1. sect. 2.2.8.2)</i>		
Rotation of Names within an Office; define all supported rotation methods for location on the ballot and vote tabulation/reporting	Yes	

Feature/Characteristic	Inclusion	Comment
<i>Straight Party Voting: (vol. 1. sect. 2.2.8.2)</i>		
Straight Party: A single selection for partisan races in a general election	Yes	
Straight Party: Vote for each candidate individually	Yes	
Straight Party: Modify straight party selections with crossover votes	Yes	
Straight Party: A race without a candidate for one party	Yes	
Straight Party: "N of M race (where "N">1)	Yes	
Straight Party: Excludes a partisan contest from the straight party selection	Yes	
<i>Cross-Party Endorsement: (vol. 1. sect. 2.2.8.2)</i>		
Cross party endorsements, multiple parties endorse one candidate.	Yes	
<i>Split Precincts: (vol. 1. sect. 2.2.8.2)</i>		
Split Precincts: Multiple ballot styles	Yes	
Split Precincts: P & M system support splits with correct contests and ballot identification of each split	Yes	
Split Precincts: DRE matches voter to all applicable races.		
Split Precincts: Reporting of voter counts (# of voters) to the precinct split level; Reporting of vote totals is to the precinct level	Yes	We can list # of voters.
<i>Vote N of M: (vol. 1. sect. 2.2.8.2)</i>		
Vote for N of M: Counts each selected candidate, if the maximum is not exceeded.	Yes	
Vote for N of M: Invalidates all candidates in an over vote (paper)	Yes	
<i>Recall Issues, with options: (vol. 1. sect. 2.2.8.2)</i>		
Recall Issues with Options: Simple Yes/No with separate race/election. (Vote Yes or No Question)		
Recall Issues with Options: Retain is the first option, Replacement candidate for the second or more options (Vote 1 of M)		
Recall Issues with Options: Two contests with access to a second contest conditional upon a specific vote in contest one. (Must vote Yes to vote in 2 nd contest.)		
Recall Issues with Options: Two contests with access to a second contest conditional upon any vote in contest one. (Must vote Yes to vote in 2 nd contest.)		Overtured - US District Court 7/29/03: CA Election Code sect. 11383
<i>Cumulative Voting (vol. 1. sect. 2.2.8.2)</i>		
Cumulative Voting: Voters are permitted to cast, as many votes as there are seats to be filled for one or more candidates. Voters are not limited to giving only one vote to a candidate. Instead, they can put multiple votes on one or more candidate.		
<i>Ranked Order Voting (vol. 1. sect. 2.2.8.2)</i>		
Ranked Order Voting: Voters can write in a ranked vote.		
Ranked Order Voting: A ballot stops being counting when all ranked choices have been eliminated		
Ranked Order Voting: A ballot with a skipped rank counts the vote for the next rank.		

Feature/Characteristic	Inclusion	Comment
Ranked Order Voting: Voters rank candidates in a contest in order of choice. A candidate receiving a majority of the first choice votes wins. If no candidate receives a majority of first choice votes, the last place candidate is deleted, each ballot cast for the deleted candidate counts for the second choice candidate listed on the ballot. The process of eliminating the last place candidate and recounting the ballots continues until one candidate receives a majority of the vote		
Ranked Order Voting: A ballot with two choices ranked the same, stops being counted at the point of two similarly ranked choices.		
Ranked Order Voting: The total number of votes for two or more candidates with the least votes is less than the votes of the candidate with the next highest number of votes, the candidates with the least votes are eliminated simultaneously and their votes transferred to the next-ranked continuing candidate.		
<i>Provisional or Challenged Ballots (vol. 1. sect. 2.2.8.2)</i>		
Provisional/Challenged Ballots: A voted provisional ballots is identified but not included in the tabulation, but can be added in the central count.	Yes	
Provisional/Challenged Ballots: A voted provisional ballots is included in the tabulation, but is identified and can be subtracted in the central count	Yes	
Provisional/Challenged Ballots: Provisional ballots maintain the secrecy of the ballot.	Yes	
<i>Overvotes (vol. 1. sect. 4.4.4) Must support for specific type of voting system</i>		
Overvotes: P & M: Overvote invalidates the vote. Define how overvotes are counted.	Yes	
Overvotes: DRE: Prevented from or requires correction of overvoting.		
Overvotes: If a system does not prevent overvotes, it must count them. Define how overvotes are counted.	Yes	
Overvotes: DRE systems that provide a method to data enter absentee votes must account for overvotes.		
<i>Undervotes (vol. 1. sect. 4.4.4)</i>		
Undervotes: System counts undervotes cast for accounting purposes	Yes	
<i>Blank Ballots (vol. 1. sect. 2.4.3.3, 3.2.5.1.2, 3.2.5.1.3, & 4.4.4)</i>		
Totally Blank Ballots: Any blank ballot alert is tested.	Yes	
Totally Blank Ballots: If blank ballots are not immediately processed, there must be a provision to recognize and accept them	Yes	
Totally Blank Ballots: If operators can access a blank ballot, there must be a provision for resolution.	Yes	
<i>Display/Printing Multi-Lingual Ballots (vol. 1. sect. 2.3.1.3.1.a)</i>		<i>Must support one</i>
Spanish	Yes	
Alaska Native (Other Group specified)		
Aleut		
Athabascan		
Eskimo		

Feature/Characteristic	Inclusion	Comment
Native (Other Group Specified)		
Chinese		
Filipino		
Japanese		
Korean		
Vietnamese		
Apache		
Cent/So American		
Cheyenne		
Chickasaw		
Choctaw		
Navajo		
Other Tribe-Specified		
Paiute		
Pueblo		
Seminole		
Shoshone		
Sioux		
Tohono O'Odham		
Tribe not specified		
Ute		
Yaqui		
Yuman		
<i>Demonstrates the voting system capability to handle the designated language groups. (vol. 1. sect. 2.3.1.3.1.a)</i>		
Default language (English),	Yes	
Secondary language using a Western European font		
Ideographic language (such as Chinese or Korean),		
Non-written languages requiring audio support		

Software/Firmware Changes included in the Modification:

The system as tested with version 1.4.5.0 firmware includes all the changes below.

Change Identifier	System	Description	Inclusion
BUG15827	DS200	Over vote handling - Resolved an issue where the scanner failed to divert over voted write-in ballots when the Divert Write-ins option was selected	Included in build v. 1.4.5.0
BUG16775	DS200	Tabulation - Resolved an issue that caused L&A test decks to yield incorrect vote totals-	Included in build v. 1.4.5.0

Change Identifier	System	Description	Inclusion
BUG16782	DS200	Tabulation - Resolved an issue that caused L&A test decks to yield incorrect vote totals- Limit scan to columns being processed.	Included in build v. 1.4.5.0
BUG17375	DS200	Code - Fix source code discrepancies per VSTL review	Included in build v. 1.4.5.0
BUG17664	DS200	Code - Fix source code discrepancies per VSTL review	Included in build v. 1.4.5.0
BUG17666	DS200	Status Report - Added the protected count to the status report that prints automatically when a DS200 is re-opened for voting.	Included in build v. 1.4.5.0
ENH14725	DS200	Display Interface - Remove Image Drive icon from DS200 if images are not being saved	Included in build v. 1.4.5.0
ENH14726	DS200	Display Interface - Extend the time that "Thank you for voting" displays	Included in build v. 1.4.3.0
ENH14728	DS200	Display Interface - Provide clear indication that modem transfer was successful	Included in build v. 1.4.5.0
ENH14729	DS200	Poll Opening Report - Allow multiple zeros tapes to be printed before first ballot cast	Included in build v. 1.4.5.0
ENH14730	DS200	Audio Interface - Change alert beeping to just two beeps	Included in build v. 1.4.5.0
ENH14731	DS200	Audio Interface - Issue audible alarm when ballot is accepted	Included in build v. 1.4.5.0
ENH14732	DS200	Results Reports - Repeat machine ID and poll number at end of results tape	Included in build v. 1.4.5.0
ENH14745	DS200	Accept/Reject Ballots - Provide override for Overvote or blank ballot rejection	Included in build v. 1.4.5.0
ENH15287	DS200	Precinct Report - Add Early Voting Ballot Styles per Precinct Report	Included in build v. 1.4.5.0
ENH15288	DS200	Display Interface - Increase Font Size of Thank you for Voting message	Included in build v. 1.4.5.0
ENH15418	DS200	Scan Accuracy - Small white dots "hickeys" causing read problems	Included in build v. 1.4.5.0

Change Identifier	System	Description	Inclusion
ENH15890	DS200	Firmware - Implement new scanner board firmware	Included in build v. 1.4.5.0
ENH15891	DS200	Security - Implement new administration function to calibrate counterfeit sensor	Included in build v. 1.4.5.0
ENH15892	DS200	Firmware - Update scanner client to work with new scanner board firmware	Included in build v. 1.4.5.0
ENH16085	DS200	Display Interface - Install New Icons on Welcome Screen	Included in build v. 1.4.5.0
ENH16120	DS200	Display Interface - Updated the Over Vote warning screen text	Included in build v. 1.4.5.0
ENH16211	DS200	Reports - Print Machine ID & Poll Number in Audit Log and after report cancellations	Included in build v. 1.4.5.0
ENH16231	DS200	Audit Admin Menu - Enhanced audit logging to log all user actions in the Administration menu and attempts to access the Administration menu.	Included in build v. 1.4.5.0
ENH16291	DS200	Display Interface DS200: - Additional language translations for the Over Vote screen	Included in build v. 1.4.5.0
ENH16336	DS200	Display Interface DS200: - Update Spanish language translations for the Over Vote screen	Included in build v. 1.4.5.0
ENH16382	DS200	Tabulation - Expanded support from a maximum of 10 Election Day precincts to 18 precincts.	Included in build v. 1.4.5.0
ENH17266	DS200	Versioning - Update scanner board version	Included in build v. 1.4.5.0
ENH17268	DS200	Versioning - Promoted DS200 version implemented in Florida for use in Unity 3200r1.	Included in build v. 1.4.5.0
ENH17538	DS200	Protected Count - Added a protected count to the DS200 firmware. The protected count resides on the compact flash card in the ES&S firmware partition. It will increment with every sheet accepted and dropped into the ballot box. The counter must appear in printed reports	Included in build v. 1.4.5.0
ENH19328	DS200	Security – Disable counterfeit detection.	Included in build v. 1.4.5.0

Hardware Changes included in the Modification:

The system shall be configured with the changes listed in the original certification UNITY3200 plus the new changes listed in this table listed as mandatory (M).The tested configuration included some De Minimis and optional changes.

Change Identifier	System	Description	Inclusion
836	Steel Ballot Box	Steel Ballot Box – plunger pin	De Minimis Optional
837	DS200	Thumb drive cover	De Minimis Optional
838	DS200	Thumb drive controller	Optional
839	DS200	DS200 Label for compact flash Document change only	De Minimis Optional
841	DS200	Add Rod Lens Array, capacitor, and protected power switch	Optional
843	DS200	Steel Ballot Box added a new diverter cable	Optional
844	DS200	DS200 end-of-life capacitors, resistors and diode	Optional
845	Steel Ballot Box	Steel Ballot Box Caster Change	De Minimis Optional
846	DS200	Document part number	De Minimis Optional
847	DS200	DS200 alternate LCD Backlight Inverter	Optional
851	DS200	USB change to the number of the part	De Minimis Optional
000582	DS200	Printer Bracket Retrofit	De Minimis Optional
000315	DS200	Ballot Box Carrying Case – Glue for foam	De Minimis Optional
000332	DS200	Plastic Ballot Box new lock.	Optional
000337	DS200	Ballot Bin Status Change Rev 1.3 Document change only	De Minimis Optional

Change Identifier	System	Description	Inclusion
000339	DS200	Ballot Box carry case add washer & rivet to hold foam during manufacturing	Optional
000342	DS200	DS200 Ballot Box BOM status change – Document change only	De Minimis Optional
000359	DS200	Plastic Ballot Box adding metal bottom edge	Optional
000366	DS200	Ballot Box Retrofit Stock Document change only	De Minimis Optional
000375	DS200	Ballot Box carrying case drawings and status change	De Minimis Optional
000423	DS200	Ballot Box Shipping - Document change only	De Minimis Optional
000466	DS200	DS200 Ballot Box Caster Bolt 2nd source	De Minimis Optional
000523	DS200	Add Double coated tape	De Minimis Optional
000529	DS200	Carry Case remove micro switch bracket and switch cable	De Minimis Optional
000534	DS200	Add clamps to chassis	De Minimis Optional
000535	DS200	Tape and holes for attaching clamps, no change to wire routing	De Minimis Optional
000545	DS200	Image Scanner Cable labels	De Minimis Optional
000554	DS200	Mylar tab – double sided tape	De Minimis Optional
000562	DS200	Mount Knurling motor process change	De Minimis Optional
000566	DS200	Labels, screws and clamps	De Minimis Optional

Change Identifier	System	Description	Inclusion
000570	DS200	Wire change black color wires to use different colors	De Minimis Optional
000576	DS200	End of life SMT Power Inductor	De Minimis Optional
000618	DS200	Part number labels – change text on label to identify the hardware version	De Minimis Optional
000628	DS200	Plastic Power cord shield and case	De Minimis Optional
000665	DS200	Ballot box diverter extender field retrofit	De Minimis Optional
000669	DS200	Ballot tub	De Minimis Optional
000674	DS200	Plastic Power cord shield and case	De Minimis Optional