BOULDER COUNTY, COLORADO
VOTING TABULATION SYSTEM

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# Section 1

# Letter of Transmittal

June 16, 2003

Ms. Jenny Olberding
Purchasing Division
Boulder County
2020 13th Street
Boulder, CO 80302

Re:    RFP # 4437-03
       Request for Proposals for a New Voting Tabulation System


Dear Ms. Olberding:

Recent state and federal legislation is forcing many counties, including Boulder County, to replace existing punch card systems.  The County recognizes this opportunity to address additional election needs and to lay a foundation for a long term, efficient, secure election system.

Enclosed is Hart InterCivic's proposal in response to Boulder County's Request for Proposals for a New Voting Tabulation System, as released by Boulder County.  The Hart InterCivic eSlate™ Electronic Voting System, along with the election and technical expertise of the Hart staff, offers Boulder County a voting solution to meet the County's specific voting requirements.

The eSlate System is a comprehensive, integrated system that includes the eSlate Direct Record Electronic (DRE) component and Hart's Ballot Now for absentee/provisional mail balloting. Our proposed solution is a value-rich, multi-faceted architecture surrounded by four key components – project management, training, service/support, and voter outreach.  The eSlate System provides a secure, accurate, lightweight, and durable DRE voting system that is easy to use for both voters and election officials and offers a low total cost of ownership. Key features of the eSlate System for Boulder County include the following.

- Simple and efficient storage and warehousing of the voting units
- Secure and simple use in the polling place
- Accessibility features to meet the needs of *all* voters
- Project management, training, service and support, and voter outreach
- Full integration of DRE and absentee/ mail voting applications
- Integration with the County's existing Sequoia Integrity Election Management System
- An absentee/by mail solution that offers flexible ballot printing and can easily be adapted to Boulder County's absentee volume variations
- Lower total cost of ownership

Hart InterCivic has provided election products and services to counties throughout the nation since 1912. We provide turnkey election management services, as well as ballot formatting and production, field support and troubleshooting, Election Day support, by-mail election management, and a wide range of other election products and services. Hart InterCivic introduced the eSlate Electronic Voting System in 2000, and has since sold nearly 20,000 units to jurisdictions representing a total of more than five million registered voters. In the November 2002 elections, nearly one million ballots were successfully cast and accurately recorded on the eSlate System.

In all future discussions involving this Request for Proposal, I will be the person legally authorized to obligate Hart InterCivic, Inc. and to conduct any/all future negotiations on behalf of Hart. I may be contacted at the following address:

Mr. Bill Stotesbery
Vice President, Marketing and Sales
Hart InterCivic
15500 Wells Port Drive
Austin, TX  78728
Phone: 800-223-4278
Fax: 800-437-3532
Email: bstotesbery@hartic.com

We understand that the selection of an electronic voting system is very important to all stakeholders in Boulder County. You are buying more than voting machines. You want the assurance that you are procuring a complete solution that will result in accurate, secure, and efficient elections, while at the same time, providing the best value to the County's taxpayers. Hart InterCivic assures this through a complete voting system solution and a dedicated team that is ready to serve you. We look forward to partnering with you on this important procurement.

The balance of this document provides complete details describing the eSlate Electronic Voting System and our proposed approach. In addition, we provide an Executive Summary detailing the benefits and features of selecting Hart and the eSlate System. We are prepared to answer any questions you may have and look forward to the opportunity to meet with you in the planned presentation sessions.

Sincerely,


William D. Stotesbery
Vice President, Marketing and Sales

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# Section 2

# Executive Summary

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# EXECUTIVE SUMMARY

**Boulder County Clerk and Recorder's Office is seeking a new voting tabulation system to replace the current Datavote punch card system. The County requires a fully integrated voting system, with a DRE component for Early Voting and Election Day plus an optical scan component for absentee/by mail/provisional voting. The solution must meet federal and State certification requirements, as well as provide a superior level of service and support to the County election staff and voters.**

The process by which elections are conducted is the foundation of the public's trust in its governmental institutions. Elections must be fair, accurate, and private, with no margin for error and no possibility of tampering or abuse. At the same time, elections, like any other public program, must be conducted efficiently and cost effectively.

"We were very pleased with the eSlate's performance, and both poll workers and voters have given us a strong vote of confidence on this system, Ballot setup was very intuitive, and results were tabulated quickly. " Sheri Lachetta, General Registrar for the City of Charlottesville. VA.

This document details Hart InterCivic's response to Boulder County's Request for Proposal No. 4437-03, *"New Voting Tabulation System."* Hart InterCivic proposes to deliver to Boulder County our eSlate Electronic Voting System, supported by a comprehensive program of support and training. The eSlate System is fully certified in the State of Colorado and meets all requirements of the Help America Vote Act.

## *Scope and Objectives of the Proposal*

Our proposed solution includes every aspect of the voting system requested by Boulder County, including delivery, acceptance, and support of the DRE and optical scan system components; project planning and management; hardware and software training for Boulder County Clerk and Recorder staff; training for poll workers; service and support prior to, during, and after elections; and voter education and outreach.

Hart InterCivic has established an aggressive research and development operation supporting the eSlate Electronic Voting System. Located in Boulder County (Lafayette), the R&D organization includes software engineers, manufacturing specialists, computer scientists and others dedicated to constant improvement and innovation in the eSlate System.

Hart InterCivic's response to Boulder County's RFP has the following key elements:

- Hart InterCivic's eSlate Electronic Voting System will be deployed by Boulder County for use in the County's approximately 250 polling places on Election Day and in the County's 3 Early Voting locations. This will include a control unit (Judges Booth Controller) and five DRE voting devices (eSlates) at each polling place.

- One voting device at each polling place will be fully accessible to voters with disabilities.

- The Ballot Now application will provide printed ballots for Absentee-by-Mail/provisional voting and a scanning/imaging solution for efficient tabulation and integration with the cumulative results.

- All ballot formatting, vote recording, tabulation, and reporting components of Hart InterCivic's eSlate Electronic Voting System have been tested and certified by the National Association of State Election Directors (NASED) Independent Testing Authority (ITA) and the Colorado Secretary of State.

- The eSlate deployment program includes project management, equipment storage and deployment planning, a comprehensive curriculum for training and voter education and outreach, and on-site support.

- The deployment program also includes a comprehensive Election Day support program. Boulder County election staff, poll workers, and voters will be supported by a team of experts from Hart InterCivic, providing professional project management, a highly developed and well-documented training curriculum, and award-winning voter education and outreach supported by GBSM, a prestigious Denver-based public affairs/communications firm.

- All Hart InterCivic hardware and software is covered by a three-year warranty with an extended warranty option available to the County.

"The data [from exit polls conducted during the November 2002 Harris County elections] show a very positive reaction from voters in the field, across all demographic groupings." Dr. Richard Murray, The Center for Public Policy, The University of Houston.

## Why Hart InterCivic's eSlate System is the Right Choice for Boulder County

There are several reasons the Hart InterCivic eSlate System is the right choice for Boulder County.

1. *Hart InterCivic is an election leader in Colorado and across the nation.* Hart InterCivic has provided election products and services since 1912, including turnkey election services in multiple states, including ballot formatting and generation, polling place set-up, pre-Election Day and Election Day equipment support (including multi-county Election Day Support Command Centers), tabulation room management, integration of multiple voting systems, publishing state election law books, and much more.

   Throughout our history, we have been proud to serve Colorado counties with election products and services, as well as other solutions that have assisted Colorado counties meet the growing needs of the citizens they serve. In addition our eSlate Research and Development Center is based in Boulder County, located in Lafayette. This proximity is a distinct advantage in meeting the needs of Boulder County.

   In November 2002, Hart was one of three companies presented with *The Samaritan Center Ethics in Business Award*. This award

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was established to honor those "good Samaritans" who practice the highest ethical principles in their daily business.

2. ***The eSlate is a proven solution.*** Since introducing the unique eSlate electronic voting solution in 2000, Hart InterCivic has sold nearly 20,000 eSlate units to jurisdictions in multiple states (including Colorado) totaling 4,000 precincts and more than 5 million registered voters. In November 2002, more than one million voters cast ballots on the eSlate System.

The eSlate System has been selected after extensive review by two of the top five counties in the United States – Orange County, CA (the fifth largest county) and Harris County, TX (the third largest county). The eSlate installation in Harris County, Texas, is the nation's largest single county implementation.

The system is currently used in Arapahoe County, Colorado, for early voting and has been used successfully in demonstration elections in the Boulder County communities of Superior and Longmont.

3. **eSlate embodies sound technological advances, providing accuracy, security, and reliability.** The eSlate System is the only system to combine a state-of-the-art interface, a highly secure, real time non-Windows operating system at the polling place, and the convenience and integration of Windows™-based election management software. The eSlate uses technology adapted from the medical instruments industry to provide 100 percent accuracy at all times, unlike touch screen systems that may suffer from imprecise registration, the need to recalibrate, limited accessibility for special needs voters, and limited flexibility in ballot design.

The eSlate's PrecisionVote™ design means that Boulder County NEVER has to worry about calibration problems causing voting errors. Every time a vote is cast, it is recorded in triplicate in physically separated data storage, ensuring data integrity. Furthermore, PrecisionVote provides the highest level of assurance that voter intent has been accurately recorded, eliminating selection errors caused by inadvertent bumps or imprecision on a touch screen.

The eSlate system was also designed with integrated security features including automatic processes verifying and authenticating the output of each component through multiple, independent data paths through the system. Proprietary database structures protect the ballot layout and tally databases from functioning within any other applications. The eSlate DREs rely on a highly secure real-time non-Windows operating system in the polling place.

4. ***The eSlate is accessible and easy to use for all voters.*** In exit polls conducted during eSlate elections, more than 95% of the voters, across all age groups, consistently ranked the eSlate easy-to-use. In

The eSlate's success in the Harris County November 2002 election led County Clerk Beverly Kaufman to state: "We selected the eSlate System because we believed it was the best system on the market, and our experience in this week's election confirmed our decision. We also were impressed by Hart InterCivic's service, support and training, and throughout the months of careful implementation, Hart InterCivic always met or exceeded our expectations."

"During Early Voting, the eSlate performed flawlessly. Voters and poll workers consistently expressed strong support for the new system. Visually impaired and other special needs voters were particularly vocal in their endorsement of the system." Robert Parten, Tarrant County elections Administrator.

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Boulder County, voters in the City of Superior used the eSlate System during the March 2002 municipal election. In that election, 99% of the voters rated the eSlate easy to use.[1]

Furthermore, the eSlate has been designed to meet the needs of *all* voters, including those with special needs. The eSlate System's accessibility features were ranked first among election systems reviewed in the November issue of <u>AccessWorld Magazine</u>.

5. *eSlate's durability and design makes storage and warehousing simple.* Storage and warehousing are simplified because of the efficient design and durable construction of the voting units and booths. eSlates are designed to meet military specifications for durability, and are routinely subjected to various stress tests to confirm the effectiveness of the design. The voting units and booths have also proven themselves to be sturdy and easy to maintain. No special environmental, building, or power accommodations are necessary, and eSlates can be reset, data archived, and upgrades installed through the exterior port connection without opening the eSlate's case.

6. *Boulder County poll workers will benefit from eSlate's design-for-simplicity.* The eSlate System's lightweight, efficient architecture, and unique polling place management features make it the leader in ease-of-use for poll workers. Weighing just 5.2 pounds, eSlate is the lightest weight system on the market. Opening and closing the polls takes minutes and equipment is designed for fast set-up and breakdown. With eSlate, polls open and close in minutes with the push of a button and there are no activators or smart cards to complicate the process for poll workers and voters, eliminating a key point of failure and a potential security weakness.

Poll workers are spared the complexity and potential confusion of multiple activation devices, individual machine programming, harvesting votes from standalone machine at the end of voting, individually deactivating each machine. There is no requirement for additional poll workers to initialize the voting unit for each and every individual voter, resulting in significant cost savings.

The eSlate System's unique polling place management features allow poll workers to monitor the status of each voting booth, identifying open booths, active booths, and enabling the voter to silently signal for assistance. Poll workers can also monitor system power status, the number of votes cast, and the status of voter access codes, among other features.

Dana DeBeauvoir, County Clerk and Chief Election Official of Travis County, Texas, praised eSlate's easy setup and operation: *"Our election judges and poll workers were delighted with how*

> "I personally found the eSlate system very easy to use and I have received a great deal of positive feedback from Ward 13 voters about their Election Day experience. I was especially impressed with how well elderly voters adapted to this electronic voting system." The Hon. Joe Cimperman, Ward 13 Councilmen, Cleveland, Ohio.

> "...we do rate the eSlate as the best machine we looked at. It scored highest in overall usability and our testers liked the easy to use linear ballot and the fact that audio and visual voting can be used simultaneously. We also found the eSlate to have the highest level of cross-disability access." AccessWorld Magazine, November 2002.

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[1] Ballot Now, the eSlate System's absentee/by mail system was used in Longmont, Colorado's special municipal election. Because all balloting was done by mail, voter surveys were not collected.

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*simple the eSlate System is to set up at the polling place and manage throughout the voting process. Voters were enthusiastic, and Hart's support throughout the process, including final count and reporting, was exceptional."*

"I was very impressed with how Ballot Now performed for us," said Joe Kidd, Director of the Lucas County (Ohio) Board of Elections. "The scanning and tabulation of the absentee ballots was very smooth and fast, much quicker than with our current system. The support and flexibility of Hart's project manager and support personnel was outstanding. We had a last minute change in how we wanted to view the reports and they were able to easily accommodate our request."

7. ***Ballot Now is an innovative application that combines state of the art digital imaging and intelligent ballot management for absentee/mail voting.*** Ballot Now is a fully integrated part of the eSlate System. Paper ballots are formatted and generated from the same database as DRE ballots, and both DRE and Ballot Now create cast vote records that are structured identically, enabling seamless tabulation and reporting.

Ballot Now is highly scalable, and can easily be adapted as Boulder County's absentee volume increases. Ballots are printed on-demand, using commercial off-the shelf printers, or printed by commercial printing firms from the electronic files produced by the system. The highly accurate and reliable Ballot Now application includes numerous features that increase the efficiency of the Absentee-by-Mail process, including the unique on-screen resolution capability for resolving voter intent.

### Conclusion

We understand that the selection of an electronic voting system is very important to all stakeholders in Boulder County. You are buying more than voting machines. You want the assurance that you are procuring a complete solution that will result in accurate, secure, and efficient elections while, at the same time, providing the best value to the County's taxpayers. Hart InterCivic assures this through a complete election system solution and a dedicated professional team that is ready to serve you. We look forward to partnering with you on this very important procurement, and we will provide responsive, attentive service.

"Hart InterCivic was presented with The Samaritan Center Ethics in Business Award honoring those "good Samaritans" who practice the highest ethical principles in their daily business. The company was honored at an awards dinner held at the Etter-Harbin Alumni Center at The University of Texas at Austin on November 12th paying tribute to Central Texas businesses, non-profit organizations and individuals for their ethical standards and behavior."

The balance of this document provides complete details describing the eSlate System and our proposed approach. We are prepared to answer any questions you may have and look forward to the opportunity to meet with you at the community demonstrations and presentation sessions.

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# Section 3

# Solution Overview

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# BOULDER COUNTY SOLUTION OVERVIEW

Hart InterCivic's eSlate Electronic Voting System is a fully integrated voting and tabulation solution, with a DRE component for Early Voting and Election Day plus an optical scan component for absentee/ mail/provisional voting. The System meets federal and State certification requirements, as well as additional requirements of the Help America Vote Act. Just as important, Hart InterCivic offers Boulder County's election staff and voters a superior level of service and support, including project management, storage and deployment planning, staff and poll worker training, and voter education and outreach.

Like states and counties throughout the United States, the State of Colorado and Boulder County are in the process of implementing programs and procedures that will ensure compliance with the Help America Vote Act (HAVA) and related Federal and State election reforms. Colorado has a head start on the process, since many of the requirements of HAVA (e.g., provisional voting, statewide voter registration, voter accessibility) have already been enacted into law or are being studied through legislation such as the Blue Ribbon Election Bill and the Colorado Help America Vote Act. The Secretary of State's Office has recently issued the State of Colorado Preliminary State Plan, in response to Section 2532(b) of the Federal Act, detailing the State's HAVA plans.

## *Our Understanding of the Procurement*

With the issuance of RFP # 4437-03 for a *New Voting Tabulation System*, Boulder County is moving forward on one of the key HAVA requirements and State Plan Program Performance Goals – replacement of the County's existing Datavote punch card voting system.

The RFP details the following minimum requirements that must be met by the replacement Direct Recording Electronic (DRE) system:  The DRE system component shall, at a minimum,

- be easy for the voter to use

- the voting booth and voting device shall be easy to transport and easy for the poll workers to assemble and disassemble

- this system component shall operate independently and not be tied to a larger network, like the internet or the County's network

- it must receive both national and state certification prior to award of a contract and be secure and tamperproof

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- the system shall provide the ballot in multiple languages and have audio/voice capabilities to serve those voters who are visually impaired.

The optical scan system component that will be used for absentee/mail/provisional balloting shall:

- be fully integrated (i.e., ballot layout, ballot generation, ballot tabulation and reporting) with the DRE system component

- be easy for the voters to use

- be secure and tamperproof

- provide the ballot in multiple languages.

Other requirements include:

- Implementation of the new system must be complete in time for the August 2004 Colorado Primary Election.

- The voters of Boulder County will use the integrated system for Federal, State and local elections. The County conducts three major statewide elections: the State Primary and General Election in even-numbered years, and one major coordinated election in odd-numbered years.

- The system must support the County Clerk and Recorder's ability to serve 10 municipalities, 4 school districts and 75 special districts within the County. The Coordinated Election, referenced in the previous item, includes these entities' regular elections and/or special elections.

- The maximum number of polling places for an election is 250. The County is requesting 1250 DRE units, based on an average of 5 units per polling place.

- One unit per polling place, for a total of 250 units, will be equipped with Disabled Access Units to support private, unassisted voting by those with physical or literacy limitations.

- All units will be configured to present ballots in multiple languages, with the actual language of the ballot selected by the voter.

- The absentee/mail/provisional ballots system must be able to scan up to 200,000 ballots in a 12-hour period.
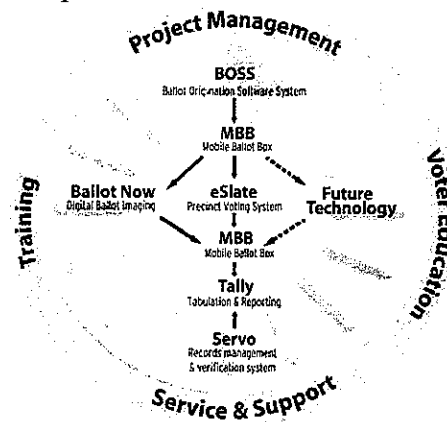
### *The eSlate Electronic Voting System: Responding to Boulder County's Requirements*

In response to these requirements, Hart InterCivic proposes the eSlate Electronic Voting System.

## Overview of the eSlate System

To assist in the County's understanding of the eSlate System, we provide the following introduction to the eSlate System components and how each is used in the eSlate System. These components and the System's functionality are discussed in greater detail throughout the responses to the RFP items. The Slate System components include:



**eSlate 3000™** – The voting terminal used by the voter to cast votes.

**Disability Access Unit™ (DAU)** – The unit that modifies an eSlate 3000 to provide alternative access features for disabled and literacy-challenged voters, including an audio ballot reader.

**Judge's Booth Controller™ (JBC)** – The polling place control console that manages up to 12 eSlate voting terminals, prints Access Codes and voter receipts, and records Cast Vote Records (CVR) on the Mobile Ballot Box (MBB).

**eSlate Voting Booth** – The specially designed voting booth that assures private, comfortable voting and secure storage and handling for eSlate voting terminals.

**Mobile Ballot Box™ (MBB)** – The PC memory card that carries the election database and formatted ballots to the Judge's Booth Controller and stores Cast Vote Record and audit information.

**Ballot Origination Software System™ (BOSS)** – The software application that enables users to build election databases, format ballots and electronically write multiple ballot styles to the Mobile Ballot Boxes.

**Tally™** – The software application that tabulates and reports cast votes from Mobile Ballot Boxes.

**Ballot Now™** – A unique software solution for *on-demand, in-house printing* of absentee/mail/provisional ballots on standard paper that requires no preformatting; scanning and digitally imaging the voted ballots; resolving unclear ballots through an innovative on-screen resolution process; and capturing cast vote records.

**SERVO™** – An election records and asset management system that maintains on-going equipment history and supplies election records as required.

**Rally™** – An application that includes functionality for MBB verification, reading, election data storage and communication from a satellite facility to a central tabulation function.

## The Proposed eSlate Solution for Boulder County

As requested by Boulder County Hart InterCivic will deliver, test, and install 1250 eSlate DREs, 250 Disabled Access Unit Modules with audio cards, 250 Judge's Booth Controllers with MBBs (the polling control unit), and necessary system supplies to support Early Voting locations and Election Day polling places.

Hart InterCivic offers an alternate solution based on installing one DRE unit per 300 voters. Based on Boulder County's estimate of 223,00 registered voters, this option includes 734 eSlate units. All other components and quantities remain the same, and no functionality is lost. Boulder County receives all the benefits of the eSlate System, and effectively serves the same number of registered voters at a lower total cost of ownership (purchase, storage, maintenance, etc. of the units). Pricing schedules for each of the quantity options are included in *Section 6, Pricing* of this proposal.

Ballot Formatting and Generation

At the Boulder County Clerk and Recorder's office, a Dell Optiplex GX260 will be installed as the Ballot Layout PC. This PC will run the Ballot Origination Software System (BOSS), eSlate's election data management and ballot generation application. The Ballot Layout PC will be standalone, not connected to any network internal or external to the County.

In addition, connected to the Ballot Layout PC will be a HP 2300 laser printer for ballot proofs, reports, and other printing requirements.

Elections staff will use the Ballot Layout PC to create a BOSS database containing all necessary data to generate DRE and absentee/mail/provisional ballots. From BOSS, the County will

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write Mobile Ballot Box (MBB) PC cards that will enable precinct voting for Early Voting and Election Day. MBBs will also enable printing of absentee/mail/provisional paper ballots. From BOSS, the County will also produce FLASH cards with audio files to support voting by the hearing and literacy impaired.

Absentee/Mail/Provisional Voting

To support the requirement for an absentee/mail/provisional paper ballot system that can process up 200,000 ballots in a 12-hour period, we are including three Ballot Now stations, each consisting of

- A Dell Optiplex GX260 PC, running Ballot Now, eSlate's integrated absentee/mail/provisional paper ballot application. (Like the Ballot Layout PC, the Ballot Now PC will be standalone, not connected to any network internal or external to the County.)

- Connected to the Ballot Now PC will be an HP 9000dn laser printer for producing ballots on demand and a Kodak i830 scanner for scanning/imaging voted ballots.

- Supporting image processing for each station will be two Dell GX260 PCs with a small form factor chassis.

Tabulation and Reporting

An additional Dell Optiplex GX260 PC, also standalone, will be at the Central Count Site for Election Day tabulation (the "Tabulation PC"). This PC will run Tally, eSlate's tabulation and reporting application. Connected to the Tally PC will be an HP 2300 laser printer for printing reports, and an Epson LQ-570e impact printer for real-time printing of the audit trail during tabulation.

To support remote or regional tabulation reporting, Hart is proposing establishment of 5 satellite collection centers. Each satellite will be equipped with a Dell Latitude 640 laptop running Rally, the eSlate application that aggregates cast vote records and electronically transmits unofficial totals to the Tabulation PC at the Central Count Site.

Election Officials will deliver Judge's Booth Controllers, with MBBs still sealed in the JBC's MBB slot, to the satellites. There, election staff will remove and read the MBB; results will be electronically transmitted to the Central Count Site. This configuration will result in accelerated reporting of unofficial Election Day results.

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Warehousing and Storage

An additional Dell Latitude C640 laptop will be used to support warehouse and maintenance requirements. SERVO, the eSlate data and asset management application will be installed on the laptop. For the first and second countywide elections, Hart will provide service and support to assist with the warehousing, storage, and maintenance process.

Service and Support

Hart will provide a comprehensive support program prior to the election, including a dedicated Account Manager, data support, integration support, testing (including acceptance testing and logic and accuracy testing), and other services necessary to fully prepare for initial use of the eSlate System.

Hart InterCivic Technical Specialists configure, install, and test the eSlate System software applications and the associated hardware purchased by the County as part of the purchase contract. Installation of hardware is defined as delivery and setup of computer equipment ordered by the County; installation, and checkout of software purchased; and installation of associated hardware (such as scanners and printers) purchased by the County.

Technical Specialists also support customer acceptance testing and deployment of eSlate components, equipment, and systems, as identified in the implementation plan. Additional technical support may be provided by the eSlate Customer Support Center on an as-needed basis. This includes on-site technical support the County may require; long-term assistance in meeting the demands for training Clerk and Recorder office staff, Election Officials and poll workers; or if necessary, system design and data migration assistance for an existing legacy system(s) interface.

Training

In addition, Clerk and Recorder's office, IT staff, Election Officials, and poll workers will be fully trained in all aspects of the System's operation relevant to their responsibilities. Hart InterCivic provides fully qualified training personnel to accomplish all training included in the implementation plan. All aspects of the training program have been carefully designed and selected, be it the training methods themselves, the types of trainers, or the training materials, to produce an outstanding educational system. Distinguishing features of the instructional program include the following:

- Specific courses are offered for each element in the eSlate electronic voting system.

- Instructors leading poll worker training classes reflect the ethnic and language diversity of the County.

- Professionals with education, training, and curriculum experience design the courses.

- Software courses are supplemented by operations and training manuals.

- Enrollees in poll worker courses receive Quick References and Desk Reference Job Aides that offer simple, easy-to-find procedural information.

- Lead Poll Workers also receive detailed training manuals.

- Courses employ multi-media instructional tools with a laboratory or "hands-on" approach, including simulation and problem solving exercises, examinations, and training evaluations.

- Instructors are trained in the special methods for instructing adult learners.

- Courses have low teacher/student ratios to insure that all trainees have hands-on experience and receive individualized instruction.

- A key component is our train-the-trainer program, which ensures the County is fully prepared to provide training independently.

Details of Hart InterCivic's training program are included in *Attachment 10, eSlate Comprehensive Training Program.*

Voter Education and Outreach

Introducing the new Boulder County eSlate™ Electronic Voting System to the Boulder County community will require a coordinated program of community outreach that recognizes the County's demographics and cultural diversity. The outreach program must be inclusive, seeking to deliver information about the new voting system and the importance of participating in the electoral process to all eligible voters in Boulder County. The program must assure that no one is left uninformed because the program failed to reach out to a particular segment of voters. The program must take into consideration race, ethnicity, age, gender, religion, lifestyle, socio-economic status, place of residence within the county, educational attainment, party affiliation or non-affiliation, or any other discriminator. Effectively executed, we believe that the introduction of the new voting system can contribute to a renewed enthusiasm in the democratic process and an increase in voter participation. Therefore, Hart InterCivic is

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proposing that the Boulder County Clerk & Recorder's Office launch an ongoing program of community outreach and education.

Hart InterCivic leads the industry in the development of voter education programs that support the implementation of new electronic voting systems. For example, HarrisVotes!, the comprehensive voter education program developed by Hart InterCivic for Harris County, Texas, has received national recognition as PR Week Magazine's Community Relations Program of the Year for 2002 and recognition from NACRC for excellence in election practices.

In order to support the voter education and outreach program for Boulder County, Hart InterCivic has engaged the services of GBSM, a prestigious public affairs/communications firm based in Denver with experience in broad-based community outreach programs. For more than 15 years, GBSM has been involved in many of the region's most important projects, including the opening of Denver International Airport for United Airlines, the extension of E-470 from Southeast Denver to D.I.A., the siting of Coors Field and the community input process surrounding future uses of Boulder's Barker Reservoir.

The GBSM team includes men and women with extensive experience in the media, politics, political campaigns and community outreach in both Boulder and the greater metropolitan area. With the addition of GBSM, Hart InterCivic's voter education team has extensive expertise in marketing, public relations, government affairs and community relations. The team also has significant experience in implementing customized voter education and outreach programs of varying sizes for eSlate customers throughout the United States.

### Voting with the eSlate System

The following discussion presents an overview of the election process using the eSlate System. It is not intended to be an exhaustive review of all possible procedures or activities. Rather, this overview is designed to produce a basic understanding of eSlate's operation in Boulder County.

### Election Preparation

Preparing for an election begins by entering information into the Ballot Origination Software

System (BOSS). For Boulder County, BOSS will receive data through an automated import from the Integrity Election Management System.
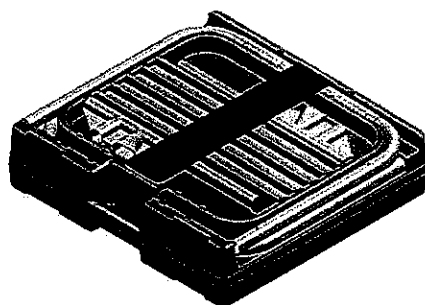
Typically, jurisdictional information, such as precinct and polling place names, is entered prior to an election cycle. When an election cycle begins, election specific information is entered into BOSS by import from the Integrity Election Management System; data can also be manually entered when necessary.

The import will include links between contests, precincts, polling places, etc., as supported by the data in the Integrity System. Additional formatting and configuration is completed, and ballot styles are automatically generated. Ballot content is then proofed using the reports provided by BOSS.

Once the content is verified, ballot generation produces the electronic ballot data file that contains all the ballot styles necessary for the election. This file is copied to the Mobile Ballot Boxes (MBBs) that then are installed in the Judge's Booth Controllers and used with the Ballot Now absentee/mail application. At the option of the County, the MBBs may be installed and secured in the JBCs at the warehouse or, alternatively, the MBBs may be installed at the polls.

Because all possible ballot styles are stored in the Mobile Ballot Box (and not the voting units), each Judge's Booth Controller is identical until a polling place code is entered, either by County staff at the warehouse or by a poll worker in conjunction with opening the polls. Furthermore, since there is programming required for individual eSlate and Disabled Access Units, any unit may be used at any location, greatly simplifying the distribution and delivery of equipment, as well as the allocation of additional units in the event voter turnout exceeds expectations.

## Equipment Distribution and Polling Place Setup



The eSlates, Disabled Access Units, Judge's Booth Controllers, and Mobile Ballot Boxes are either delivered by warehouse staff to the polling place or are transported to the polling place by the poll workers. The eSlate voting units are stored and transported in the specially designed eSlate voting booths.

The eSlate voting booth measures just 24.75" x 25.75" x 6.5" (when folded). It may be moved with ease through regular door openings into polling places and storage areas of various sizes. The lightweight

nature of the booth (i.e., 28 pounds with eSlate containing batteries inside) eliminates the need for wheels on any storage or transportation cases. Several eSlate booths, along with a JBC and necessary supplies, can be transported in most standard vehicles. The eSlate storage caddy can also serve as a transport carrier when used with a standard hand truck.

At the polling place, booths are set up and the JBC is located adjacent to the roster book. The JBC is the host for a closed network consisting of one JBC and from one (1) to twelve (12) eSlates (or DAUs), with the exact number to be used based upon the size of the precinct and the anticipated turnout of registered voters.  Only one electrical outlet is required to connect the voting equipment.

## Opening the Polls

As a first step after the equipment setup is complete, power is applied to the JBC.  This causes the internal software to run a power-up self-test. Including diagnostics on each eSlate voting unit.  In addition, a check is performed for the presence of the MBB.  The JBC reads the MBB and verifies that it contains the proper election and ballot data.

Next, the poll workers, in accordance with directions on the JBC screen, input the polling location into the JBC and assign booth numbers to the eSlates.  Assigning booths is accomplished merely by pressing the ENTER button on each connected eSlate.  At this point, a Zero Tape Report is printed from the JBC, confirming that no votes have been cast on the equipment.

After the report is printed, the poll worker, again following the on-screen instructions, selects "Open Polls."  The polls then are open and each connected eSlate is available to receive voters.

At this time, the JBC creates an audit log of the time polls were opened.  That audit log includes the serial numbers of all eSlates and DAUs connected to that specific Judge's Booth Controller.

This entire process, from booth set up to opening polls, may be completed in minutes. A typical polling place, with 5 eSlate units, can be fully set up and ready for voters in 15 minutes or less.

The eSlate System includes numerous features that support the management of the polling place. For example,

- When the polls are opened, the status lights across the top of the JBC indicate the status of each voting unit: Green indicates the unit is operational and ready to accept votes, red indicates that the unit is in use, flashing lights indicate a voter has requested assistance.

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- To protect against operator error, only after the Zero Tape Report is produced does the JBC display the option to open the polls. As an added security feature, poll workers may be required to enter a password to open the polls.

These and other polling place management features are discussed in detail in response to specific requirements in the RFP.

## Obtaining Authorization to Vote

To begin the voting process, a voter presents the necessary identification to the poll worker for validation of eligibility to vote. The poll worker looks up the voter's name in the voter registration records, which generally associates an alphanumeric ballot style or precinct number with the voter. The appropriate ballot style or precinct number then may be input into the JBC directly by the poll worker or may be selected from a list provided by the JBC through a set of menu screens.

After the required data are entered, the JBC responds with a randomly generated four-digit Access Code that is displayed on the JBC screen and printed on a ticket by the JBC printer. The Access Code ticket is detached and given to the voter and he/she is directed to the next available voting booth by poll workers. The Access Code is linked to the ballot style that is correct for that voter. It only prompts the system to present the correct ballot on the screen. There is **no** link between the Access Code and the identity of the individual voter.

Hart InterCivic also has considerable experience with the integration of the eSlate System and electronic voter rosters. In this case, the voter's name is entered either manually, or by swiping a card with a magnetic stripe or bar code, and the voter registration data matched to the name. The voter's precinct is identified and automatically transmitted to the JBC, which produces the correct access code for the voter's ballot style.

## Voting

Ballot Navigation Tools. The lower portion of the eSlate includes a set of distinctly shaped control buttons and the SELECT™ wheel. These features enable the voter to review the ballot and cast votes effortlessly and with absolute accuracy.

- SELECT—turning this wheel moves the "cursor" or "ballot focus" through the ballot;
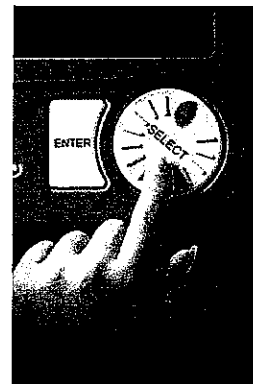
- ENTER – when a selection is highlighted, pressing this button causes the highlighted selection to be recorded;

- NEXT – takes the voter to the next page of the ballot;

- PREV – takes the voter to the previous page of the ballot;

- HELP – provides the voter with context sensitive operating instructions (if pressed once) and signals a poll worker that assistance is requested (if pressed twice); and

- CAST BALLOT – used when the voter has completed his or her selections and wants to record his or her vote.

<u>Assistance for Voters</u>.  At any time during the voting process, the voter may press the HELP button to receive on-screen instructions. Each Help window has options available in context with the type of action required by the voter.  Pressing HELP twice will cause the status light on the JBC for that booth to flash red and green, indicating to the polling place officials that the voter in that booth has requested personal help.



<u>Making Selections</u>.  The voter first selects language preference from the choices presented on the screen.  The eSlate screen then instructs the voter to enter his or her Access Code. He/she does that by using the SELECT wheel and the ENTER button.  When all four digits of the Access Code have been correctly entered, the eSlate voting terminal validates the Code with the JBC, loads the correct ballot style, and displays the first page of the ballot. Simultaneously, the booth status light on the JBC turns red, indicating that the booth is in use.

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**Exhibit 1: Ballot Summary Screen CAPTION**

<u>Confirming Selections</u>.  Each page of the ballot is displayed consecutively as the voter moves through the ballot.  The eSlate will not accept a CAST BALLOT command until the voter has viewed all contests on the ballot as shown on the Ballot Summary.

The Ballot Summary is displayed to the voter after he/she votes in the last contest on the last page of the ballot, or presses NEXT after viewing the last page of the ballot.  The Ballot Summary also will appear if the voter presses CAST BALLOT before having completed either of the above.

Upon entering the Ballot Summary, the voter is presented with a race-by-race/issue-by-issue list of ballot selections, including contests in which the voter has made no selection (i.e., undervoted).  Those undervoted contests are indicated by the phrase "No Selections," which appears in red type.  At that time, the voter is given the opportunity to select any contest(s) in which he or she wishes to make or change a selection.  By scrolling the SELECT wheel to highlight the desired contest and then pressing

ENTER, the voter will go directly from the Summary to the specific contest or proposition to make a choice or a change in a previous selection.

When the voter is finished making his or her selections, he/she presses the CAST BALLOT button. At that instant, the ballot is electronically recorded as a Cast Vote Record (CVR) in three physically separate locations for security. Until the voter presses CAST BALLOT, he/she is free to make changes to previously recorded selections.

Protections Against Unauthorized Voting and Overvoting. A voter is prevented from voting twice in the same election by the normal methods to validate, process, and sign-in voters. In addition, once a voter uses an Access Code, it cannot be re-used as the JBC invalidates it. Security is further enhanced by the fact that the Access Code is valid for a limited time period. That time is set by elections officials and programmed in the Ballot Origination Software System, with the default being 30 minutes after it has been printed by the JBC.

A voter may not select more choices than allowed for each contest or ballot issue. If a voter attempts to overvote a contest, the eSlate System will, in a contest that requires a single vote, deselect the first selection, and replace it with the second selection the voter chooses. In a contest where the voter may vote for multiple candidates for an office (e.g., presidential electors), the eSlate System will not accept more votes than are allowed. The voter is required to delete a previous selection before adding one that would exceed the maximum allowed.

## Private, Independent Voting for Voters with Disabilities

Voters with disabilities cast their ballots on units that are virtually indistinguishable from those used by voters with full physical capabilities. This is possible because regular eSlate units convert to Disabled Access Units (DAUs) simply by adding a special module that is virtually undetectable. Yet, it enables the DAU to accommodate even the most handicapped voters.

Visual Impairments. Voting on the eSlate is simple. The visually impaired voter is qualified to vote and receives an Access Code in a procedure identical to that for other voters. The voter then will be escorted to a voting booth by a poll worker. The poll worker will provide a brief overview of the eSlate System operation, help the voter understand how to operate the control buttons, and assist the

voter in positioning the headphones and adjusting the volume for the audio ballot reader, if necessary. The voter then may choose to have the poll worker read the four-digit Access Code to him/her to enter or to have other assistance in entering the number. From this point, the voter may cast an independent, secret ballot.

Once the Access Code is entered, ballot navigation is accomplished with the SELECT wheel. To assist the visually impaired or literacy challenged voter, the Disabled Access Units play a complete recording of all ballot instructions and ballot text. As the voter rotates the SELECT wheel, the text of highlighted boxes will be "read" to the voter through the headphones. The noticeable click of the wheel as it rotates further orients the visually impaired voter as he/she moves through the ballot.

Each time the ENTER button is pressed, the audio reader will confirm the choice recorded by the voter and the system will automatically advance to the next contest. As with the standard operation of the eSlate, the system will prevent the visually impaired voter from overvoting any race. The visually impaired voter will have the opportunity to review ballot choices as the audio reader confirms them on the Ballot Summary. He/she may return to the ballot and make or change choices as many times as desired.

The audio component utilizes a human voice (not a computer generated one) and is recorded at the direction of local elections officials. This permits the audio to reflect local pronunciation patterns and accents.

Other Physical Disabilities. The eSlate System provides additional features that allow voters with other physical disabilities to cast a secret ballot.

Each eSlate, when upgraded to a Disabled Access Unit, allows multiple means of auxiliary input by persons with physical disabilities. These include two large, externally mounted controls ("jelly switches") that permit operation of the unit by people lacking fine motor skills or digital dexterity.

The Disabled Access Unit also may be operated by any standard medical accessible switch (i.e., a "sip-and-puff" device often used by disabled voters to operate their wheelchairs). Once the disabled voter is qualified for voting, the sip-and-puff switch may be disconnected from the wheelchair and plugged into the Disabled Access Unit. The voter then may vote independently, using only breath control (and not manual controls) to navigate through the ballot.

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Curbside Voting. The highly portable eSlate readily accommodates voters who cannot enter the polling place. Poll workers, regardless of age or physical strength, will be able to assist curbside voters, as the eSlate weighs less than eight pounds when fully equipped with the special access features for the disabled and the battery pack.
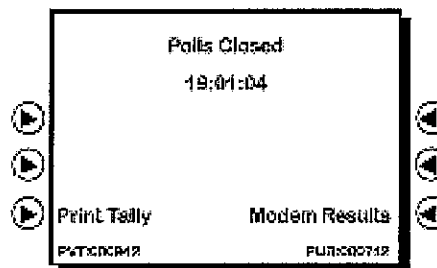
Procedures used for curbside voters follow those for other voters. Once a curbside voter's qualification to vote has been established, the voter will be assigned an Access Code in the prescribed manner. Next, an election official will enter that Code into an eSlate unit on the end of the daisy chain network, one that has a battery pack installed and is usually set up as a Disabled Access Unit. The official then will detach the network cable and take the eSlate to the voter, instruct the voter on the operation of the unit, and allow the voter to complete the voting process in the privacy of the vehicle.

When the voter has cast the voted ballot, the official will return the voting unit to the polling place and re-connect the network cable. At that time, the voter's Cast Vote Record will be recorded in the Judge's Booth Controller and Mobile Ballot Box just like all the other ballots cast in the polling place.

## Closing the Polls

Once voting is complete, the polls are closed using a two-step process to protect the integrity of the election information:

(1)    The eSlates are shut down so that they cannot be accessed again for voting; and

(2)    The final public and private counter of the JBC, time of closing, and the electronic serial numbers of all devices and ballot types are stored and copied to the MBB. After this action, the MBB is closed.

These two steps are performed automatically by the JBC. Once the polls are closed, they cannot be re-opened. In polls closed status, the JBC can print an unofficial tabulation and/or transfer results by modem to Tally. The MBB then may be removed and transported to a tabulation center or substation.

Multiple security features protect the balloting information. Once the MBB is removed from the JBC, a copy of the data remains intact in the JBC as a backup. The information also is stored separately on the individual eSlates to retain a record of all votes
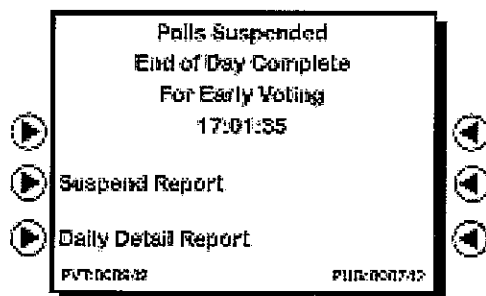
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cast on each device.  During poll closing, the JBC also prints a tape showing a summary total accounting for all Access Codes issued by the JBC.

### Early Voting

With the eSlate System, voters from any precinct in the County may vote at any voting site, because each Mobile Ballot Box produced for an election contains data for every precinct and ballot style in that election.  A single Mobile Ballot Box can store up to 10,000 different ballot styles, thus providing a tremendous amount of flexibility to elections officials.

Voting activity throughout this period may be monitored easily, as, at the close of polls after each day of Early Voting, a suspend polls report will be printed.  This report contains daily and cumulative summaries of Access Code activity and detailed precinct-by-precinct listings of how many voters from each precinct voted at that location.

Once Early Voting concludes, all units deployed to Early Voting locations may be converted easily and quickly for use on Election Day, if desired.  To facilitate this, the Cast Vote Records and other data stored redundantly in the Judge's Booth Controllers and eSlate/DAU voting units may be backed up onto electronic storage media, such as a CD-ROM.  This media then will be secured as a backup for the respective MBB, which remains the master record of voting.

Mobile Ballot Boxes will be removed from the Judge's Booth Controllers and secured for later use with Tally to tabulate election results at the appropriate time.  The equipment then will be reset using SERVO so that all Cast Vote Records are removed from the voting units' and the JBCs' internal memories.  A new MBB may then be inserted into each JBC to be used on Election Day.  During subsequent poll opening procedures on Election Day, a new Zero Report Tape will be generated.

Backup and reset procedures may be accomplished in approximately 15 minutes.  Multiple processes may be completed simultaneously.

### Absentee/Mail/Provisional Voting

Ballot Now, the absentee/mail application, allows the elections staff to produce paper ballots in-house/on-demand, or to produce electronic files for off-site, commercial vendor printing.  As a

result, it provides elections officials with a highly scalable solution, fully integrated with the eSlate electronic voting system.

The process begins when Ballot Now derives ballot information from the election data on the MBB created with the Ballot Origination Software System. Ballots, which are printed either in-house or by a commercial print facility. The ballots are printed on common sized papers, and mailed to voters in standard envelopes. The ballots printed by the Ballot Now system do not require the precise print registration necessary for optical scan systems.

When voters return the cast ballots, the ballots are digitally imaged using commercially available scanners. Scanning occurs without interruption as the Ballot Now system electronically queues ballots requiring review by an elections official; the imaging process need not be stopped each time a decision on voter intent is required. At that time, cast vote data are extracted and Cast Vote Records are delivered on the same election's MBB(s) to the Tally application for tabulation. To enhance the security of the voting process, the Cast Vote Records are recorded in two separate locations. In addition, the paper ballot may be retained.

When required, resolution of questions regarding voter intent occurs through Ballot Now's unique on-screen resolution feature. Undervotes and overvotes can also be automatically resolved, requiring no manual intervention. In the event of a challenge, an audit track captures all resolution actions, whether manual or automatic.

Accessibility for the disabled is a design feature of Ballot Now as well. When marking the paper Ballot Now ballots, voters with special needs may require assistance in marking their choices on the ballot. Because of Ballot Now's capability to detect and interpret a much wider range of voter markings than typical optical scan systems, the opportunity to vote a secret ballot is now available to voters with limited fine motor skills who previously required assistance.

Provisional Voting

The Ballot Now process for provisional ballots is generally the same as described above for other absentee and mail ballots. Upon return to the election office, voted provisional ballot packets are reviewed to determine voter eligibility. Packets from ineligible voters are "rejected" and set aside; "accepted" ballot packets from eligible voters are processed according to statutory requirements and local procedures for inclusion in the tabulation process.

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cast allows this detailed reconstruction to be accomplished while maintaining <u>complete voter anonymity</u>.

The eSlate System's SERVO application provides a tool for recount capability. Since each vote cast on the eSlate DRE is recorded in three separate memory locations (triplicate original Cast Vote Records), data from each JBC and individual eSlate memories can also be compared to the MBB results creating a distributed, closed-loop process that provides redundant cross verification of election results. This makes the ability to recount election results a seamless option for every election cycle, therefore increasing the confidence of election officials and voters.

### Storage and Maintenance

When the election is complete, JBCs and eSlate units are returned to the warehouse to be reset and stored. The eSlate System requires no special environmental or power accommodations for storage, and most maintenance activities can be performed without opening the eSlate's voting booth/storage case.

At the warehouse, the eSlate System's SERVO application is used to archive data and create an equipment inventory record for the units used in the election. SERVO provides an election records and asset management system for the Hart InterCivic eSlate Electronic Voting System.

SERVO is a software application that tracks the eSlate System equipment maintained by the County and assists in Cast Votes Record archiving and election data management. SERVO is used to back up cast vote records and audit logs from eSlates and JBCs used in an election. The backed-up data can then be used to provide reports on Cast Vote Records, audit logs, and equipment used.

SERVO is also used to recover data from equipment in the case of a lost or damaged MBB, and to reset equipment as needed. SERVO uses the triple redundancy features of the Hart InterCivic eSlate Electronic Voting System to their fullest advantage. Election results are initially generated from the direct reading of MBBs into Tally. SERVO generated recount data from the JBC and eSlate memories can also be used to compare the MBB results creating a distributed, closed-loop process that provides redundant cross verification of election results. This makes the ability to recount election results a seamless option for every election cycle, therefore increasing the confidence of election officials and voters.

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**Tabulating Votes and Reporting Results**

The eSlate System tabulates the totals at the polling place level. It quickly transmits summarized, unofficial voting results directly from the JBC to a tabulation center or substation, using a standard, off-the-shelf modem and telephone (either land line or wireless) connection. This type of electronic transmission may be adapted or upgraded easily to utilize more advanced telecommunications technology as it becomes available. A summary report(s) of the tabulation may be printed from the Judge's Booth Controller as well.

Voting results also may be transmitted directly from the polling place to another location (after the polling place is closed) by simply removing the MBB from the JBC and transporting it to the assigned location. The MBB used in Ballot Now operations also may be transported in this manner. Official results are obtained by reading the MBBs into the Tally tabulation and reporting application.

Tally produces a variety of standard reports, any of which may be exported in PDF, HTML and other standard formats, for dissemination electronically or in paper copy.

As defined and required, Tally results reporting will include the functionality necessary to meet the Colorado Secretary of State's election reporting process.

**Recount**

The eSlate System readily meets the current requirements of Colorado Election Code for recounts. For votes cast on the eSlate DRE units, this is a simple process of reading the MBBs into a "fresh" Tally database. Reports from the recount process are easily compared to the original tabulation to verify results.

Recounts of absentee/mail/provisional ballots also duplicate the original process. A recount Ballot Now database is created. Ballots are scanned and resolved following the same procedures and resolution guidelines as the original process. The recount CVRs are tabulated via a Tally recount database, and results reports generated.

The eSlate System supports additional methods for recounts. To accomplish a manual recount, Cast Vote Records may be extracted from the eSlate and/or Judge's Booth Controller and viewed electronically. They also may be printed to reconstruct the election and count votes ballot-by-ballot. The random manner in which individual Cast Vote Records are recorded at the time each vote is

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# RESPONSE TO SECTION IV, REQUIREMENTS AND SUBMITTAL

**The County of Boulder can be assured of a secure, accurate, and durable DRE voting system that is easy to use for both voters and Election Officials, and offers a low total cost of ownership. Hart InterCivic proposes the eSlate™ Solution, a value-rich, multi-faceted DRE architecture supported by four key components – project management, training, service/support and voter outreach.**

## 1.0 CERTIFICATION OF SYSTEM

### 1.1 Requirements

**A. Colorado law requires election officials to procure only voting equipment that has been certified by the Colorado Secretary of State. Boulder County will consider proposals from vendors with systems approved for use in this state by the Colorado Secretary of State and from vendors with systems that expect to receive Colorado certification by contract award. Vendors shall be familiar with the State certification process, including the Independent Testing Authority requirements and shall receive certification of all components of their system prior to demonstration to Citizens Review Committee.**

<u>Hart InterCivic Response</u>

The eSlate System has been certified by the National Association of State Election Directors (NASED) and the Colorado Secretary of State, including all ballot formatting, vote recording, tabulation, and reporting components. For this response, we are proposing the eSlate System 2.1, certified in Colorado on September 9, 2002. We are currently in the process of submitting the eSlate System Version 3.0 for ITA testing and NASED certification. It is our intent to offer Boulder County eSlate Version 3.0 upon certification by the Colorado Secretary of State.

All answers in this response reflect capabilities of the eSlate Version 2.1, unless Version 3.0 is specifically referenced.

Hart is familiar with Federal and Colorado certification requirements, and dedicates a full-time professional staff member to managing the certification process for the eSlate System. Hart's familiarity with these requirements is demonstrated by our successful history of NASED and Colorado certification. Hart InterCivic's eSlate System is certified in 19 states in addition to Colorado.

**B. In addition, the Boulder County Clerk & Recorder supports the Voting Systems Standards of the Federal Election Commission including HAVA requirements and the testing required by the Colorado Secretary of State**

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and subsequent testing programs of the National Association of State Election Directors (NASED). Vendors are responsible for being informed of these standards and in compliance with them.

### Hart InterCivic Response

Hart InterCivic maintains constant awareness of the Voting System Standards of the Federal Election Commission, the testing required by the Colorado Secretary of State, and the subsequent testing programs of NASED. As noted previously, Hart maintains a full-time professional resource responsible for managing our certification process and maintaining a constant awareness of certification processes.

Hart's successful history of ITA certification demonstrates that Hart has the understanding, knowledge, and capability necessary to certify future versions of the products, even if the certification requirements are updated.  Hart personnel have participated in the release of the new Federal Elections Commission (FEC) standards. Hart is also playing an active role in the development of the IEEE voting system standards. These and other activities provide assurance that the Hart certification support staff remains ahead of the implementation of any national certification requirements.

Hart InterCivic is also aware of Help America Vote Act requirements, and is actively monitoring the implementation of the Act. *Exhibit IV-1: How eSlate Meets Help America Vote Act Requirements,* describes the eSlate Systems compliance with the primary requirements of Section 301.

| Sec. 301. Voting Systems Standards | Responsiveness of the eSlate System |
|---|---|
| Permit the voter to verify selections before the ballot is cast. | Voters are required to view the eSlate's Ballot Summary Screen, which lists all of the voter's selections and enables voter verification, before the ballot is cast. |
| Provide the voter with the opportunity to change/correct the ballot before the ballot is cast and counted. | Changes can be made at any time before the ballot is cast. |
| Notify the voter of overvotes and provide the voter with the opportunity to correct the ballot before the ballot is cast and counted. | The eSlate System does not permit overvotes. |
| The voting system shall produce a record with an audit capacity for such system. | All components of the eSlate System create independent audit logs that can be stored electronically or printed on paper. |
| The voting system shall produce a | Each time a voter casts a ballot, a Cast Vote |

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| Sec. 301. Voting Systems Standards | Responsiveness of the eSlate System |
|---|---|
| permanent paper record with a manual audit capacity for such system. | Record is created and stored in non-volatile FLASH memory in three physically separate locations. Paper copies of Cast Vote Records can be printed to provide a manual audit trail for each election. |
| The voting system shall provide the voter with an opportunity to change the ballot or correct any error before the permanent paper record is produced. | Changes can be made at any time before the ballot is cast. |
| The paper record produced shall be available as an official record for any recount conducted with respect to any election in which the system is used. | Paper copies of Cast Vote Records can be maintained as an official record for any recount. |
| The voting system shall be accessible for individuals with disabilities, including non-visual accessibility for the blind and visually impaired, in a manner that provides the same opportunity for access and participation (including privacy and independence) as for other voters. | The eSlate System is fully accessible for both visually and mobility impaired voters. |
| The voting system shall provide alternative language accessibility pursuant to the requirements of section 203 of the Voting Rights Act of 1965 (42 U.S.C. 1973aa–1a). | The eSlate System provides English and Spanish, as required in the Boulder County RFP, as well as additional languages (including character-based languages). |
| The error rate of the voting system in counting ballots shall comply with the error rate standards established under Section 3.2.1 of the voting systems standards issued by the FEC. | The eSlate System is fully tested and certified by NASED. |

Exhibit IV-1: How eSlate Meets Help America Vote Act Requirements. Boulder County can be assured that the eSlate System complies with all provisions of the Help America Vote Act (HAVA). HAVA's Section 301 requirements are shown above.

## 1.2 Proposer's Response

| a. Will you meet these requirements? | Yes   X | No |
|---|---|---|

b. **How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

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(1) **If the system you are proposing has been certified by the Secretary of State, please submit a copy of that certification. For each test agency:**

- **Provide a detailed description of all testing to date.**

- **List dates for each certification phase completed.**

- **List all problems during certification with a detailed explanation of failures and resolutions resulting in the successful acceptance by the certification process.**

## Hart InterCivic Response

Our initial certification in Colorado was completed December 27, 2000. *Exhibit IV-2, eSlate Colorado Certification History,* presents the dates for each certification phase. Copies of the certification documents are included in *Attachment 1, Documentation of System Certification.*

| Date of Colorado Certification | System | BOSS | Tally | eSlate | JBC | Ballot Now | Servo |
|---|---|---|---|---|---|---|---|
| 27-Dec-00 | | 2.2 | 2.3 | 1.10 | 1.10 | | |
| 12-Jan-01 | | 2.7 | 2.7 | 1.13 | 1.14 | 1.3 | |
| 31-May-02 | 2.0 | 2.8 | 2.8 | 1.15 | 1.15 | 1.4 | 1.01 |
| 9-Sep-02 | 2.1 | 2.9 | 2.9 | 1.16 | 1.16 | 1.5 | 1.02 |
| 18-Oct-02 | 2.1 | | 2.9 | | | | |

Exhibit IV-2: eSlate Colorado Certification History. Since the eSlate was initially certified in Colorado, several versions have been successfully tested and certified.

The system currently certified in Colorado has been through the complete ITA testing process. *Exhibit IV-3* presents the history of testing to date for eSlate System 2.1.

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| eSlate System Component | NASED Qualification Number | Responsible ITA |
|---|---|---|
| BOSS 2.9.0.4 | 03040000021 - 1990 | Ciber |
| Tally 2.9.0.8 | 03040000021B - 1990 | Ciber |
| Ballot Now 1.5 | 03040000021A - 1990 | Ciber |
| SERVO 1.02 | 03040000021A - 1990 | Ciber |
| Precinct Voting System (firmware) 1.16 | 03040000021 - 1990 | Wyle |

Exhibit IV-3: eSlate Version 2.1 Testing History. The eSlate Version 2.1, currently certified in Colorado, has been fully tested through the NASED certification process.

No issues were encountered during certification.

(2) If the system you are proposing has not been certified by the Secretary of State, please:

- **Describe where you are in the process of receiving certification and when you expect to receive the certification.**

- **Provide a summary of your testing progress with scheduled and/or completed certification dates.**

**Hart InterCivic Response**

The eSlate System 2.1, proposed in this response, is fully certified.

Initial components of eSlate System 3.0 were submitted to ITA on May 19, 2003. Additional components will be submitted as is practical for ITA's process. Submission of all components expected to be complete by mid June.

## 2.0   COMPLIANCE WITH ELECTION LAWS

### 2.1   Requirement

**The voting system shall comply with all provisions of Federal, State and local election laws and regulations, and any future modifications to those laws and regulations, which include HAVA.**

### 2.2   Proposer's Response

| a.   Will you meet these requirements? | Yes | X | No |
|---|---|---|---|

**b.  How do you propose to meet this requirement?**

<u>Hart InterCivic Response</u>

The eSlate System complies with all Federal, Colorado, and local election laws and regulations, including HAVA requirements as indicated in *Exhibit IV-1*, and will adapt to these laws and regulations as they change.

Hart InterCivic's Development Center in Boulder County maintains an active involvement in national standards initiatives in order to ensure a thorough understanding of changing requirements and emerging trends.  Hart also monitors election law changes at the state and local levels where the eSlate Electronic Voting System is certified, as well as continuing communication with Elections Officials at eSlate installations.  For example, Hart InterCivic's Vice President of Engineering and Development serves as Project Manager of the IEEE Voting Systems Standards Project.

Changes to the eSlate System required as a result of changing Federal, state, and local election laws and regulations are added to the eSlate Solution Roadmap, assigned to the Hart InterCivic Development Center, and incorporated into the appropriate component of the eSlate System.  This revised functionality is delivered to the installation through a regular scheduled release of hardware, firmware, and software upgrades under the terms of the annual licensing and maintenance agreement.

## 3.0   OPERATING SYSTEM COMPATIBILITY

### 3.1   *Requirement*

**The Boulder County Clerk & Recorder operates in a Microsoft Windows XP on the PC, Windows 2000 Server for all server software. The vendor's proposed system shall operate seamlessly within this environment.**

### 3.2   *Proposer's Response*

| a.  Will you meet these requirements? | Yes | X | No |
|---|---|---|---|

**b.  How do you propose to meet this requirement?**

<u>Hart InterCivic Response</u>

Hart InterCivic is in the process of adding Windows XP as a supported platform for the eSlate System. The Ballot Origination Software System (BOSS), Ballot Now, Tally, and SERVO applications are presently designed to run in the Windows NT/2000 environment and are delivered on computer systems (PCs) with compatible operating systems.

## 4.0   ELECTION MANAGEMENT SYSTEM

**The Boulder County Clerk & Recorder currently uses Sequoia Voting Systems Integrity Software to maintain voters, parties, streets, districts, voting locations (polls), candidates/measures, voter counts and precinct information. The system is also used to generate ballot types for each election. Precincts within each ballot type are consolidated into election precincts, and a voting location is assigned to each. The Integrity Software has the capability of managing multiple ballot types in an election precinct. All election data is stored using Microsoft's SQL Server 2000 database software. The process of creating the election structure will remain a function of the Integrity software.**

### Hart InterCivic Response

Ballots are generated using the eSlate System's Ballot Origination Software System (BOSS), a Windows-based application that allows election officials to manage election data and format and generate ballots.  Data will be imported from Integrity into BOSS, including jurisdiction data, election data, and relationships (for example, assignment of precincts to voting locations). The import will be accomplished using a highly automated import wizard.

Hart InterCivic maintains an engineering and integration team staffed with specialists in database and software management.  The engineering and integration team has created several import wizards that provide highly automated, "one-touch," import capability.  These import wizards support data exchange with a variety of election management systems.

Our expertise in automated integration capabilities has been recognized as a key element in Hart's contribution to the proposal that won the Federal Voting Assistance Project's (FVAP) Secure Electronic Registration and Voting Experiment (SERVE) contract.

### 4.1   Requirements

a.   **The system shall utilize delimited text files generated by the Integrity software to interface to the election management portion of the vendor's software.**

### Hart InterCivic Response

The eSlate System will import delimited text files from Integrity using a highly automated import wizard. To develop the wizard, fields will be mapped between Integrity and the BOSS database structure.  The import process transfers all data necessary to format and generate ballots, including relationships between fields. The import wizard is launched, and data automatically populates the relevant fields in the BOSS database. The import function provides complete error

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checking upon import so that the data is "proofed" for correctness as part of the import process. BOSS also provides the capability for managing multiple ballot types in an election precinct.

**b. All election specific structure, contest and candidate data will be refreshed for each election.**

## Hart InterCivic Response

For each election, election specific structure, contest, and candidate data will be imported from Integrity using BOSS's flexible data import capability or may be manually entered into the application through intuitive data entry fields and drop-down menus. Jurisdiction and election information prepared for one election is saved as an administrative database to be used as a starting point for the next, thereby eliminating repetitive data entry.

**c. The data shall be supplied through an automated interface so no manual keying of data is required.**

## Hart InterCivic Response

As noted, Hart will provide an automated interface so that no manual keying of data is required. The eSlate System supports direct import and export of delimited text files in a defined file format. Other file formats are supported, including XML, which is the subject of national and international standards setting efforts. Relationships such as precinct assignments to polling place can be imported as well. The import function provides complete error checking upon import so that the data is "proofed" for correctness as part of the import process.

**d. All election management reports generated by the proposed system shall match the information generated by the Integrity software.**

## Hart InterCivic Response

Since all election data will be imported from Integrity, election management reports generated by BOSS shall match the information generated by the Integrity software.

**e. The system may generate its own internal ballot types but shall carry the Integrity ballot type through to reports, so the proposed system can be proofed against the Election Management System (EMS) reports.**

## Hart InterCivic Response

BOSS includes a field that will be used to maintain an identifier for the Integrity ballot types, enabling the eSlate System ballots to be proofed against the Election Management System (EMS) reports. The initial activity in the installation effort is a comprehensive requirements and process analysis. We will work with the

County to delineate report data and format specifications. Hart InterCivic will then develop custom reports matching the specification.

**f. The proposed system shall provide all necessary reports and/or delimited text files to allow manual and automated proofing of the ballot types generated to ensure that the data is interpreted correctly.**

**Hart InterCivic Response**

BOSS produces reports that permit proofing of the ballot types generated to ensure that the data is presented correctly. These reports are described in response to question 4.2 below.

**g. All functions of the software shall support 250,000 voter records, 250 precinct records, 250 voting districts, and in excess of 1,000 ballot types.**

**Hart InterCivic Response**

The eSlate System can readily support the requirements in the RFP for 250,000 voter records, 250 precinct records, and in excess of 1,000 ballot types. For example, the Mobile Ballot Box (MBB) can store in excess of 50,000 ballot types. The system is currently installed and operating successfully in jurisdictions whose requirements exceed this specification.

**4.2    Proposer's Response**

| a.  Will you meet these requirements? | Yes | X | No |
|---|---|---|---|

**b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

**(1) Provide a detailed description of the import capabilities of the system. Limit the response to ballot management interface only. Identify each interface file currently supported, its purpose and limitations.**

**Hart InterCivic Response**

The eSlate System supports direct import and export of delimited text files in a defined file format. Other file formats are supported, including XML, which is the subject of national and international standard setting efforts. Relationships such as precinct assignments to polling place can be imported as well. The import function provides complete error checking upon import so that the data is "proofed" for correctness as part of the import process. The Hart staff includes expert engineering support to develop custom solutions in the event the source file formats are not 100 percent compatible.

The eSlate's ballot management interface, BOSS, will use the delimited text files generated by the County's Integrity Election Management System.

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BOSS includes an Import/Export utility to externally manage the database data through specifically formatted text files. Each text file represents a data element in the BOSS database, including:

- election
- equipment
- party
- polling places
- precinct
- contest
- candidate
- polling place and precinct associations
- contest and precinct associations

The Import/Export utility does not allow users to manipulate cast ballot data.

Upon executing the utility, the user is prompted to select a target BOSS database. The user selects the data elements to be imported through a "Select Element to Import" dropdown list box and specifies the import file name in the "Import File/Path Name" by either manually entering the path and filename or by selecting it using the "Browse" command button. Users may preview the import file by pushing the "View Import Text File" command button. This brings up the import file for view and/or edit. The import process is then completed by pressing the "Import Records" command button to import the records from the selected file.

The utility validates all records to be imported. Users have the ability to repair invalid records by pushing the "Repair Invalid Records" command button. The repair interface will inform the user of the validation issue, and which element of the data record is faulty.

**(2) Provide a detailed description of the process for creating the election structure. This should include setup of election information, if any; import of data; processing; audit checks; reports; etc.**

**Hart InterCivic Response**

BOSS uses an intuitive menu-driven interface in the data entry and ballot formatting process that virtually "walks" the user through the steps necessary to define the election and create ballot styles. To start a new election the user enters the name of the election and selects the "import file" function to import all race, candidates, measures, precincts, districts, rotation, and the relationships between each from Boulder County's Integrity system. Data may be entered manually, as

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well. BOSS provides reports on the import process so that the user may verify the process is complete.

From there, the user may select from a series of options that complete ballot formatting. At this point, the ballots for the election are generated and the MBBs are written. Ballot formats for both the DRE and absentee/mail ballots are generated at the same time. All activities in BOSS are recorded to the audit log, which may be reviewed as required. BOSS also produces a variety of reports that can be used to proof the election structure and set up.

**(3) Provide a detailed description of the reports and processes that will allow the Boulder County Clerk & Recorder to proof the ballot types to ensure the data is interpreted correctly.**

### Hart InterCivic Response

BOSS produces reports that permit proofing of ballots before the database is locked: (1) the Ballot Content Proof Report and (2) the Entire Ballot Slate report.

The Ballot Content Proof report lists the information contained in each ballot style generated by BOSS. The report includes:

- ballot formats
- ballot styles created for a ballot format
- ballot header text
- precincts that will use a particular ballot style in the election
- precinct/precinct split name
- number of registered voters in the precinct/precinct split
- number of precincts that use the ballot style
- number of registered voters that use the ballot style
- for each active contest in each ballot style, lists in order of appearance on the ballot:
  - contest type
  - contest name
  - number of write-ins allowed in the contest
  - straight party, where applicable

The Entire Ballot Slate report shows:

- ballot text for the contest
- contest name
- number of write-ins allowed in the contest
- contest type
- number of options in the contest
- straight party, if applicable
- if the contest is cumulative, displays Cumulative

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- if the contest is dependent, displays Dependent on XXX, where XXX is the choice in the related contest that this item is dependent upon number of votes allowed in the contest
- options for an Office type contest, including
  - party affiliation, name, and incumbent status (shown as (I) for incumbent) for each candidate
  - write-ins, and
  - delegate names for each candidate
- options for a Proposition type contest, including text for the proposition
  - for (Yes), and
  - against (No)

## 5.0   ABSENTEE/MAIL BALLOT VOTING PROVISIONAL BALLOT

### 5.1   *Requirement*

The system shall provide an absentee/mail/provisional ballot/provision ballot component from which paper ballots can be generated through a ballot layout system and a means by which such ballots can be tabulated. This system shall meet, at a minimum, the following:

a. It shall be integrated with the entire voting system provided.

### Hart InterCivic Response

Ballot Now, the eSlate System's paper Ballot (Absentee/Mail/Provisional) application is a unique software solution for *on-demand, in-house or commercial printing* of paper ballots for absentee/mail voting, provisional voters, or other special situations requiring paper ballots.

Ballot Now scans and digitally images the voted ballots, resolving unclear ballots through an innovative on-screen resolution process; capturing Cast Vote Records, and creating a comprehensive audit trail.

Ballot Now is fully integrated within the eSlate System.

- Data imported into eSlate's Ballot Origination Software System is used to generate both DRE and absentee/mail ballots.
- Ballot styles for both are written on Mobile Ballot Box PC cards.
- As votes are cast, Cast Vote Records are created that have identical formats for both DRE and absentee/mail.
- All Cast Vote Records are tabulated by Tally, eSlate's tabulation and reporting application.

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- Standard reports routinely present consolidated totals for absentee/mail and DRE.

b. **The component that generates and tallies the absentee ballots shall be programmed from the same database and election definition that is used to program the precinct voting devices.**

## Hart InterCivic Response

Ballot Now ballots are formatted and generated through the eSlate System's Ballot Origination Software System (BOSS), at the same time, and from the same data, as the ballots to be presented on the DRE screen.

Using the BOSS import wizard, data is imported from Integrity into BOSS. Formatting choices for the paper/absentee/mail ballots are made in BOSS (columns, paper size, etc.), and a Mobile Ballot Box is written that carries Ballot Now ballot data.

As paper ballot votes are recorded, Cast Vote Records are created that are structured the same as Cast Vote Records from DRE ballots. All Cast Vote Records, whether originating from paper ballots or the DRE, are stored on a Mobile Ballot Box (MBB) and tabulated through Tally, eSlate's tabulation and reporting application.

c. **The output of the absentee/mail/provisional ballot/provisional ballot layout system shall be subject to edits, if necessary, by an editing component within the system. That is, contests shall be able to be moved if necessary by column breaks, page breaks, cut and paste processes, etc.**

## Hart InterCivic Response

As noted, Ballot Now ballots are generated through BOSS. Using BOSS, users can specify column breaks, page breaks, or make other formatting choices in order to edit the absentee/mail layout.

d. **The output of the absentee/mail/provisional ballot/provisional ballot layout component shall be readily exportable so that a commercial printer can generate the ballots necessary for any election held within the County.**

## Hart InterCivic Response

Ballot Now produces formatted ballots in electronic images (print files) that may be exported and printed by commercial printers. Ballot Now can also print ballots "on-demand" using commercial, off-the-shelf printers.

Ballot Now printing options include printing ballots with or without ballot stubs, and with or without serial numbers. In addition, Ballot Now provides paper

ballots in a variety of templates that use paper sizes of 8 ½" x 11", 8 ½" x 14", and 11" x 17"; simplex and duplex ballots are supported, as well as multi-page ballots. All of these different sizes of ballots, however, may be folded into the same size standard ballot envelope.

**e. It shall be reliable, accurate, and operate at a speed that accommodates a timely tally of the votes generated by it.**

### Hart InterCivic Response

Ballot Now performs with 100% accuracy and offers several features designed to ensure accuracy and reliability.

Unlike optical scanning systems, there is no requirement for precise registration marks in printed ballots, thus reducing the margin for error in ballot production. The system automatically adjusts for skewed or damaged ballots, and identifies all marks within the target zone.

Ballot Now uses commercial off-the-shelf scanners and printers, and operates at the full rated speed of each. Ballot Now does not stop scanning due to ballot mismarks or write-ins, instead creating a digital image of the ballot for later resolution by election officials. Ballot Now also includes efficiency features that increase productivity throughout the process. For example, each Ballot Now ballot includes a bar code that identifies the precinct or ballot style. This eliminates the need to sort ballots before scanning, which eases the workload for the Elections Staff and speeds ballot processing.

For the Boulder County installation, Hart is pleased to propose Kodak's High Speed Series i830 Document Scanners. The i830 handles an unsurpassed range of document sizes, thickness, and surface quality to minimize stoppages and the need for rescans. The feeder, exit hopper, and controls are positioned conveniently to help operators work efficiently. Features like easy operator calibration and multi-feed detection based on length and thickness help any imaging application meet its quality control needs.

We are proposing three Ballot Now systems for Boulder County. The proposed configuration will support imaging of 200,000 ballots in 12 hours.

**f. Absentee results shall be easily integrated with Election Day and early voting results.**

### Hart InterCivic Response

Since Ballot Now is a fully integrated component of the eSlate System, absentee results and Election Day results are seamlessly integrated. Both components capture votes as Cast Vote Records (CVRs), CVRs are saved on the MBB (among other redundant storage), and the MBBs supply data to Tally for tabulation and reporting.

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A significant technical advantage that Ballot Now offers is the fact that the Cast Vote Records are not tabulated when the ballots are processed. This technical advantage translates into a tremendous operational advantage since processing of Ballot Now ballots can begin up to 10 days before Election Day as defined in the Colorado Election Code.

Section 1-8-302 of the Colorado Election Code specifically allows ballots to be processed beginning 10 days prior to Election Day, although under no circumstances are results to be released. *Ballot Now can process all by-mail ballots in accordance with state law so that the electronic Cast Vote Records can be read in a matter of seconds on Election Day. There is no risk of exposing returns prematurely.*

**g. It shall be subject to a full audit and generate reports and logs that would facilitate such an audit.**

**Hart InterCivic Response**

Like all eSlate components, Ballot Now maintains a complete audit log. Audit Log reports are available from the system. Ballot Now also creates an electronic image of each ballot that is securely and safely stored to create a permanent record of the election. The paper ballot is maintained in its original format, unlike older generation optical scan systems that require election officials to physically alter the paper ballot so it may be re-scanned.

**h. It shall allow for the tabulation of provisional ballots that are verified after Election Day.**

**Hart InterCivic Response**

Cast Vote Records for provisional ballots may be accepted or rejected, as appropriate, until the tabulation database for the specific election is closed.

**i. It shall support the generation and tally of optical scan type ballots if required.**

**Hart InterCivic Response**

Ballot Now does produce optical scan-type ballots, but with several advantages over older generation optical scan systems. *Exhibit IV-4* provides a description of some of the differences.

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| Comparison of Ballot Now and Traditional Optical Scanning | | |
|---|---|---|
| **Optical Scanning System** | **Ballot Now** | **Ballot Now Benefit** |
| Requires voting response areas to be located on a specific grid limiting flexibility of the ballot design. | No grid required so that as ballot design evolves, there is no limitation on the placement of information. | Flexibility in Ballot Design |
| The reading or scanning mechanisms (read head) for optical scan systems are known as "contact image sensors" and are made up of a series of individual, discrete emitter-detector pairs. The response of the individual emitter-detector pairs is different so that one pair may recognize a mark while another pair may ignore the same mark. Calibration methods do not allow for the individual pairs to be adjusted; only the entire set of emitter-detector pairs to be averaged. | The imaging component used by Ballot Now is a Charge-Coupled Device (CCD), a highly integrated semi-conductor "array" that maintains a flat response across the component for consistent performance. | Accuracy and consistency |
| Relies on dimensional stability of the ballot stock and the accuracy of the printing process. A 10% increase in relative humidity can cause a piece of paper to expand as much as 1%. The dimensional relationships between the voter response areas and position of the emitter-detector pairs are on the order of 0.25 inches. A 1% change for an 11-inch piece of paper is 0.11 inches, almost half the distance of the voter response and sensor relationship. | Ballot Now eliminates the need for dimensional stability and printing accuracy by imaging the complete document. By intelligently analyzing the image in computer memory, these artifacts have no impact on accuracy. | Ensures scanning accuracy |
| When ballots are read by the optical scan system, the ballot must be perfectly aligned with the read mechanism or the ballot will not be properly read. If the ballot is fed into the system off axis the voter response areas will not align with the emitter-detector pairs in the read head. | Ballot Now eliminates the need for the ballot to be perfectly aligned when fed into the system. By intelligently analyzing the image in computer memory, this condition has no impact on accuracy. If there are gross alignment issues, Ballot Now will alert the user. | Accuracy |
| Requires a sensing track along the edge of the ballot that is made up of individual sense marks. The sense marks line up with the voter response areas across the ballot and "trigger" the read head to scan a line on the ballot. The optical scan system never identifies the voter response area; the system assumes the response area is in the proper location and blindly takes a reading. The assumption that the voter response area is in exactly the correct position is based on the element identified | Ballot Now actually locates the voter response area for each contest and then analyzes the interior area for voter marks. No assumptions are made about the location of the voter response area, every option of every contest is positively located and the interior analyzed. | Accuracy and reliability |

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| Comparison of Ballot Now and Traditional Optical Scanning | | |
|---|---|---|
| **Optical Scanning System** | **Ballot Now** | **Ballot Now Benefit** |
| above. | | |
| Uses proprietary hardware that has not significantly improved the performance and accuracy of optical scan systems since the release of the system in the 1960s and early 70's. | Ballot Now relies on commercial off-the-shelf digital imaging scanners that are developed and manufactured by some of the largest information technology providers. | Scalability and continual improvement |

Exhibit IV-4: Comparison of Ballot with Traditional Optical Scanning Solutions. Ballot Now's unique digital imaging process and ballot-on-demand capability provides important advantages to Boulder County in terms of accuracy, reliability, convenience, and flexibility.

### 5.2    Proposer's Response

| a.   Will you meet these requirements? | Yes        X | No |
|---|---|---|

**b.  How do you propose to meet this requirement? Make sure to include item(s) listed below:**

**(1) Give a comprehensive description of the absentee/mail/provisional ballot component of your system.**

<u>Hart InterCivic Response</u>

*Ballot Now, eSlate's digital absentee balloting application, is a paper balloting system that is fully integrated with the eSlate Electronic Voting System.* Ballot Now manages the printing, scanning, and resolution of paper ballots for absentee or provisional voting. Ballot Now also records voted ballots as electronic Cast Vote Records (CVRs) for tabulation through the eSlate Tally tabulation and reporting system.

Ballot Now retrieves ballot information from the Mobile Ballot Box (MBB) written by the eSlate's Ballot Origination Software System (BOSS), using the same process as that used to define ballots for the eSlate Precinct Voting System. As a result, Ballot Now provides Boulder County Elections Officials with a highly scalable absentee/mail/provisional solution, fully integrated with the eSlate System.

Ballot Now ballots can be produced in an electronic file and provided to commercial printers for volume ballot production, or printed on demand by commercial, off-the-shelf printers.

Competitors' "on-demand" systems require ballots to be preprinted for specific precincts or ballot styles. This means that Boulder County election officials must forecast and manage the inventory of ballots for requirements that are difficult to

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anticipate. Other ballot on demand systems require special stock with preprinted "ovals" or other target marks that may or may not conform to particular ballot requirements. Ballot Now ballots require no preformatting.

Ballot Now ballots include a bar code that identifies the precinct or ballot style. This eliminates the need to sort ballots before scanning, which eases the workload for the Elections staff and speeds ballot processing. Bar codes prevent duplicate scanning, which is the most frequent error in centrally processing optical scan ballots, and fraudulent ballots.

Ballot Now also includes a unique on-screen feature that increases the efficiency and accuracy of ballot resolution and avoids the need to alter the original paper ballot in any way. Ballot Now identifies ballots requiring resolution, based on local procedures and State law. The ballot resolution process allows Election Officials to review the digital image of the ballot on the computer screen to record write-in votes or resolve questions of voter intent. As issues are resolved, Elections Officials use a simple menu-driven interface to make and record decisions; Ballot Now also includes an auto-resolve feature that can be used if determination of voter intent is not required.

Processing write-in votes is particularly streamlined. Prior to scanning the ballots, the Elections Staff enters into Ballot Now the names and acceptable aliases for certified write-in candidates. Part of the ballot resolution process is then to accept or reject the voter's write-in choice according the list of certified candidates. With this method, all selections, including write-ins, are recorded electronically in Ballot Now.

Since all resolution issues are accomplished on-screen, there is no need to alter or handle the paper ballots. All ballots are preserved in their original forms requiring no alterations, in the event re-evaluation of the voter's intent is required. All actions taken related to the ballot resolution are recorded with descriptive detail in the Ballot Now audit log to provide a traceable record of events all the way back to the individual ballot (but not the voter).

**(2) Describe the speed and accuracy of your absentee/mail/provisional ballot generation and tally features.**

**Hart InterCivic Response**

Ballot processing is fast and 100% accurate.

Unlike optical scanning systems, there is no requirement for precise registration marks in printed ballots, reducing the complexity and margin for error in ballot production. The system automatically adjusts for skewed or damaged ballots, and identifies all marks within the target zone.

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The innovative design of the Ballot Now system allows scanning equipment to work continuously at rated scanner speed, since image processing is accomplished separately but parallel with scanning operations. The scanner feeds continuously and does not stop for ballot resolution issues (namely undervotes, mismarks, overvotes). Digital images of questionable ballots are stored electronically, and retrieved for resolution at an appropriate time determined by local practice.

Also, multiple Ballot Now stations (scanners) may be operated simultaneously to achieve complete processing in any given period of time. The means the system is highly scalable.

To support the process of scanning voted Ballots, Hart InterCivic is recommending the Kodak i830 Scanner with High-Volume Capture Software, which has a rated speed of 160 pages per minute (8½ x 11, landscape).

**(3) Describe the reliability of your absentee/mail/provisional/provisional ballot features.**

**Hart InterCivic Response**

Through testing by the Independent Testing Authority and independent tests performed as part of Hart InterCivic's ISO 9001 registered quality management system, Ballot Now has consistently demonstrated its reliability and performance. In addition, since the configuration proposed for Boulder County include three Ballot Now stations that can operate concurrently, the County will have a redundant system in unlikely event one of the stations is out of service.

**(4) Describe the process to audit your absentee/mail/provisional ballot processes.**

**Hart InterCivic Response**

Like all components of the eSlate System, Ballot Now creates a complete audit trail of all actions affecting the operation of the absentee/mail system. The audit trail is documented in the Ballot Now Audit Trail Report. The Audit Trail report lists the transactions users performed in Ballot Now.

Transactions that result in changes to the data stored in the database, and that are listed in the Audit Trail report include:

- transaction record number
- username of the user logged in to Ballot Now when transaction occurred
- date transaction occurred
- time of day transaction occurred
- code for the transaction

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- description of the transaction, and

- details of the transaction

**(5) Describe the error detection capabilities for your absentee/mail/ provisional ballot features.**

<u>Hart InterCivic Response</u>

Ballot Now includes several safeguards designed to detect errors in ballot processing or in marked ballots after voters return them. For example, when voted ballots are scanned, Ballot Now produces a Scanned Ballots Report. The Scanned Ballots Report lists the number of ballots processed by the system for an Election, sorted by Batch ID, and identifies ballots with marked areas that are unable to be processed or violate any voting logic (for example overvotes, write-ins, etc.).

This report is updated every time a batch of returned ballots is scanned. After first scanning ballots, there may be a number of unresolved ballots, and the report reflects these. However, after all ballots are resolved, the report does not show any unresolved ballots.

For each scan batch, the Scanned Ballots By Batch report shows:

- batch ID

- username of the user logged in to Ballot Now when ballots were scanned

- date ballots were scanned

- time of day ballots were scanned

- precinct name

- number of ballots scanned in each precinct

- number of unresolved ballots in each precinct

- number of resolved ballots in each precinct

- number of resolved ballots in each precinct that have been written to the MBB, and

- number of ballots in each precinct that are not yet processed

For ballots with unreadable marks, Ballot Now offers an innovative option to Elections Officials faced with the challenge of interpreting voter intent. When Elections Officials are ready to resolve questionable ballots, resolution problems are completed using Ballot Now's unique *on-screen* resolution feature. Ballot Now identifies ballots requiring resolution, according to parameters set by the Elections Official. The ballot resolution process is accomplished by reviewing the digital image of the ballot on the computer screen to record write-in votes or