

## Idaho Certified Voting Systems As of October 8, 2014

Vendor	Voting System/System Component	Software	Hardware/Firmware	System ID #/ Qualified to 1990, 2002 or 2005 Standards	Final Report Date	Idaho Certification Date
Hart InterCivic	Hart InterCivic Voting System 6.2.1	<p>Boss 4.3.13, Ballot Now 3.3.12, Servo, 4.2.10, Tally 4.3.10, eCM Manager 1.1.7, Rally 2.3.7,</p> <p>The certification documents have been revised to include the incremented version of Ballot Now to 3.3.1.2 to enable recognizing the Canon DR-X10C scanner which requires the Windows 7 operating system.</p>	eSlate, eSlate/DAU 4.2.1.3, eScan 1.3.14 (precinct count tabulator), JBC 4.3.1, VBO 1.8.3, Canon DR-X10C Scanner (central count scanner)	<p>NASED Number N-1-04-22-22-006 (2002)</p> <p>2002 VVS</p>	NASED Certification August 7, 2006	October 8, 2014
ES&S	EVS5.2.0.0	<p>ElectionWare v.4.6.0.0, Election Reporting Manger (ERM) v.8.11.0.0, Event Log Service v.1.5.5.0, Removable Media Service (RMS) v.1.4.5.0, Vat Previewer v.1.4.0.0, ExpressVote Previewer v.1.4.0.0.</p>	ExpressVote (Universal Voting Device) v.1.4.0.0, DS200 (Precinct Count Tabulator) v.2.12.0.0, DS850 (Central Count Tabulator) v.2.10.0.0, AutoMARK (Voter Assist Terminal) v.1.8.6.0.	<p>EAC Certification Number:</p> <p>ESSEVS5200</p> <p>2005 VVSG</p>	EAC Certification 7/2/2014	August 13, 2014
ES&S	Unity 3.4.1.0.	<p>Election Data Manager (EDM) v.7.8.2.0 ESS Image Manager (ESSIM) v.7.7.2.0</p>	<p>DS200 (Precinct Count Tabulator) v.1.7.0.0 DS850 (Central Count Tabulator) v.2.9.0.0 M100 (Precinct Count Tabulator) v.5.4.4.5</p>	<p>EAC Certification Number:</p> <p>ESSUnity3410</p>	EAC Certification 4/4/2014	June 2, 2014

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		Hardware Programming Manager (HPM) v.5.9.0.0 Election Reporting Manager (ERM) v.7.9.0.0 AutoMARK Information Management System (AIMS) v.1.3.257 Audit Manager (AM) v.7.5.2.0 LogMonitor Service v.1.1.0.0 VAT Previewer v.1.3.2907	M650 (Central Count Tabulator) v.2.2.2.0 AutoMARK (Voter Assist Terminal) v.1.3.2907	2002 VVS		
Hart InterCivic	Hart InterCivic Voting System 6.2.1	Boss 4.3.13, Ballot Now 3.3.11, Servo, 4.2.10, Tally 4.3.10, eCM Manager 1.1.7, Rally 2.3.7.	eSlate, eSlate/DAU 4.2.1.3, eScan 1.3.14 (precinct count tabulator), JBC 4.3.1, VBO 1.8.3, Canon DR-X10C Scanner (central count scanner)	NASED Number N-1-04-22-22-006 (2002)  2002 VVS	NASED Certification August 7, 2006	October 24, 2013
ES&S	EVS 5.0.0.0	ElectionWare v. 4.1.0.0, Election Reporting Manager v.8.6.0.0, Event Log Service v.1.5.0.0, Removable Media Service v.1.4.0.0 and VAT Previewer v.1.8.1.0.	DS200 (Precinct Count Tabulator) v.2.7.0.0. Digital Scanner DS850 (Central Count Tabulator) v.2.4.0.0. Digital Scanner AutoMARK (Voter Assist Terminal) v.1.8.1.0.	EAC Certification # ESSEVS5000  2005 VVSG	EAC Certification 5/16/2013	October 2, 2013
ES&S	DS200 ECOs	N/A	Tested and de minimus Engineering Change Orders (ECOs).	N/A	N/A	September 4, 2013. Administrative certification of Engineering

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						Change Orders (ECOs)
ES&S	Unity 3.4.0.0	Election Data Manager (EDM) v.7.8.1.0 ESS Image Manager (ESSIM) v.7.7.1.0 Hardware Programming Manager (HPM) v.5.8.0.0 Election Reporting Manager (ERM) v.7.8.0.0 AutoMARK Information Management System (AIMS) v.1.3.257 Audit Manager (AM) v.7.5.2.0 LogMonitor Service v.1.0.0.0 VAT Previewer v.1.3.2907	DS200 (Precinct Count Tabulator) v.1.6.1.0. Digital Scanner DS850 (Central Count Tabulator) v.2.2.0.0. Digital Scanner M100 (Precinct Count Tabulator) v.5.4.4.5. Optical Scanner M650 (Central Count Tabulator) v.2.2.2.0. Optical Scanner AutoMARK (Voter Assist Terminal) v.1.3.2907	EAC Certification #  ESSUNITY3400  2002 VSS	EAC Certification  10/31/12	March 27, 2013
ES&S	AutoMARK Ballot Marking Device	N/A	Tested and de minimus Engineering Change Orders (ECOs).	N/A	N/A	August 24, 2012. Administrative certification of Engineering Change Orders (ECOs)
ES&S	M100 Precinct Tabulator, AutoMARK Ballot Marking	N?A	Tested and de minimus Engineering Change Orders (ECOs).	N/A	N/A	June 24, 2011. Administrative certification of Engineering

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Vendor	Voting System/System Component	Software	Hardware/Firmware	System ID #/ Qualified to 1990, 2002 or 2005 Standards	Final Report Date	Idaho Certification Date
	Device					Change Orders (ECOs)
ES&S	AutoMARK Ballot Marking Device	N/A	Tested and de minimus Engineering Change Orders (ECOs).	N/A	N/A	January 28, 2011. Administrative certification of Engineering Change Orders (ECOs)
ES&S	M650 Central and M100 Precinct Count Tabulators, AutoMARK Ballot Marking Device	N/A	Tested and de minimus Engineering Change Orders (ECOs).	N/A	N/A	July 20, 2009 Administrative certification of Engineering Change Orders (ECOs)
ES&S	M650 Central Count Tabulator	N/A	Hardware Revision 1.1 to 1.2	N/A	N/A	August 26, 2008 Administrative Certification of hardware changes independent from current certified firmware
ES&S	Unity 3.0.1.1	Audit Manger v. 7.3.0.0 Election Data Manager v.7.4.4.0 Ballot On Line 1.2.0.0 ES&S Image Manager v.7.4.2.0 iVotronic Image Manager v.2.0.1.0	iVotronic DRE Firmware v. 9.1.6.0 & 9.1.6.1 Model 100 Optical Scan Precinct Ballot Counter Firmware v. 5.2.1.0 Model 650 v. 2.1.0.0 AutoMARK Voter Assist Terminal (VAT) HW Rev 1.1 - Firmware v. 1.1.2258 AutoMARK Voter Assist Terminal (VAT) HW Rev 1.0 - Firmware v. 1.1.2258	N-2-02-22-22-006 (2002)	8/31/2006	April 1, 2008 Administrative Certification of Legacy Equipment with Unity 3.0.1.1

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Vendor	Voting System/System Component	Software	Hardware/Firmware	System ID #/ Qualified to 1990, 2002 or 2005 Standards	Final Report Date	Idaho Certification Date
		Optech Image Manager v.4.0.0.0 Hardware Programming Manager v.5.2.4.0 Data Acquisition Manager v. 6.0.0.0 Election Reporting Manager v. 7.1.2.1 AutoMARK AIMS 1.2.18 (All Modules 2002)	Real-Time Audit Log Printer Compact Flash Multi-card Reader/Writer ***Model 150/550 v. 2.1.2.0 Optech IV-C v. 1.06a and 1.07a Eagle v. 1.50 APS, 1.28 HPS, 1.02 CPS Eagle v. 1.52 APS, 1.30 HPS, 1.08a CPS *** NOTE: while the components listed in red have been tested with the Unity 3.0.1.0, they represent 1990 qualified legacy systems and as such remain 1990 qualified. Use of these units should be based on state and local testing and state law.			
ES&S	AutoMARK 1.1 with Unity 3.0.1.1	Election Data Manager, (EDM) version 7.4.4.0. ES&S Image Manager, (ESSIM) version 7.4.2.0. Hardware Programming Manager, (HPM) version 5.2.4.0. Data Acquisition Manager (DAM), version 6.0.0.0. Election Reporting Manager (ERM), version 7.1.2.1. Audit Manager, version 7.3.0.0.  AutoMark Information Management System, (AIMS) version 1.2.18. AutoMark Voter Assist Terminal, (VAT) version 1.1.2258	M100 version 5.2.1.0. Precinct optical scan tabulator  M650 version 2.1.0.0. Green Light sensor Central count optical scan tabulator  ES&S AutoMark Voting System Release 1.1.2258	N-2-02-22-22-006 (2002)  N-2-16-22-22-002(2002)	August 31, 2006  August 31, 2006	April 30, 2007
ES&S	ES&S AutoMARK	ES&S Unity v. 2.5	Model 100	N-1-16-22-22-001	10/24/2005	04/25/2006

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Vendor	Voting System/System Component	Software	Hardware/Firmware	System ID #/ Qualified to 1990, 2002 or 2005 Standards	Final Report Date	Idaho Certification Date
AutoMARK Technical Systems LLC	Voting System	AutoMARK AIMS 1.1.10	Optical Scan Precinct Ballot Counter Firmware v. 5.1.0.0-Unity 2.5  Model 100 Optical Scan Precinct Ballot Counter. Firmware v. 5.2.0.0- Unity 2.5  Model 650 Red light sensor Optical Scan Central Counter v. 2.1.0.0	(2002)		
ES&S	Unity 2.5	Audit Manager 7.3.0.0 Election Data Manager 7.3.0.0 ES&S Image Manager 7.3.0.0 Hardware Programming Manager 5.1.0.0 Data Acquisition Manager 6.0.0.0 Election Reporting Manager 7.0.0.0	Model 650 Central Ballot Scanner Firmware release 2.0.1.0  Model 100 Precinct Ballot Counter Firmware release 5.1.0.0	N-1-02-22-22-003 (2002)	10/19/2004 11/11/2004 1/9/2005	06/24/2005
ES&S. In partnership with AutoMARK Technical Systems LLC	ES&S AutoMARK Voting System Release 1.0	ES&S Unity v. 2.4.3 AutoMARK AIMS 1.09 (2002)	Model 100 Optical Scan Precinct Ballot Counter Firmware v. 5.0.0.0  Model 150/550 v. 2.1.1.0  Model 650 v. 1.2.0.0  Optech Eagle v. 1.50 APS, v. 1.28 HPS, CPS v. 1.02/C1.04  AutoMARK Voter Assist Terminal (VAT) v. 1.0 (2002)	N-2-14-22-12-001 (1990)	6/1/2005	06/24/2005
ES&S	Unity 2.4.3	<i>(changes from 2.4.2)</i>	Model 100	N-1-02-21-21-002	8-27-04	06/24/2005

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		Program Manager v. 5.0.3.0 Data Acquisition Manager v. 5.0.3.1 Election Reporting Manager v. 6.4.3.0	Optical Scan Precinct Ballot Counter Firmware v. 5.0.0.0 Model 150/550 v. 2.1.1.0 Model 650 v. 1.2.0.0 Optech IV-C v. 1.06a and 1.07a* Eagle v. 1.50 APS, v. 1.28 HPS, CPS v. 1.02/C1.04	(1990)		
ES&S	Unity 2.4.2	Election Data Manager v. 7.2.1.0, Audit Manager v.7.0.2.0, Optech Image Manager 3.2.0.0, ESS Image Manager v. 7.2.0.0, Ballot On Line v. 1.0.0.0, Hardware, Programming Manager v. 5.0.2.0, Data Acquisition Manager v. 5.0.3.0, Election Reporting Manager v. 6.4.2.0	Model 100 Optical Scan Precinct Ballot Counter Firmware v. 5.0.0.0  Model 150/550 v. 2.1.0.0  Model 650 v. 1.2.0.0  Optech IV-C v. 1.06a and 1.07a*  Eagle v. 1.50  APS, v. 1.28 HPS, CPS v. 1.02/C1.04	N-1-02-12-11-001 (1990)	2/19/2004	06/24/2005
ES&S. Formerly AIS American Information Systems	AIS model 100 Vote Tally Visible light reader		Precinct count optical scan reader.			05/13/2002
ES&S. Formerly AIS American Information Systems	AIS 550 AIS 150	Unity 2.4.3 (1990)	Central count & Precinct count optical scan readers. Models 315 and 115 Originally certified in 1991 upgraded to models 150 and 550 – v. 2.1.1.0			04/13/1991

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ES&S. Formerly Business Records Corporation (BRC)	Election Tabulation Program	E.T.P Election Tabulation Program				11/24/1986
ES&S. Formerly Computer Election Systems. (BRC)	Votomatic Punch Card Ballot System					03/17/1971
Kenneth P. Hazlett	Punch Card Election Tabulation Network ETNet	ETNet	P.C., card reader and printer.			02/29/1988
Sequoia	EMS/AERO version 3.54.1	EMS/AERO version 3.54.1 Optech Ballot Wizard version 1.0 (2002) MPR version 2.15	Optech 3P Eagle APS.H1.52.980428.1040 CPS.H1.08A.980428.1150 HPS.D/H1.30.980428.1130  Optech Insight APX K2.06.021108.1600 CPX.J/K1.12.020412.1100 HPX.K/K1.40.021030.1110  Optech 400-C Ballot Counter WinETP 1.10.5 Memory Pack Receiver v. 2.15 (2002)	N-1-07-12-12-001 (1990)	2/1/2005	07/07/2005



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Sequoia	WinEDS version 3.0.134	WinEDS version 3.0.134 (2002)	Sequoia 400C /WinETP 1.10.5 Sequoia AVC Edge Model II version 4.3.320 w. VeriVote Printer#  Sequoia AVC Edge Model I version 4.3.320 Card Activator v. 4.3.320	N-1-07-22-11-007 (1990)	5/19/2005	06/24/2005
Sequoia. Formerly BRC Business Records Corporation	OPTECH IV-C 200		Arrow optical scan reader			01/24/1992
Sequoia. Arrow Ballots. Formerly Business Records Corporation (BRC)	OPTECH IV-C 400  OPTECH III-P Eagle	Unity 2.4.3 (1990)	Central count & Precinct count Arrow optical scan readers. IV-C – v 1.06a/1.07a Eagle – v. 1.28/1.5			09/06/1990
			# Edge Version 4.3.320 includes a configuration in which the serial number of the voting machine has been removed from all hardcopy output generated by the VeriVote printer in order to ensure the secrecy of the ballot in jurisdictions where more than one machine is used. NASED.  The Optech systems tested and identified under this release are legacy systems/releases not independently qualified under ITA testing. Use of these units should be based on state and local testing. NASED.			

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### Descriptions of Certified Voting Systems:

October 8, 2014      Hart InterCivic Voting System (HVS) 6.2.1

Boss 4.3.13, Ballot Now 3.3.12, Servo, 4.2.10, Tally 4.3.10, eCM Manager 1.1.7, Rally 2.3.7,

The certification documents have been revised to include the incremented version of Ballot Now to 3.3.1.2 to enable recognizing the Canon DR-X10C scanner which requires the Windows 7 operating system.

June 2, 2014 Election Systems and Software Unity 3.4.1.0

ES&S made a formal request for administrative certification of Unity 3.4.1.0, a modification of previously certified Unity 3.4.0.0, to enable software to run on windows 7 operating systems and replace end of life parts manufactured for the DS200 precinct scanner. Unity 3.4.1.0 passed testing at Wyle Laboratories and received EAC certification number ESSUnity3410. As the modification did not effect the accuracy, efficiency or capacity of the voting system, administrative certification was granted June 2, 2014.

October 24, 2013      Hart InterCivic Voting System (HVS) 6.2.1

#### **System Software**

The Hart (HVS) 6.2.1 is a proprietary software suite which includes election management and precinct and central count voting system components comprised of Hart proprietary and third-party commercial off-the-shelf (COTS) hardware and associated firmware.

The components support the use of both paper-based and direct recording electronic (DRE) voting systems and devices, including those that are fully accessible in compliance with the Americans with Disability Act (ADA) and HAVA. The suite of voting methods provides central and precinct tabulation with reporting and auditing capabilities.

The system is certified to the 2002 Voting System Standards (VSS). The original system was certified with Windows 2000 and with additional administrative certification to Windows 2007 except for the SERVO application which requires a separate computer running Window 2000.

**Ballot Origination Software System (BOSS)** is the software application that enables users to define a database for each election containing jurisdiction specific paper and electronic ballot styles in all requisite languages. Once the election specific data set has been generated, BOSS is also used to produce

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PCMCIA memory cards called Mobile Ballot Boxes (MBBs) containing the election data for use in voting systems and audio files for use in accessible voting devices.

**Ballot Now** is the paper ballot management software application used to print and process paper ballots. By using an election-specific MBB a Ballot Now election database is created from which ballots can be printed on demand in-house, or ballot files can be created for printing by a third party vendor. Ballot Now is also used to process voted paper ballots using a digital commercial off the shelf (COTS) document scanner to create and store a digital image of the ballot in the Ballot Now election database. When appropriate, the digital image can then be viewed on-screen to identify and resolve voter intent issues and manage write-in candidates electronically. Once all ballots are resolved, Ballot Now processes and saves Cast Vote Records to the MBB. Ballot Now has *no* tabulation capability, as the MBB is processed with a separate proprietary tabulation software application.

**Tally-** is the software application that reads, accumulates and tabulates Cast Vote Records stored on MBBs by voting devices and Ballot Now systems used in an election. Tally also provides fast and accurate election results reporting.

**Rally-** is the software application that can be used to read MBBs and electronically transfer Cast Vote Records via secure modem or network connection from remote accumulation stations to the central tabulation system for rapid reporting of unofficial results. Rally can also be connected with Tally via LAN in the central count facility to provide simultaneous, expedited reading and upload of MBB Cast Vote Record data.

**System for Election Records and Verification of Operations (SERVO)** is the HVS software application used for voting device election records archiving and asset management. SERVO maintains ongoing equipment history, provides for secure backup of election data, and offers features and reports to manage and conduct recounts and audits.

**eCM Manager-** is the software application used to create digitally encrypted security files, which are then written to an eSlate Cryptographic Module (eCM) token. An eCM token is a physical universal serial bus (USB) security device required to be physically present to supply the secure encrypted signing key necessary for access to perform certain functions in the HVS election management and tabulation software applications.

### **System Hardware**

#### **Direct Record Electronic (DRE) Components**

**Judges Booth Controller (JBC)** is the polling place control console that manages up to 12 eSlate/DAU DRE voting units. Using election data from the Mobile Ballot Box (MBB), the JBC delivers to the individual eSlate units the information necessary to display precinct-specific electronic ballots to voters. The JBC prints random four-digit Access Codes to regulate voters' ability to access and vote the correct electronic ballot.

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**eSlate** is a secure DRE voting device with a flexible ballot presentation and integrated selector for voters to view, vote and record choices on electronic ballots. The lower portion of the eSlate includes a set of distinctly shaped control buttons and the SELECT Wheel™ interface that allows voters to highlight their selection in a contest and then press an “Enter” button to confirm and record their choice. The eSlate features a durable polycarbonate covered “tough-screen” display and user-friendly interface.

**Disabled Access Unit (DAU)** is the HAVA compliant eSlate DRE equipped for accessibility and is ADA accessible by design. An eSlate can be upgraded to a DAU to accommodate various personal assistive devices including dual-input jelly switches and “sip and puff” devices (used by physically challenged voters to cast their ballot using only their breath). The audio ballot reader is a feature used to support voters with visual impairments or literacy challenges.

**Verified Ballot Option (VBO)** available in some states is the printer connected to the eSlate/DAU to provide a secure, voter verifiable paper audit trail (VVPAT). The printer, located inside the voting booth, prints a paper summary of the ballot choices for the voter to review. This paper record of the every ballot cast through the eSlate voting unit serves as an additional audit trail.

**Accessibility Features** for the voting devices are designed to be easy-to-use. Strict design standards were used to ensure access for visually impaired, hearing impaired, or physically challenged voters. Key features incorporated into the HAVA / ADA compliant DAU eSlate electronic voting device include:

Special interfaces for the physically challenged including dual-input or “Jelly” switches and “sip and puff” switches (that allow severely physically impaired voters to cast their ballot using only their breath). An audio ballot reader to support visually impaired voters, including audible signals that provide confirmation with each selection; and a simple navigation method that is modeled after systems commonly used by the disabled. All accessibility features can be used interchangeably, in whole or part, with the HVS 6.2.1 standard interfaces, allowing the voter to vote independently and privately.

**eScan** is a self-contained paper ballot voting terminal with a single-feed digital scanner which transports and scans both sides of the ballot simultaneously. The eScan is designed for use in polling places and/or a central count environment. Fully integrated with the other components of the Hart Voting System, the eScan uses paper ballots produced by the Ballot Now application. Like the JBC/eSlate DRE system, the eScan stores Cast Vote Records on MBB flash memory cards. The eScan sits on a base that provides for secure ballot storage and transport. Ballots rejected by the eScan (e.g., under voted, over voted and/or blank ballots) are returned to the voter with visual (display) indication of the issue detected by the scanner, thereby meeting the requirement for “second chance” voting.

The system uses the Canon DR-X10C to scan paper ballots before tabulation in the Tally software.

October 2, 2013      Election Systems and Software EVS 5.0.0.0 Voting System

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### **System Software**

The EVS 5.0.0.0 Voting System EMS is an application suite comprised of five components: ElectionWare, Election Reporting Manager (ERM), Removable Media Service (RMS), ES&S Event Logging Service (UELS), and VAT Previewer.

#### ElectionWare

ElectionWare integrates the election administration functionality into a unified application. Its intended use is to define an election and create the resultant media files used by the DS200 tabulator, AutoMARK Voter Assist Terminal (VAT), the DS850 Central Ballot Scanner, and Election Reporting Manager (ERM). An integrated ballot viewer allows election officials to view the scanned ballot and captured ballot data side-by-side and produce ballot reports.

#### Election Reporting Manager (ERM)

Election Reporting Manager (ERM) generates paper and electronic reports for election workers, candidates, and the media. Jurisdictions can use a separate ERM installation to display updated election totals on a monitor as ballot data is tabulated, and send the results' reports directly to the media outlets.

ERM supports accumulation and combination of ballot results data from all ES&S tabulators. Precinct and accumulated total reports provide a means to accommodate candidate and media requests for totals and are available upon demand. High-speed printers are configured as part of the system accumulation/reporting stations PC and related software.

#### Removable Media Service (RMS)

Removable Media Service (RMS) is an application that runs in the background of the EMS client workstation and supports the insertion and removal of election and results USB media.

#### ES&S Event Logging Service (UELS)

ES&S Event Logging Service leverages the Windows Event Viewer, included with a standard Windows installation, to audit user interactions with the ES&S Election Management System.

#### VAT Previewer

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The VAT Previewer is an application within the EMS program that allows the user to preview audio text and screen layout prior to burning Election Day media for the AutoMARK.

### **System Hardware**

#### **Precinct Ballot Tabulator: DS200**

The precinct ballot tabulator component is the DS200. The DS200 is a digital scan paper ballot tabulator designed for use at the polling place level. After the voter marks a paper ballot, their ballot is inserted into the unit and immediately tabulated. The tabulator uses a high-resolution image-scanning device to image the front and back of the ballot simultaneously. The resulting ballot images are then processed by a proprietary mark recognition engine.

The system includes a 12-inch touch screen display providing voter feedback and poll worker messaging. Once a ballot is tabulated and the system creates cast vote records, the ballot is dropped into an integrated ballot box. The DS200 includes an internal thermal printer for the printing of the zero reports, log reports, and polling place totals upon the official closing of the polls.

#### **Central Count Tabulator: DS850**

The DS850 is a high-speed, digital scan central ballot counter. During scanning, the DS850 prints a continuous audit log to a dedicated audit log printer and can print results directly from the scanner to a second connected printer. The scanner saves results internally and to results collection media that officials can use to format and print results from a PC running Election Reporting Manager. The DS850 has an optimum throughput rate of 300 ballots per minute and uses cameras and imaging algorithms to image the front and back of a ballot, evaluate the results and sort ballots into discrete bins to maintain continuous scanning.

#### **Electronic Ballot Marking Device: AutoMARK™ Voter Assist Terminal (VAT)**

The electronic ballot marking device component is the ES&S AutoMARK™ Voter Assist Terminal (VAT). The AutoMARK™ VAT assists voters with disabilities by marking optical scan ballots.

The AutoMARK™ VAT includes two user interfaces to accommodate voters who are visually or physically impaired or voters who are more comfortable reading or hearing instructions and choices in an alternative language. The AutoMARK™ is equipped with a touch-screen and keypad. The touch-screen interface includes various colors and effects to prompt and guide the voter through the ballot marking

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process. Each key has both Braille and printed text labels designed to indicate function and a related shape to help the voter determine its use.

Regardless whether the voter uses the touch-screen or other audio interface, changes can be made throughout the voting process by navigating back to the appropriate screen and selecting the change or altering selections at the mandatory vote summary screen that closes the ballot-marking session.

The AI00, A200 and A300 all operate the same and have the same features. The difference between the models is the location of two printed circuit boards and related wiring harness and cables. In the A200, the Printer Engine Board and Power Supply Board were moved from under the machine to the top. The A300 has a different lock and label. Since this change is so minor, the A300 equipment was only tested in the Accuracy and System Integration Tests. Therefore, the A300 is included in the recommendation for certification.

### September 4, 2013      Election Systems and Software DS200 Engineering Change Orders (ECOs).

**ES&S** made a formal request for an administrative certification for the above engineering change orders (ECOs). After review of the required documents on file with the Secretary of State including formal application for administrative certification, and Independent Testing Reports from Wyle Laboratories, and as the engineering change orders specified do not impair accuracy, efficiency or capacity of the systems and does not require a new NASED number, the engineering change orders (ECOs) specified below are certified for use in Idaho as of September 4, 2013.

ES&S ECO #s: 1158, 1160, 1281, 1346, 1398, 1400.

### March 27, 2012      Election Systems and Software Unity 3.4.0.0 Voting System

**System Software:** The Unity 3.4.0.0 Election Management System is an application suite comprised of eight components: AutoMark Information Management System, Audit Manager, Election Data Manager, ES&S Ballot Image Manager, Hardware Programming Manager, Election Reporting Manager, LogMonitor Service, and VAT Previewer.

**AutoMark Information Management System (AIMS).**AIMS is a windows-based election management system software application used to define election parameters for the VAT, including functionality to import election definition files produced by the Unity EMS and create VAT flash memory cards.

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**VAT Previewer.** The VAT Previewer is an application within the AIMS program that allows the user to preview audio text and screen layout prior to downloading election-day media for the AutoMARK.

**Audit Manager (AM).** The Audit Manager (AM) utility provides security and user tracking for Election Data Manager and ES&S Ballot Image Manager. Audit Manager runs in the background of the other Unity programs and provides password security and a real-time audit log of all user inputs and system outputs. Election coders use Audit Manager to set Unity system passwords and track user activity.

**Election Data Manager (EDM).** The Election Data Manager (EDM) is the entry point for the Unity Election Management System. Election Data Manager is a single-entry database that stores precinct, office, and candidate information. Data entered for an initial election is stored to a re-useable database to be recalled and edited for all elections that follow. Election Data Manager is used in conjunction with other Unity software to format and print ballots, program ballot scanning equipment, and produce Election Day reports.

**ES&S Ballot Image Manager (ESSIM).** The ES&S Ballot Image Manager (ESSIM) uses ballot style information created by Unity Election Data Manager to display the ballots in a WYSIWIG design interface. Users can apply typographic formatting (font, size, attributes, etc.) to individual components of the ballot. Text and graphic frames can also be added to the ballot.

**Hardware Programming Manager (HPM).**

The Hardware Programming Manager (HPM) uses the election specific database created with Election Data Manager and ES&S Ballot Image Manager to program the appropriate media for ES&S tabulation devices. Hardware Programming Manager converts the ballot layout data into the format required for each ES&S tabulator. HPM then writes this data to the appropriate media required; a USB flash drive for the DS200 and DS850, a PCMCIA card for the Model 100, a CFcard for the AutoMark or a Zip disk for Model 650 tabulators.

**Election Reporting Manager (ERM).** Election Reporting Manager (ERM) generates paper and electronic reports for election workers, candidates, and the media. Jurisdictions can use a separate ERM installation to display updated election totals on a monitor as ballot data is tabulated, and send results reports directly to media outlets. ERM supports accumulation and combination of ballot results data from all ES&S tabulators. Precinct and accumulated totals reports provide a means to accommodate candidate and media requests for totals and are available upon demand. High-speed printers are configured as part of the system accumulation/reporting stations - PC and related software.

**LogMonitor Service.** The LogMonitor Service is a Windows Service that runs in the background of any active ES&S Election Management software application to monitor the proper functioning of the Windows EventViewer. The LogMonitor Service closes any active ES&S software application if the system detects the improper deactivation of the Windows Event Viewer.



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### **Precinct Ballot Tabulator: Model 100**

The Model 100 is a precinct-based, voter-activated paper ballot tabulator that uses Intelligent Mark Recognition (IMR) visible light scanning technology to detect completed ballot targets. The Model 100 is designed to alert voters of overvotes, undervotes and blank ballots. It accepts ballots inserted in any orientation. Once the ballot is scanned by the Model 100, it is passed to the integrated ballot box.

### **Precinct Ballot Tabulator: DS200**

The DS200 is a digital scan paper ballot tabulator designed for use at the polling place level. After the voter marks a paper ballot, their ballot is inserted into the unit and immediately tabulated. The tabulator uses a high-resolution image-scanning device to image the front and rear of the ballot simultaneously. The resulting ballot images are then decoded by a proprietary recognition engine. The system includes a 12-inch touch screen display providing voter feedback and poll worker messaging. Once a ballot is tabulated and the system updates internal vote counters, the ballot is dropped into an integrated ballot box. The DS200 includes an internal thermal printer for the printing of the zero reports, log reports, and polling place totals upon the official closing of the polls.

### **Central Count Tabulator: Model 650**

The Model 650 is a high-speed, optical scan central ballot counter. During scanning, the Model 650 prints a continuous audit log to a dedicated printer and can print results directly from the scanner to another printer. The M650 can transfer results to a Zip Disk that officials use to generate results using Election Reporting Manager. The M650 is capable of sorting write-ins, blanks, overvotes and illegal ballots.

### **Central Count Tabulator: DS850**

The DS850 is a high-speed, digital scan central ballot counter. During scanning, the DS850 prints a continuous audit log to a dedicated audit log printer and can print results directly from the scanner to a second connected printer. The scanner saves results internally and to results collection media that officials can use to format and print results from a PC running Election Reporting Manager. The DS850 has an optimum throughput rate of 200 ballots per minute and uses cameras and imaging algorithms to image the front and back of a ballot, evaluate the results and sort ballots into discrete bins to maintain continuous scanning.

### **Electronic Ballot Marking Device: AutoMARK Voter Assist Terminal (VAT)**

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The electronic ballot marking device component is the ES&S AutoMARK Voter Assist Terminal (VAT). The AutoMARK VAT assists voters with disabilities by marking optical scan ballots. The AutoMARK VAT includes two user interfaces, to accommodate voters who are visually or physically impaired or voters who are more comfortable reading or hearing instructions and choices in an alternative language. The AutoMARK is equipped with a touch screen and keypad. The touch screen interface includes various colors and effects to prompt and guide the voter through the ballot marking process. Each key has both Braille and printed text labels designed to indicate function and a related shape to help the voter determine its use. Regardless whether the voter uses the touch screen or other audio interface, changes can be made throughout the voting process by navigating back to the appropriate screen and selecting the change or altering selections at the mandatory vote summary screen that closes the ballot marking session. The A100 and A200 both operate the same and have the same features. The difference between the models is the location of two printed circuit boards and related wiring harness and cables. In the A200, the Printer Engine Board and Power Supply Board were moved from under the machine to the top.

January 28, 2011      Election Systems and Software AutoMARK ballot marking device Engineering Change Orders (ECOs).

**ES&S** made a formal request for an administrative certification for the above engineering change orders (ECOs). After review of the required documents on file with the Secretary of State including formal application for administrative certification, and Independent Testing Reports from Wyle Laboratories, and as the engineering change orders specified do not impair accuracy, efficiency or capacity of the systems and does not require a new NASED number, the engineering change orders (ECOs) specified below are certified for use in Idaho as of August 24, 2012.

ES&S ECO #s: 875, 876, 878

June 24, 2011      Election Systems and Software Model 100 Precinct Tabulator and AutoMARK ballot marking device Engineering Change Orders (ECOs).

**ES&S** made a formal request for an administrative certification for the above engineering change orders (ECOs). After review of the required documents on file with the Secretary of State including formal application for administrative certification, and Independent Testing Reports from Wyle Labs, and as the engineering change orders specified do not impair accuracy,

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efficiency or capacity of the systems and does not require a new NASED number, the engineering change orders (ECOs) specified below are certified for use in Idaho as of June 24, 2011.

ES&S Model 100 Precinct Tabulator: ES&S ECO #s: 858, 860, 865.

ES&S AutoMARK: ES&S ECO #s: 861.

January 28, 2011      Election Systems and Software AutoMARK ballot marking device Engineering Change Orders (ECOs).

**ES&S** made a formal request for an administrative certification for the above engineering change orders (ECOs). After review of the required documents on file with the Secretary of State including formal application for administrative certification, and Independent Testing Reports from SysTest Labs and iBeta Quality Assurance, and as the engineering change orders specified do not impair accuracy, efficiency or capacity of the systems and does not require a new NASED number, the engineering change orders (ECOs) specified below are certified for use in Idaho as of January 28, 2011.

ES&S AutoMARK, model numbers A100, A200, and A300.

ATS ECR #s: 300,303,305,307,323,326,327,328,329,330,341,354,355,356,364.

ES&S ECO #s: 729, 752, 759, 760, 761, 762, 764, 765, 766, 767,768, 769, 770, 771, 772, 773, 774, 776, 777, 778, 779, 780, 781, 782.

July 20, 2009      Election Systems and Software M650 central count tabulator, M100 precinct count tabulator and AutoMARK ballot marking device Engineering Change Orders (ECOs).

**ES&S** made a formal request for an administrative certification for the above engineering change orders (ECOs). After review of the required documents on file with the Secretary of State including formal application for administrative certification, and Independent Testing Reports from SysTest Labs, and as the engineering change orders specified do not impair accuracy, efficiency or capacity of the systems and does not require a new NASED number, the engineering change orders (ECOs) specified below are certified for use in Idaho as of July 20, 2009.

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ES&S M650 Engineering Change Orders: #667, #669, #677, #827

ES&S M100 Engineering Change Orders: #672, #679, #683, #685, #721, #732, #775, #000042, #000063, #000068, #000057, #00083, #000151, #000154, #000155, #000156, #000157, #000158, #000159, #000160, #000164, #000182, #000185.

ES&S AutoMARK Engineering Change Orders: #790, #794, #799, #810, #823.

August 26, 2008      Election Systems and Software M650 central count tabulator Hardware Revision 1.1 to 1.2.

**ES&S** made a formal request for an administrative certification for the above hardware revision. After review of the required documents on file with the Secretary of State including formal application for administrative certification, Engineering Change Orders, and Independent Testing Reports from SysTest Labs, and as the hardware changes specified are independent from the current certified firmware for the state of Idaho and does not require a new NASED number, the above mentioned system is certified for use in Idaho as of August 26, 2008.

Modifications, Hardware Revision 1.2, made to the hardware on the ES&S Model 650 central tabulator (“M650”) are specified below:

- Change of compact flash memory card, due to end of life of SanDisk brand.
- Change of peripheral printer, due to end of life.
- Change of Pick Motor Solenoid board, to improve static discharge levels.
- Change of UPS, due to availability.
- Change of label to meet 2005 VVSG standards.

April 1, 2008      Election Systems and Software **Unity 3.0.1.1 with Legacy Equipment: M150 Tabulator, Eagle Tabulator, the Optech IVC Tabulator and the Optech Image Manager.**

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**ES&S** made a formal request for an administrative certification for the above listed legacy equipment with already certified Unity 3.0.1.1. This upgrade reduces the number of false positives encountered when the tabulators check for marginal marks. This upgrade also allows ballots and coding for the legacy equipment to utilize the same Unity version as all other optical scan counties in the state.

April 30, 2007            Election Systems and Software **Unity 3.0.1.1 with AutoMARK 1.1 optical scan voting system.**

The **ES&S M650 2.1** is a central count optical scan tabulator that utilizes paper optical scan ballots marked by filling in an oval to indicate the voter's choices. Mark detection capabilities have been improved on the M650 with the latest upgrades. The primary modification was a change to the type of light source that is used to illuminate the ballot during scanning. The new sensors in the M650 employ a green light. This new light source provides an improved response to various types of marking devices including ballpoint pen inks and pencils. The system also improves scanner performance and reduces errors that may be caused by voter hesitation marks on a ballot, folds, dirt smudges and other ballot anomalies. Totals are saved on a zip disk which is removed from the unit and inserted in a reader for import into a laptop computer where results are combined and reported utilizing the Unity Data Acquisition Manager (DAM), and the Election Reporting Manager (ERM).

The **ES&S M100 5.2.1.0** is a precinct based optical scan tabulator that utilizes paper optical scan ballots marked by filling in an oval to indicate the voter's choices. The voter is immediately notified by an electronic sound that they have over voted or under voted thus providing an opportunity to review and correct their ballot before tabulation. Precinct tabulation is accomplished by the M100 and saved on three redundant PCMCIA memory cards. One card is transported to the county counting center and precinct totals are combined with other precincts utilizing the Unity Data Acquisition Manager (DAM), and reported through the Election Reporting Manager (ERM).

The **AutoMARK 1.1** voter assist terminal is a ballot marking device, no votes are stored in the machine. The marking device is used to meet the accessibility requirements of the Help America Vote Act for the blind and visually impaired. The voter uses a touch screen or Braille keypad with an audio ballot to indicate their choices. A review screen provides the voter an opportunity to review their ballot before the ballot is marked. The AutoMARK utilizes optical scan ballots identical to ballots used in counties using optical scan paper based systems. AutoMARK ballots may be tabulated on any optical scan tabulator certified for use in the State of Idaho. AutoMARK ballots are hand counted in counties using paper ballots. Counties that use

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punch card ballots also count AutoMARK ballots by hand and add totals into their accumulation and results programs. The firmware upgrade included in this version of the AutoMARK relaxes scanner tolerances to minimize “print on one side” errors and improve scanner recognition if the ballot is skewed when inserted into the device.

**Unity 3.0.1.1** is a suite of software products that integrates an election data base program (Election Data Manager, EDM), a graphics program for ballot design (ES&S Image Manager, ESSIM), an election coding program (Hardware Programming Manager, HPM), a program for accumulation (Data Acquisition Manger, DAM), a reporting program (Election Reporting Manager ERM), an audit program (Audit Manager), and a program that produces machine coding and audio ballot coding for the AutoMARK, (AutoMARK Information Management System AIMS). There were no upgrades to **Unity On-Line**, a limited on-line version of this suite of products.

April 25, 2006            Election Systems and Software in partnership with AutoMARK Technical Systems LLC.  
ES&S AutoMARK Voting System  
AutoMARK AIMS 1.1.10

AIMS v. 1.1.10, an upgrade from AIMS v. 1.09, provides for a seamless import interface in the election coding process from Unity suite 2.5.  
N-1-16-22-22-001 (2002).

June 24, 2005            Election Systems and Software.  
Unity 2.5

Software for use with the Model 650 central count tabulator and the Model 100 precinct ballot counter.

June 24, 2005            Election Systems and Software in partnership with AutoMARK Technical Systems LLC.  
AutoMARK Voting System.  
Unity v. 2.4.3 software.  
Aims 1.09 software.

The AutoMARK is a ballot marking device. Votes are not stored in the machine. The voter inserts an optical scan ballot into the device and makes selections on a touch screen. The device meets the requirement for a voter verifiable paper audit trail. The device is accessible to

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the persons with disabilities. Over voting is prevented. A review screen offers the voter the opportunity to change their vote before casting the ballot. When the voter casts the ballot, the AutoMARK marks the optical scan ballot. The voter may again review the ballot for correctness when it removed from the device.

The optical scan ballot can be counted by hand. On the precinct level ballots can be counted by a Model 100 tabulator, the older Model 150, a legacy machine, or the Optech Eagle, also a legacy machine. Ballots can be tabulated on the Model 650 central count tabulator or the older Model 550 central count tabulator, also a legacy device at this date. The precinct and central count tabulators can also be used for standard optical scan ballots.

**June 24, 2005**            **Election Systems and Software.**  
**Unity 2.4.3 software.**

Software for use with the Model 100 optical scan precinct counter and the Model 650 central count tabulator, the Optech IV-C central count tabulator and the Eagle III-P precinct count tabulator.

**June 24, 2005**            **Election Systems and Software.**  
**Unity 2.4.2 software.**

Software for use with the Model 100 and 150 precinct counters, the 550 and 650 central count tabulators, the Optech IV-C central count tabulator and the Eagle III-P precinct count tabulator.

**May 13, 2002**            **Election Systems and Software.**  
**AIS Model 100 Vote Tally System.** Formerly owned by American Information Systems (AIS).  
**Oval optical scan.**

The "AIS 100" is a precinct-based, voter-activated paper ballot counter and vote tabulator. Utilizing advanced Intelligent Mark Recognition (IMR) visible light scanning technology, the Model 100 is for jurisdictions utilizing precinct level voting and tabulation.

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**March 13, 1991**      **Election Systems and Software.**  
AIS 315 upgraded to the 550 Formerly owned by American Information Systems (AIS).  
AIS 115 upgraded to the 150  
**Oval optical Scan**

The "AIS-315" (upgraded to the "550") and the "AIS-115" (upgraded to the "150") are classified as Centralized voting systems using high-speed optical mark readers in counting centers to process paper ballots. The "550" weighs approximately 290 lb. and the "150" approximately 200 lb. The "550" overall dimensions are 54 inches long, 26 inches high, and 29 inches deep with the dimensions of the "150" being slightly smaller. Both the "550" and the "150" can be operated in a normal office environment with electrical services of 180 to 120 Volts AC power (10 amps per machine). An "electronic program board" is pre-programmed in accordance with specific parameters for each election. The program board is available only through A.I.S.

**November 24, 1986.**      **Election Systems and Software.**  
**E.T.P., Punch Card Election Tabulation Program.** Formerly owned by Business Records Corporation (BRC).

The E.T.P. is designed to count punch card ballots utilizing various formats including the 228 position votomatic card used in Idaho. The system consists of the IBM personal computer AT, XT or PC, a monitor, a card reader, a printer and ballot tabulation software. Since initial certification, Business Records Corporation's own GS/2 product offering has also been approved for use with the system instead of the IBM variables.

**March 17, 1971.**      **Election Systems and Software.**  
**"Votomatic" Punch Card Ballot System.** Formerly owned by Computer Election Systems (CES) and (BRC).

Complete self-contained voting station – utilizes standard IBM computer card as ballot. Ballot slides into slot at top of unit. Voting is accomplished by punching through the ballot card with an attached stylus. Candidates' names and issues are printed on a book ballot assembly in center of unit.

Ballot cards can be counted by any standard computing equipment or a small portable computer called the Ballot Tab, which can count all precinct ballots at one central location. A small version of the Ballot Tab is the Precinct Ballot Tab.



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February 29, 1988.      Kenneth P. Hazlett  
                                 Punch Card Ballot Election Tabulation Network (ETNet).

The election Tabulation Network and stand alone PC is a system of Microsoft Windows applications that work together to allow the user to create the election database, count punch card ballots, and report results in printed, displayed, and Internet form. At the heart of the ETNet system is a spreadsheet that allows election data to be entered in a way that is both intuitive and visual.

The simplest ETNet system consists of one PC, one card reader, and a printer. More complex systems employ a network of PCs to support multiple card readers and/or results viewing stations. ETNet provides support for the Documentation compatible card reader using a proprietary, standard bus, adapter card and cable. ETNet supports the PDI card reader using the PDI serial cable.

June 24, 2005              Sequoia Voting Systems.  
                                 Complete the Arrow Optical Scan Voting System  
                                 EMS/AERO 3.54.1 software  
                                 Optech 400-C central count tabulator/ WinETP v. 1.10.5 software  
                                 Optech Insight precinct tabulator  
                                 MPR v. 2.15 Memory Pack Receiver

An arrow optical scan system for use in the 5 counties using Arrow style ballots. The software is compatible with the older Optech III-P Eagle precinct tabulator, which uses infrared scanning technology, and the Optech Insight precinct tabulator and the Optech 400-C central count tabulator, which utilize visible light scanning technology.

June 24, 2005              Sequoia Voting Systems.  
                                 Direct Recording Electronic Voting System  
                                 AVC "EDGE" DRE v. 4.3.320  
                                 WinEDS v. 3.0.134 software  
                                 VeriVote printer  
                                 Card Activator v 4.3.320

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The AVC "EDGE" DRE is a direct recording electronic voting system and votes are stored in the machine on 3 PCMCIA memory cards. The voter activates the device with an activation card provided by the poll worker and enters their votes on a touch screen. The system includes the "VeriVote" printer attached to the side of the DRE and meets the voter verified paper audit trail requirement. The device is accessible to persons with disabilities. Over voting is prevented. The voter may review their selections on a review screen before casting their ballot. After casting their ballot, the voter's selections are printed by the VeriVote printer under a clear plastic screen. The voter may again review and change their selections if they wish to. When the voter finally approves of their selections and casts their ballot the printed record of their selections rolls into the printer and is hidden from view.

Tabulation is accomplished by removing one of three memory cards from the device and inserting the memory card into a laptop computer running the EMS/AERO v 3.54.1 Election Management Software.

- January 24, 1992**      **Sequoia Voting Systems.**  
OPTECH IV-C 200. Formerly owned by Business Records Corporation (BRC).  
**Arrow Optical Scan Central Count Tabulator.**
- September 6, 1990**      **Sequoia Voting Systems.**  
OPTECH IV-C 400. Formerly owned by Business Records Corporation (BRC).  
**Arrow Optical Scan Central Count Tabulator**
- OPTECH III-P "Eagle"  
**Arrow Optical Scan Precinct Count Tabulator**

The Optech IV-C 400 & 200 is a personal computer based machine, which uses a DOS operating system and BRC's Election Tabulation System software to count and record the votes. Election Management System (EMS) application software is used to interface with ETP enabling the operator to create the election, define precincts, specify candidates and issues, and create ballot styles. With personal computer knowledge and with the aid of the EMS User's Guide programming an election should not be difficult.

The OPTECH IV-C 400 & 200 are for a central count. The OPTECH III-P Eagle is for use on the precinct level.

**Note:**              Computer Election Systems (CES) became Business Records Corporation, (BRC) in 1971.

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BRC & American Information Systems (AIS) merged into a new company, Election Systems & Software, (ES&S) November 20, 1997. ES&S or Sequoia Voting Systems can provide Arrow optical scan ballots, for the 5 counties currently using them, as well as voting devices, precinct tabulators and central count tabulators.

**Vendor Contact Information:**

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