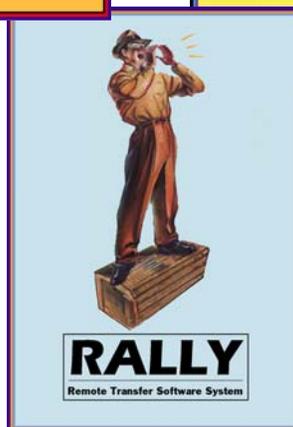
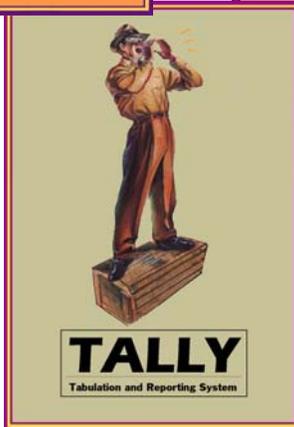
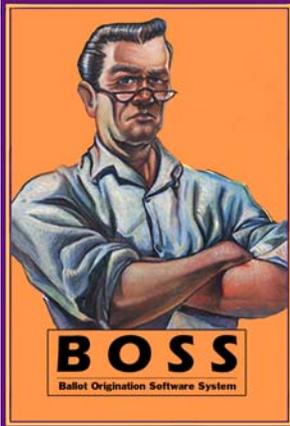

Hart Voting System Management and Tasks Training Manual



Hart Voting System System Version 6.2

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Table of Contents

Chapter 1

Getting Started	1
Introduction	1
What are Hart Voting System Management and Tasks?	1
This Document	1
Objectives	1
Hart Voting System Data Flowchart	2
Hart Voting System Security Features	3
Change Management	4
Implementing Change	4
Strategies for Change Management	5
Best Practices to Help Managers Successfully Implement Change	6
System Security	8
Hart Voting System Security Features	8
Other Recommended Security Procedures	10

Chapter 2

Election-Related Management	13
Hart Voting System Workflow	13
Election-Related Tasks Checklist	15
Planning Ballot Media Quantities	27
Ballot Media to Write Per Election	27
MBB Capacity	28
Planning Personnel Deployment and Training for an Implementation	29
Personnel Deployment	29
Hart Voting System Course Descriptions	30
Hart Voting System Training Schedules Overview	32
Training Planner	34
System Documentation and Media	35

Chapter 3

Software Administration Tasks	39
Software Password, Certificate, and PIN Tips	39
Computer Security	39
eSlate Cryptographic Module (eCM)	40
What is the eCM?	40
When is the eCM Used?	40
eCM Signing Key Workflow	41
About the eCM Manager Software Application	42
Using eCM Manager	43
eCM Device Management	45
Installing the eCM Driver on a PC	45

Planning for eScan Use	46
Planning for Demonstration eSlate Use	48
What is the Demonstration eSlate?	48
Creating a Demonstration eSlate Ballot in BOSS	48
Hart Voting System Software Installation	49
Tally Install Settings	49
Verification of Software and Firmware Versions	50
Software Version Verification	50
Firmware Version Verification	50
Database Management	52
BOSS Database Management	52
Ballot Now Database Management	55
Tally Database Management	58
Rally Database Management	61
SERVO Database Management	61
TRANS File Management	62
eCM Manager File Management	62
BOSS User Permissions and Audit Trail	63
First Login After Installation of BOSS	63
Creating Additional Users	63
BOSS User Permissions	63
Viewing BOSS Audit Reports	64
Ballot Now User Permissions, Certificates, and Audit Trail	68
First Login After Installation of Ballot Now	68
Managing Additional Users	69
Managing Ballot Now Certificates	70
Viewing Ballot Now “Audit Log” Reports	71
Tally User Permissions, Certificate, and Audit Trail	75
First Login After Installation of Tally	75
Creating Additional Users	75
Updating Certificate Information	75
Tally User Permissions	76
Viewing Tally “Audit Log” Reports	77
Rally User Permissions, Certificate, and Audit Trail	81
First Login After Installation of Rally	81
Creating Additional Users	81
Updating Certificate Information	81
Typical Rally User Permissions	82
Viewing Rally Audit Reports	83
SERVO User Permissions and Audit Trail	86
First Login After Installation of SERVO	86
Creating Additional Users	86
SERVO Permissions	86
Viewing SERVO Audit Reports	87

Appendices

Appendix A: Glossary	93
Appendix B: Hart InterCivic Support	103
How Do Customers Contact Hart InterCivic for Help?	103
What are the Hours of Operation for Help Services?	103
What Is TeamTrack?	103
What Other Types of Support are Offered?	103
Appendix C: Voting System Standards Personnel and Training Requirements	105
Appendix D: Backing Up Election Databases	107
Data to Back Up	107
How and When to Back Up Data	107
Backing up to CD	108
Appendix E: Paper Weights and Scanner Throughput	109
Appendix F: Training Mock Election	111
Appendix G: Election Logs	115



Introduction

This chapter covers the following:

- The definition of Hart Voting System Management and Tasks
- A description of this document and course objectives
- Change management concepts and strategies
- Hart Voting System security features and recommendations

What are Hart Voting System Management and Tasks?

Hart Voting System Management and Tasks are responsibilities and duties for elections administrators working with the Hart Voting System software and hardware.

This Document

This document is both a training manual and a guide to assist personnel in the local election administration office to successfully implement Hart Voting System-related management and training functions. This document is intended for use during initial training with Hart InterCivic training specialists and as a reference to supplement the software operations manuals and system training manuals.

- All steps that refer to a window, field, button, menu, or menu item on the display have the reference in bold (e.g., **Save, Close, OK**), unless referring to a table or list.
- All steps that refer to a key on the keyboard have the key underlined (e.g., Ctrl, Shift, Enter).
- The word “click” refers to a left click with the mouse unless otherwise stated.
- All report titles are referred to in quotation marks, (e.g., “Ballot Content Proof”), unless referring to a table or list.

See: Refers to a cross-reference for more information regarding the topic.

Note: Refers to a suggestion.

Tip(s): Refers to an advanced user tip.



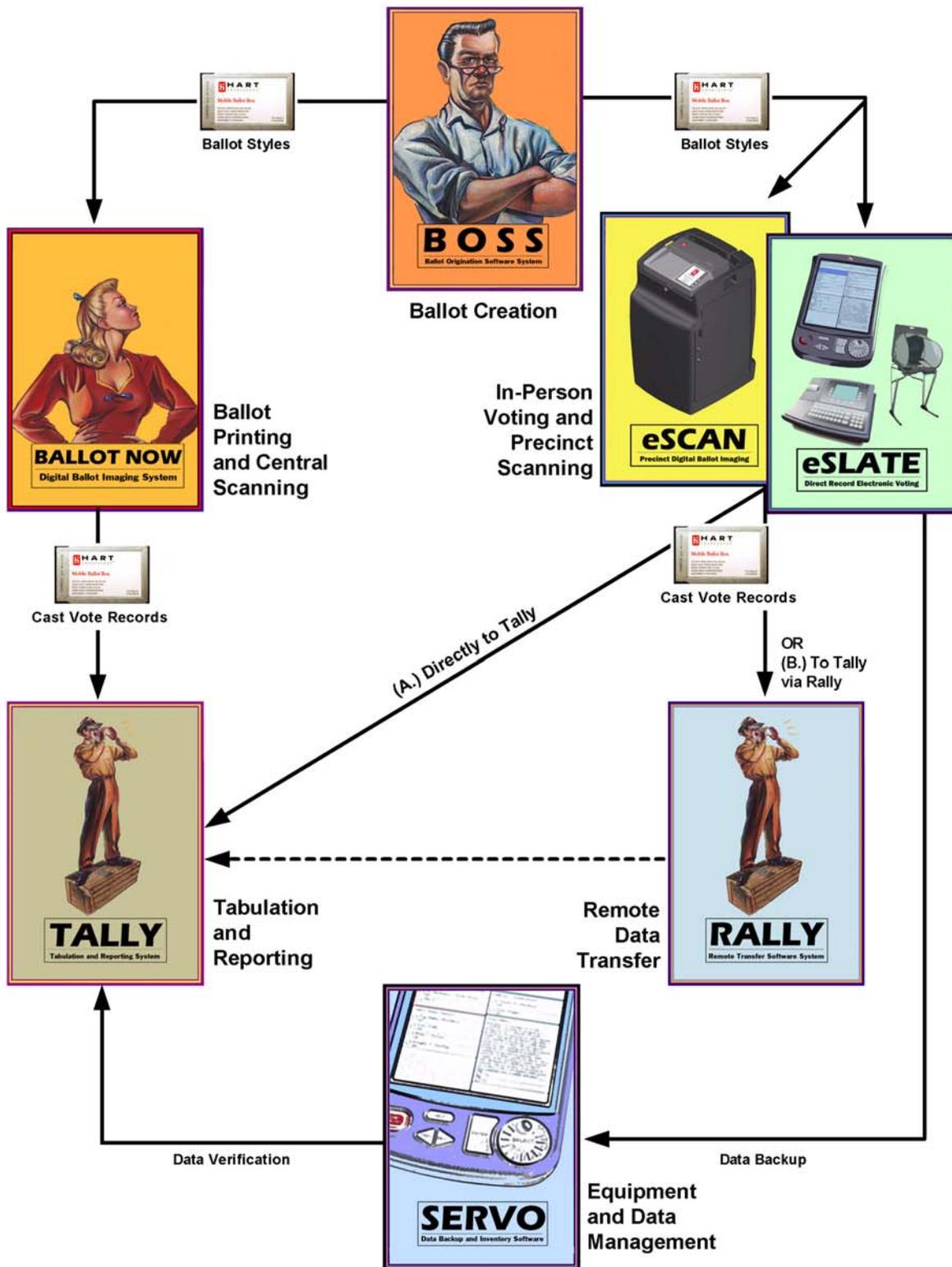
Refers to a warning or caution.

Objectives

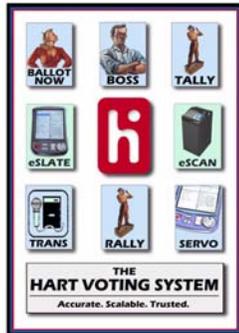
In the course associated with this document, you will:

- Obtain an overall grasp of the Hart Voting System
- Gather tools for managing the change from a legacy system to the Hart Voting System
- Acquire the information necessary to manage any election using the Hart Voting System
- Apply the information available to plan training functions
- Manage the security of the system, including user IDs and passwords
- Access software and firmware audit log information and reports

Hart Voting System Data Flowchart

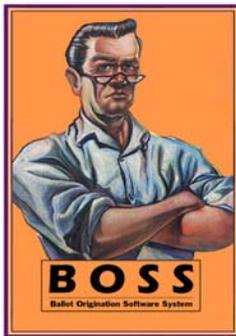


Hart Voting System Security Features

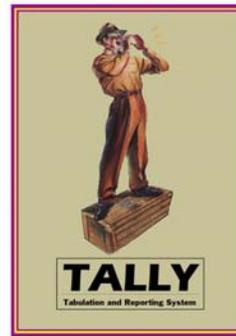


SECURITY FEATURES

- Critical data is encrypted
- An eCM is required for crucial functions
- Two-factor authentication is required
 1. Something you have - an eCM
 2. Something you know - the PIN
- A matching signing key is required
- Secure Sockets Layer (SSL) certificates are applied whenever communications between applications occurs
- User actions are logged in persistent audit trails
- Passwords are never stored "in the clear"
- There are no covert channels of access



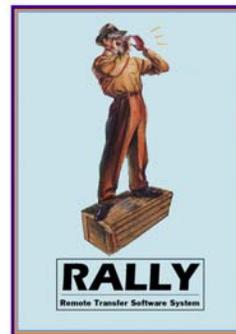
- eCM required to accept generated ballot
- Signing key written to MBB



- eCM required to read first MBB per session
- SSL certificate required to communicate with Rally



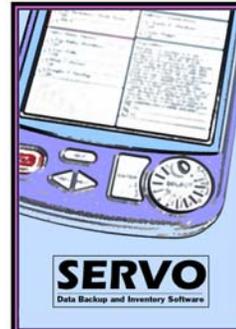
- eCM required to read or close MBB
- SSL certificate required for client-server communication



- eCM required to read first MBB per session
- SSL certificate required to communicate with Tally



- Signing key from JBC and eScan must match MBB
- Start-up, Open Polls, Close Polls, and Admin passwords required



- eCM required to:
- Transfer signing key to each JBC and eScan
 - Create Event
 - Create Recount MBB
 - Create Recovery MBB

Change Management

The purposes of this section are to:

1. Provide information about, and resources for, dealing with change in an organization.
2. Help organization administrators realize that implementing a new technology for voting is a change, and that this change is going to directly affect the organization's structure, status quo, and staff.

Implementing Change

Implementing the Hart Voting System is a positive step forward, and it is a change that must be dealt with proactively in order to ensure the greatest degree of success. Implementation of the voting system will affect administrators, clerical personnel, warehouse personnel, poll workers, and, of course, voters. Successful implementation requires that successful adaptation occur. Taking time to plan for change is not a luxury; it is a necessity.

Administrators need to actively use the marketing strategies and change management tools that the Hart InterCivic team offers. For example, the Business Process Analysis identifies changes from the legacy voting system, and the Project Implementation Plan explains how to apply those changes. These tools are not static, but dynamic, and they should be used as such throughout the implementation process.

Change management is the task of managing change to bring order to a situation, and to keep it that way. One useful framework for viewing the change process is to think of it as problem solving. In this framework a "problem" is a situation requiring action. Diagnosis of the problem is essential. In the Hart Voting System implementation framework, problems, or issues, are identified in the Business Process Analysis. Some of the "problems" and "issues" addressed may simply be straightforward changes; for example, *With the legacy system poll workers walked voters to the booths. With the eSlate this is not necessary. How do we get poll workers to change this behavior?* Goals must be set and achieved in order to move issues from the status of "problem" to "problem solved". Goals are set in the Hart Voting System implementation framework through the Project Implementation Plan. Issues should be actively tracked with the Business Process Analysis document, and goals should be actively tracked with the Project Implementation Plan.

Along with the careful planning that goes into implementation, local administrators must work to gain support, buy-in, and commitment from personnel and political groups that are involved in the Hart Voting System implementation process. As the voting system is implemented, a critical step in change management is organizational awareness of the changes and how each individual in the organization will develop the knowledge and skill to implement the necessary changes.

When problem solving pro-actively to ensure a successful Hart Voting System implementation, administrators must ask questions having to do with How, What, Why, and Who, and then answer those questions and assign resources to make certain that all involved know the answers and have the necessary skills. For example:

1. How are we going to train poll workers?
2. What will we use for storage of the eSlates and/or eScans?
3. Why do we need to do X differently from the way we have been doing it?
4. Who will be in charge of tabulation (ballot creation, training, absentee voting...), and how does this change affect his/her job?
5. How will we reinforce the change plan to help prevent staff from reverting back to old behaviors?

Strategies for Change Management

As you manage change, be aware of the approach you are taking to positively implement that change. Change management professionals use various nomenclature, and most successful organizational changes implement a combination of approaches. The following table presents two strategies for implementing change.

Strategy:	Steps:
20/20 Change Agent	<ol style="list-style-type: none"> 1. Be honest about where you are. <ul style="list-style-type: none"> > What was working well before the new system implementation? > What was not? 2. Bring 20-20 foresight to where you want to go. <ul style="list-style-type: none"> > Identify the goal of the change so concisely that it could be written on a scrap of paper. 3. Focus relentlessly on the things that move you toward your goal. <ul style="list-style-type: none"> > Close the gap between where you are, and where you want to be using the Hart InterCivic Business Process Analysis. > Identify performance measures for staff. > Give staff members feedback based on performance. > Do not delay issues. Beware of setting items on the “back burner”. 4. As you close in on the goal, never lose sight of the “whole” and be aware of the “parts”. <ul style="list-style-type: none"> > Keep track of all of the pieces. > Make certain staff members are communicating within the office and with service providers and vendors. > Set milestones for the project, and for teams, departments, and/or staff members.
ADKAR	<ol style="list-style-type: none"> 1. Awareness - establish the awareness that there is a need to change. <ul style="list-style-type: none"> > The new voting system is a catalyst to bring change to an organization. > All members of the organization must be made aware of the impact this implementation will have. > Establish goals and performance measurements. 2. Desire - encourage the desire to participate and support change. <ul style="list-style-type: none"> > Resistance to change is a key factor in the failure of changes. All members of the organization must communicate freely about apprehensions, and about positive challenges and hurdles. 3. Knowledge - provide means to knowledge of how to change. <ul style="list-style-type: none"> > List staff skills, current responsibilities, new responsibilities, and training needed. > Employ the Hart InterCivic Business Process Analysis as a guide to close the existing gaps. 4. Ability - use available tools to implement the change on a day-to-day basis. <ul style="list-style-type: none"> > Empower people to make decisions. > Use project plans to work toward established goals. 5. Reinforcement - keep the change in place by reinforcing what works, and fixing what does not. <ul style="list-style-type: none"> > Look for needed “tweaks”, and make them. > Identify incentives for organization members.

Best Practices to Help Managers Successfully Implement Change

1. Begin change management activities early in the project.
2. Recognize that employee resistance is one of the top obstacles to change. Mitigate this by making employees aware of changes and helping them to be comfortable with the changes.
3. A clear sense of mission or purpose is important. The simpler the mission statement is, the better.
4. Actively follow strategic plans, like the Business Process Analysis and Implementation Project Plan.
5. Build a team that can work together.
6. Pick people with relevant skills and high energy levels. You will need both.
7. Trust team members, and encourage them to trust each other.
8. Establish and maintain an organizational team structure, and rely on both formal and informal reporting requirements.
9. Make certain every team member knows his/her role and responsibilities.
10. Require that each team member's job description be thoroughly reviewed and updated to match new responsibilities. Members and their supervisors should take part in this.
11. Make certain others (vendors, contractors) know team members' roles and responsibilities.
12. Identify strong team leaders and give them some independence.
13. Delegate.
14. Empower team leaders to make decisions.
15. Encourage innovation.
16. Establish performance standards.
17. Use an action-feedback model. Plan for long and short-term action items, and modify long-term plans based on the solutions to short-term situations. Use the Implementation Project Plan to guide this.
18. Identify risks.
19. Acknowledge when things are complex.
20. Identify job functions that are not being completed (or not being completed correctly), and take action via replacing, supplementing, or training personnel.
21. Ask for help when you need it.
22. Concentrate the team's varied knowledge. Start and maintain an issues logbook. Encourage open communications.
23. Use the tools available to you, like the Business Process Analysis and the Project Implementation Plan. Do not let these tools go unused.
24. Ensure that there are continuous learning and improvement processes in place throughout the change process.
25. Take advantage of training opportunities.
26. Remember, the task of change management is that of problem solving to bring order to a situation, and keeping it that way.
27. Continue change management activities throughout the project.
28. Debrief after major events (e.g., elections) and identify strengths, weaknesses, and plans for addressing further changes needed.

Selected References and Resources

There are many resources for information about change management, including websites, books, audio tapes, video tapes, and professional change management services. The following resources were used as references for this document and the associated course.

Axelrod, Richard H. *Terms of Engagement: Changing The Way We Change Organizations*. Berrett-Koehler Publishers, Inc. 2000.

Anderson, Dean and Akerman, Linda. *Beyond Change Management: Advanced Strategies for Today's Transformational Leaders (The Practicing Organization Development Series)*, Jossey-Bass, Inc., Publishers, 2001.

Breen, Bill and Dahle, Cheryl. *Fast Company*, "20/20 Change Agent". Issue 30, December 1999.

Conner, Daryl R. *Managing At the Speed of Change*. Villard Books, 1993.

Conner, Daryl, Horney, Nicholas L., Harrington, H. James, Conner, Darryl R. *Project Change Management*. McGraw Hill College Division, 1999.

Galpin, Timothy J. *The Human Side of Change*. Jossey-Bass, Inc., Publishers, 1996.

Kotter, John P. and Cohen, Dan S. *The Heart of Change*. Harvard Business School Press, 2002.

Skarke, Gary, Holland, Winford E. Dutch, Rogers, Bill, Landon, Diane, and Holland, Dutch. *The Change Management Toolkit (2nd Edition)*. WinHope Press, 1999.

www.prosci.com, Business Process Reengineering (BPR), Prosci Research, 2004.

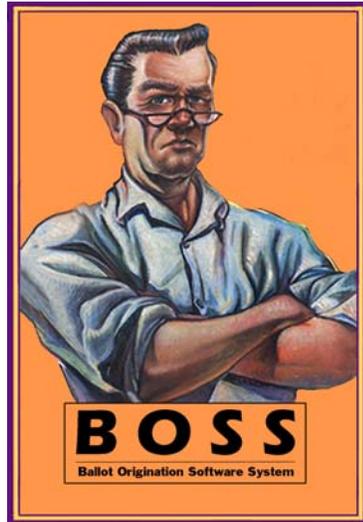
www.change-management.com, Prosci Research, 2006.

System Security

The purposes of this section are to provide an overview of the security features included in the Hart Voting System, and to recommend other security procedures.

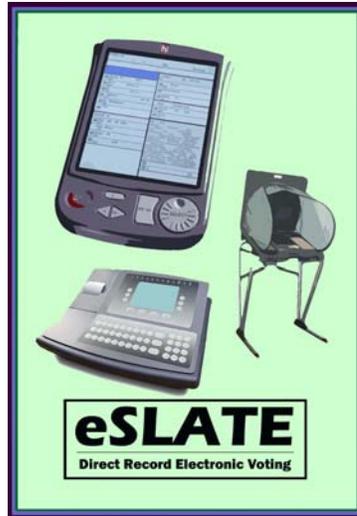
Hart Voting System Security Features

Security features are those features that prevent or inhibit tampering. There are numerous security features incorporated in the Hart Voting System. Some of these features are:



1. System software and firmware
 - a. Unique user IDs and passwords are required.
 - b. Passwords are not stored “in the clear” where others can access them.
 - c. Default permission level when creating new users, after initial administrative user, is least available privilege.
 - d. There are no “back door” user IDs or passwords.
 - e. The correct eSlate Cryptographic Module (eCM) is required for certain critical steps in the election creation process, and a valid PIN is necessary in order to access the eCM.
 - __ This is referred to as “two-factor authentication”:
 - __ 1.) Something you have: the eCM
 - __ 2.) Something you know: the PIN
 - f. An encrypted signing key is written to the eCM and the MBB, and that signing key must be verified in every application before data can be processed.
 - g. Tally-Rally and Ballot Now client-server relations are authenticated with the passing of Secure Sockets Layer (SSL) certificates.
 - h. All applications include audit logs identifying the user, date, time, and action.
 - i. Tally, Rally, and SERVO applications require a secure desktop which disallows the use of any other program while running Tally, Rally or SERVO.
 - j. PCs running Hart Voting System software are never connected to the internet.
 - k. The Ballot Origination Software System (BOSS) requires definition of master, open, and close polls passwords for the voting devices.
 - l. BOSS requires definition of the length of time an Access Code is active before expiring (default is set to 30 minutes).
 - m. BOSS allows definition of suspend and close polls times (which discourages suspending/closing polls on the voting devices before those times).
 - n. SERVO allows for firmware code verification of eScans, eSlates, and JBCs both before and after an election.

Hart Voting System Security Features (continued)



2. Polling place hardware
 - a. All polling place equipment firmware records each action with time and date stamps in an internal audit log, and this audit log is retrievable with the SERVO application.
 - b. The eScan, JBC, and each eSlate have audit logs.
 - c. The eScan, JBC, and each eSlate have Public and Private counters.
 - d. Private counters cannot be reset.
 - e. The eScan, JBC, and each eSlate record a duplicate original of each ballot cast and saved on the Mobile Ballot Box (MBB) for redundant storage of vote records.
 - f. Through SERVO, a signing key is transferred from the election eCM to each eScan and JBC before distributing polling place equipment.
 - g. The election MBB signing key and the eScan or JBC signing key must match in order to operate the voting equipment.
 - h. It is required that a password be entered in order for the eScan or JBC to function after the MBB is inserted and the unit powered on initially.
 - i. The eScan and JBC require passwords in order for the user to open and close polls.
 - j. The eScan and JBC require the open polls password for any restart.
 - k. JBC Access Codes are unique, cannot be traced back to the user, and can only be used one time.
 - l. JBC Access Codes expire after a period of time determined by the elections office.
 - m. Each unit, and the MBB, have internal serial numbers that are logged in the audit logs.
 - n. The eScan and JBC MBB access doors can be, and should be, sealed with a security seal.
 - o. The eSlate booth can be sealed with a security seal or lock.
 - p. The eSlate booth caddy can be locked.
 - q. The Verifiable Ballot Option (VBO) printer can be security-sealed into the eSlate booth.
 - r. An eSlate with VBO functionality cannot be used without a VBO printer.

Other Recommended Security Procedures



eSlate Cryptographic Module (eCM)

1. Annually or quarterly¹
 - a. Create new user IDs and passwords for all user levels in all software, including modem name and password in Tally and Rally.
 - b. Delete previously used user IDs and passwords.
 - c. Create new eCMs, with new key ID, signing key, and PIN(s), for the upcoming election.
 - d. Update and revise Ballot Now, Tally, and Rally certificates.
 - e. Establish new, unique, JBC and eScan start-up passwords, as well as open and close polls passwords.
2. Before each election cycle
 - a. Set and synchronize clocks on all election PCs, including time zone and daylight savings time settings.
 - b. Review, update, and publish for applicable personnel (i.e., poll workers) security procedures for the elections office, warehouse, equipment distribution resources and polling places.
3. During election events
 - a. Use, and track, security seals on the eScan and JBC MBB access doors.
 - b. Assign poll workers specific tasks, including monitoring traffic in general, monitoring the equipment and monitoring booths.
 - c. Establish communication procedures and emergency procedures for polling places.
 - d. If implementing during Early Voting, establish procedures for securing hardware after suspending polls nightly.
4. After each election cycle
 - a. Review security procedures that worked, and those that did not.
 - b. Update security policies and procedures for the next election cycle.
5. After any staff member who had access to critical information and/or software applications leaves the organization
 - a. Create new user IDs and passwords for all user levels in all software, including modem name and password in Tally and Rally.
 - b. Delete previously used user IDs and passwords.
 - c. Create new eCMs, with new key ID, signing key, and PIN(s), for the upcoming election.
 - d. Update and revise Ballot Now, Tally, and Rally certificates.
 - e. Establish new, unique, equipment master, open, and close passwords.

See:

“Software Password, Certificate, and PIN Tips” on page 39.

“eSlate Cryptographic Module (eCM)” on page 40.

1. More frequent changes of security passwords increases the level of security, but adds complexity for users. Follow federal, state, and local security guidelines.

Notes:

Notes:



This chapter covers the following:

- An overview of the Hart Voting System
- An election-related tasks checklist
- A table with recommended quantities of media (MBB and audio cards) to create for an election
- Information about eSlate training courses and their content
- Documentation and media included with the system and those recommended for purchase

Hart Voting System Workflow

The Hart Voting System workflow includes the following components of an election for a given jurisdiction:

- Security
- Training
- Public Relations/Voter Education and Outreach
- Hardware Preparation
- Ballot Creation in BOSS
- Testing
- Live Voting Events - Absentee, Early Voting in-person, and Election Day
- Optional Substation Transfer of Data via Rally for Election Day
- Tabulation in Tally
- Reporting
- Recount Options
- Post-Election Hardware Data Backup and Hardware Servicing



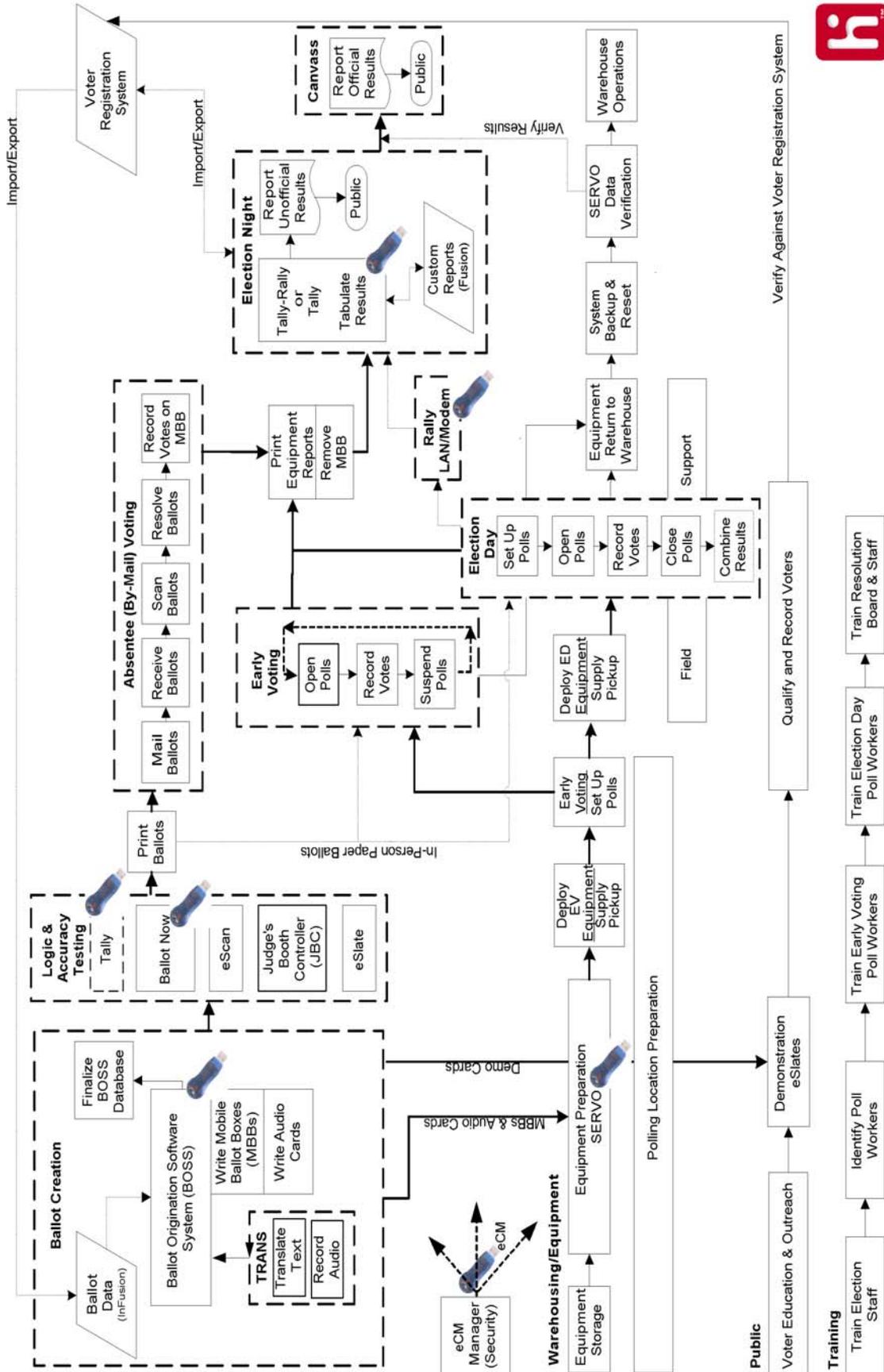
Since the *Hart Voting System Management and Tasks Training Manual* supports all Hart Voting System products, not all of the procedures in this document apply to all implementations. You must identify applicable procedures for the voting devices implemented.

See:

“Election-Related Tasks Checklist” on page 15. This checklist documents a complete list of tasks associated with Hart Voting System workflow.

See:

The following page for a graphic representation of the Hart Voting System workflow.



Election-Related Tasks Checklist

Use the following checklist to manage election-related tasks.

Code:	eSlate-Related Items:	Details:
S	At regular intervals: Set and synchronize clocks on all election PCs. Change all existing user IDs and passwords. Delete outdated users. Change/Update Ballot Now, Tally and Rally certificates. Create new eCMs with updated Key ID and PIN(s). Review, update, and communicate security procedures.	<input type="checkbox"/> BOSS, eCM Manager, Ballot Now, Tally, Rally, SERVO <input type="checkbox"/> Tally and Rally modem <input type="checkbox"/> Establish equipment passwords for election events and training. <input type="checkbox"/> Security procedures for office, warehouse, distribution, and polling places. <input type="checkbox"/> Refer to federal, state, and local security guidelines.
TE	Train Elections Staff, including support personnel, on implemented equipment and procedures.	
TE	Identify and reserve training facilities for poll worker training events.	
SP	Receive PC hardware and Hart software; configure, test, and set up systems.	
TE	Train elections administrators in Hart Voting System Management and Tasks.	
SP	Receive hardware.	
TE	Train support personnel in Acceptance and Functionality Test procedures.	
SP	Support personnel conduct Acceptance and Functionality Test and verify firmware version(s).	<input type="checkbox"/> Document Acceptance and Functionality Testing with provided logs.
TE S	Train all elections staff in Hart Voting System software and functions specific to their positions.	<input type="checkbox"/> Train BOSS operators, Ballot Now operators, Rally/Tally operators, and support personnel. Plan training with Trainee Course Assignment Log. <input type="checkbox"/> Establish software application users and permission levels.

Key:

- B** BOSS Process
BN Ballot Now Process
PR Public Relations Event
S Security Procedure
SP Support Procedures Item
T Tally Process
TE Training Event
V Live Voting Event

- Key:**
B BOSS Process
BN Ballot Now Process
PR Public Relations Event
S Security Procedure
SP Support Procedures Item
T Tally Process
TE Training Event
V Live Voting Event

Code:	eSlate-Related Items:	Details:
S	Establish and communicate office, warehouse, distribution, and polling place security procedures.	
S	Create eCMs for the election.	<input type="checkbox"/> Identify number needed. <input type="checkbox"/> Establish Key ID and PIN(s). <input type="checkbox"/> Log eCM and PIN data.
B PR	Create demonstration BOSS database and write demo cards appropriate to the upcoming election.	<input type="checkbox"/> Write combined data/audio cards with contests similar to upcoming election. Tip(s): Use historical or sports figures as candidates.
PR	Conduct public education campaign.	<input type="checkbox"/> Train outreach personnel. This is ongoing through Election Day.
TE	Start poll worker recruitment and planning EV and ED polling place procedures, training documentation, classes, and locations.	<input type="checkbox"/> Start poll worker recruitment. <input type="checkbox"/> Plan polling place procedures. <input type="checkbox"/> Plan training documentation. <input type="checkbox"/> Identify number of training classes. <input type="checkbox"/> Establish training class locations.
B TE	Create Training BOSS database and write training MBBs and audio cards for EV and ED training events (or use demo database). Tip(s): Create a training database with the same parameters as the live election database, OR, if the schedule allows time, the final live election database can be exported or copied forward and candidate names changed in order to create a training database.	<input type="checkbox"/> Use contests similar to upcoming election. <input type="checkbox"/> Use precinct naming convention identical to the upcoming election. <input type="checkbox"/> Use polls open and close passwords that are different than the upcoming election. <input type="checkbox"/> Use suspend and close polls times and Access Code time limit identical to the upcoming election. <input type="checkbox"/> Allow or disallow JBC Tally report as in upcoming election. Tip(s): Use historical or sports figures as candidates.

Code:	eSlate-Related Items:	Details:
B	Create ballot data files for import into BOSS, if applicable.	<input type="checkbox"/> Carefully plan import data and language approach. See: The <i>BOSS Operations Manual</i> and the <i>BOSS Training Manual</i>
B	Create BOSS ELECTION database.	See: "BOSS Database Management" on page 52.
B	Complete BOSS ballot data.	<input type="checkbox"/> Establish open and close polls passwords, suspend and close polls times, and Access Code time limit.
B	Print BOSS reports, proofread, and make corrections.	<input type="checkbox"/> 1st ballot proofread Before ballot preview, proofread from: <ul style="list-style-type: none"> • "Active Contests Options List" (all election content) • "Contest List with Details" (precincts per contest) • "Assigned Precinct Report" (precincts assigned to districts).
B	Print eSlate and Ballot Now (paper) ballot images from the BOSS Ballot Preview tab and proofread.	<input type="checkbox"/> 2nd ballot proofread Ballot preview. <input type="checkbox"/> Determine the maximum length of any ballot, and consider revising format to reduce length; i.e., to keep paper ballots to one sheet.
B	If errors are identified, exit Ballot Preview without accepting ballot, and make corrections.	<input type="checkbox"/> Repeat proofreading process from reports and Ballot Preview .
B	Record English audio in TRANS.	<input type="checkbox"/> DO NOT accept/generate ballot or write MBBs yet.
TE	Train translation service and/or professional translators in the use of TRANS, if applicable.	<input type="checkbox"/> TRANS is an application for translating foreign language text and recording audio for import into BOSS.

Key:

- B** BOSS Process
BN Ballot Now Process
PR Public Relations Event
S Security Procedure
SP Support Procedures Item
T Tally Process
TE Training Event
V Live Voting Event

Key:

B BOSS Process
BN Ballot Now Process
PR Public Relations Event
S Security Procedure
SP Support Procedures Item
T Tally Process
TE Training Event
V Live Voting Event

Code:	eSlate-Related Items:	Details:
B	Export text for multi-language ballot translation and transliteration in TRANS, if applicable.	<input type="checkbox"/> OR perform this step after proofreading from existing ballots in the Ballot Preview tab and rejecting the ballots.
B	Import translated and transliterated text for multi-language ballots from TRANS, if applicable.	
B	Export audio files for multi-language ballot recording in TRANS, if applicable.	<input type="checkbox"/> OR perform this step after proofreading from existing ballots in the Ballot Preview tab and rejecting the ballots.
B	Import recorded audio files for multi-language ballots from TRANS, if applicable.	
B	Validate and export data and audio to hard drive or CD file.	<input type="checkbox"/> Back up data, foreign language text, and audio files.
B	Back up BOSS database.	See: "Appendix D: Backing Up Election Databases" on page 107.
B	Accept/Generate ballot and write MBBs and audio cards.	Tip(s): Back up BOSS database, and export files, before generating ballot. See: "Planning Ballot Media Quantities" on page 27.
B	If errors are identified at this point, copy the database forward, rename it, delete the previous copy, make corrections to the new database, and repeat proofreading and other necessary tasks.	<input type="checkbox"/> Export/Import updated information. <input type="checkbox"/> Repeat proofreading process. <input type="checkbox"/> Generate ballot. <input type="checkbox"/> Create MBBs and audio cards.

Code:	eSlate-Related Items:	Details:
BN	Using sample ballots, determine paper stock size, weight, watermark, corner cut, and quantity. Order paper.	<p>See:</p> <p>“Appendix E: Paper Weights and Scanner Throughput” on page 109.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Hart secure watermarked paper with the lower left corner cut 3/8”, 70 lb., offset is recommended. If the ballots have stubs on the bottom, the same paper with the upper left corner cut 3/8” is recommended.
B BN T	“Round Trip” the ballot (optional).	<ul style="list-style-type: none"> <input type="checkbox"/> 3^d ballot proofread Use Test MBBs to vote on the eSlates, print Test Ballot Now and/or eScan ballots, mark and scan, and read MBBs into Tally. Document any ballot errors.
B	Political subdivisions proofread ballot.	<ul style="list-style-type: none"> <input type="checkbox"/> Final ballot proofread.
B	If errors are identified at this point, copy the database forward, rename it, delete the previous copy, make corrections to the new database, and repeat proofreading and other necessary tasks.	<ul style="list-style-type: none"> <input type="checkbox"/> Export/Import updated information. <input type="checkbox"/> Repeat proofreading process. <input type="checkbox"/> Generate ballot. <input type="checkbox"/> Create MBBs and audio cards.
B	Create all final MBBs and audio cards for Election.	<p>See:</p> <p>“Planning Ballot Media Quantities” on page 27.</p>
B	Back up BOSS database.	
B	Finalize BOSS database for Tally, and print all BOSS reports, including the Audit Trail for this database.	
B	Back up BOSS database.	

Key:

- B** BOSS Process
BN Ballot Now Process
PR Public Relations Event
S Security Procedure
SP Support Procedures Item
T Tally Process
TE Training Event
V Live Voting Event

Key:

B BOSS Process
BN Ballot Now Process
PR Public Relations Event
S Security Procedure
SP Support Procedures Item
T Tally Process
TE Training Event
V Live Voting Event

Code:	eSlate-Related Items:	Details:
SP	Perform Logic and Accuracy Test (LAT).	<input type="checkbox"/> Document LAT with Logic & Accuracy Test Log. See: “Logic and Accuracy Testing Procedures” in the <i>Support Procedures Training Manual</i> .
BN	Set up off-site and/or print queue processes and file structure, if applicable.	
BN	Print Ballot Now/eScan by-mail ballots.	
BN	Mail by-mail ballots.	
BN	Print Ballot Now/eScan ballots for in-person voting, if applicable.	<input type="checkbox"/> Early Voting <input type="checkbox"/> Election Day <input type="checkbox"/> Provisional
BN	Train ballot resolution (or corresponding) teams.	
BN	Receive Ballot Now/eScan by-mail ballots.	<input type="checkbox"/> Ongoing, through a date established in state guidelines.
BN	Scan and resolve by-mail ballots.	<input type="checkbox"/> Ongoing, through a date established in state guidelines.
T	Establish MBB Processing Procedures for Early Voting by-mail, Early Voting in person, Election Day and at the Central Counting Station.	<input type="checkbox"/> If Ballot Now is used for multiple sources, monitor batch and MBB source identification.
SP	Establish EV polling place locations, and logistics of voter traffic, furniture, electrical supply, and equipment security.	Plan: <input type="checkbox"/> Amount of equipment needed <input type="checkbox"/> Layout <input type="checkbox"/> AC power sources (check voltage) <input type="checkbox"/> Battery backup procedures and equipment <input type="checkbox"/> Security <input type="checkbox"/> Storage
SP	Plan EV and ED support for Help Desk and on-site technical support personnel at polling places.	<input type="checkbox"/> Establish procedures for using a Help Line Call Log and Troubleshooting Log. <input type="checkbox"/> Train personnel.

Code:	eSlate-Related Items:	Details:
SP	Prepare EV election equipment in the warehouse.	<p>This includes:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Programming signing key to JBC and/or eScan devices <input type="checkbox"/> Functionality testing <input type="checkbox"/> Resetting polling place equipment to zero "Public" CVR count <input type="checkbox"/> Installing MBBs <input type="checkbox"/> Installing red wire security seals <input type="checkbox"/> Starting the equipment Serial Number Logs <input type="checkbox"/> Starting the Ballot & Seal Certificate documents <input type="checkbox"/> Predefining polling place identification, if applicable <input type="checkbox"/> Cleaning equipment <input type="checkbox"/> Installing fresh paper rolls in JBCs, VBOs, and eScans <input type="checkbox"/> Stocking paper ballots and associated materials, if applicable
SP	Establish EV and ED staging, pickup, and delivery procedures and routines, including equipment return procedures and hardware and MBB processing procedures.	For eScan devices, include embedded LAT after delivery to polling place.
TE	Train EV elections lead poll workers and alternates in the Polling Place Operations Course.	OR train poll workers in a customized integrated procedures/paper ballots course.
SP	Perform any final EV polling place preparations required.	
SP	Deploy and distribute EV equipment.	

Key:

- B** BOSS Process
BN Ballot Now Process
PR Public Relations Event
S Security Procedure
SP Support Procedures Item
T Tally Process
TE Training Event
V Live Voting Event

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- B** BOSS Process
BN Ballot Now Process
PR Public Relations Event
S Security Procedure
SP Support Procedures Item
T Tally Process
TE Training Event
V Live Voting Event

Code:	eSlate-Related Items:	Details:
V	Conduct Early Voting.	<p>Also needed:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Daily Report Envelopes for collecting daily equipment reports and expired ACCESS CODES. One envelope per day, per JBC or eScan <input type="checkbox"/> Main Reports Envelopes, one per JBC or eScan, per election, for collecting the daily envelopes <input type="checkbox"/> Envelopes for collecting Provisional Ballot and/or Retrievable Ballot stubs <input type="checkbox"/> Reconciliation Log for comparing voters checked-in to equipment public count <input type="checkbox"/> Canceled Booth/Spoiled Ballot Log.
TE	Set up Rally substations, if applicable.	<ul style="list-style-type: none"> <input type="checkbox"/> Determine LAN or modem use. <input type="checkbox"/> Set up and test communications and PCs.
TE	Train Rally substation operators, if applicable.	
TE	Train ED Elections Lead Poll workers and Alternates in the Polling Place Operations Course.	<ul style="list-style-type: none"> <input type="checkbox"/> Consider Hart Voting System-specific election supplies and how election document envelopes are managed. <input type="checkbox"/> OR train poll workers in a customized integrated procedures/paper ballots course.
V	Suspend EV polls, final day of EV.	<ul style="list-style-type: none"> <input type="checkbox"/> Collect all EV documentation at the polling locations, deliver to Election Headquarters with JBCs and/or eScans.
SP	Remove equipment security seals and store MBBs in secure location.	<p>Follow MBB processing procedures.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Complete the Ballot & Seal Certificate. <input type="checkbox"/> Complete the Ballot Transmittal Form.

Code:	eSlate-Related Items:	Details:
SP	Back up EV Cast Vote Records and audit logs (eScan, JBC and eSlate), verify firmware version(s), and print SERVO reports.	<input type="checkbox"/> Complete the equipment Serial Number Logs. <input type="checkbox"/> Back up EV and ED equipment to separate events in SERVO.
SP	Remove VBO printer tape and store with other printed materials.	
SP	Reset EV eScans, JBCs and eSlates.	<input type="checkbox"/> This can wait, depending on equipment needs for Election Day.
SP	Prepare ED election equipment in the warehouse.	<i>This includes:</i> <input type="checkbox"/> Programming signing key to JBC and/or eScan devices <input type="checkbox"/> Functionality testing (if not previously performed) <input type="checkbox"/> Resetting polling place equipment to zero "Public" CVR count (for systems used in outreach programs, public education, demonstrations, etc.) <input type="checkbox"/> Installing MBBs <input type="checkbox"/> Installing red wire security seals <input type="checkbox"/> Starting the equipment Serial Number Logs <input type="checkbox"/> Starting the Ballot & Seal Certificate documents <input type="checkbox"/> Predefining polling place identification, if applicable <input type="checkbox"/> Cleaning equipment <input type="checkbox"/> Installing fresh paper rolls in JBCs, VBOs, and eScans <input type="checkbox"/> Stocking paper ballots and associated materials, if applicable
SP	Establish ED staging, pickup, and delivery procedures and routines including Election Night transfer of hardware and MBBs.	<input type="checkbox"/> For eScan devices, include embedded LAT after delivery to polling place. <input type="checkbox"/> Consider substation and/or runner system.
T	Establish procedures and routines for transferring vote total summaries on Election Day via modem, if applicable.	<input type="checkbox"/> Consider substation system.

Key:

- B** BOSS Process
BN Ballot Now Process
PR Public Relations Event
S Security Procedure
SP Support Procedures Item
T Tally Process
TE Training Event
V Live Voting Event

Key:

- B** BOSS Process
BN Ballot Now Process
PR Public Relations Event
S Security Procedure
SP Support Procedures Item
T Tally Process
TE Training Event
V Live Voting Event

Code:	eSlate-Related Items:	Details:
SP	Establish ED polling place locations, and logistics of voter traffic, furniture, electrical supply, and equipment security.	Plan: <ul style="list-style-type: none"> <input type="checkbox"/> Amount of equipment needed <input type="checkbox"/> Layout <input type="checkbox"/> AC power sources (check voltage) <input type="checkbox"/> Battery backup procedures and equipment <input type="checkbox"/> Security <input type="checkbox"/> Storage
SP	Perform any final ED polling place preparations required.	
SP	Deploy and distribute ED equipment.	
V	Conduct Election Day Voting.	Also needed: <ul style="list-style-type: none"> <input type="checkbox"/> Report Envelopes for collecting equipment reports and expired ACCESS CODES <input type="checkbox"/> Envelopes for collecting Provisional Ballot and/or Retrievable Ballot stubs <input type="checkbox"/> Reconciliation log for comparing voters checked-in to equipment public count <input type="checkbox"/> Canceled Booth/Spoiled Ballot Log.
V	Close ED polls.	<ul style="list-style-type: none"> <input type="checkbox"/> Collect all ED documentation at the polling places. Deliver to substation or Election Headquarters with MBBs. Follow MBB processing procedures.
T	Read Ballot Now/eScan by-mail MBBs, and tabulate Vote Records.	
SP	Remove ED equipment seals and MBBs.	<ul style="list-style-type: none"> <input type="checkbox"/> Follow MBB processing procedures. <input type="checkbox"/> Complete the Ballot & Seal Certificate. <input type="checkbox"/> Complete the Ballot Transmittal Form.
T	Read EV MBBs, and tabulate EV Cast Vote Records.	
T	Electronically transfer ED results to Tally via Rally (optional).	<ul style="list-style-type: none"> <input type="checkbox"/> Modem or LAN transfer.

Code:	eSlate-Related Items:	Details:
T	Compile electronically transferred results in Tally.	
T	Print and release unofficial reports.	Tip(s): Print reports in PDF format and back up Tally database at each release of reports.
SP	Transport ED equipment and/or MBBs to the Counting Station (Tally) location.	<input type="checkbox"/> May not be required by state and local guidelines if results were transferred electronically.
SP	Transport other ED Equipment to the warehouse.	
T	Read ED MBBs, and tabulate ED Cast Vote Records.	<input type="checkbox"/> May not be required by state and local guidelines if results were transferred electronically. <input type="checkbox"/> Release official reports and updates.
SP	Back up Election Day CVRs and audit logs (eScans, JBCs and eSlates), verify firmware version(s), and print SERVO reports.	<input type="checkbox"/> Complete the equipment Serial Number Logs. <input type="checkbox"/> Back up to the SERVO Election Day Event.
SP	Remove VBO printer tape and store with other printed materials.	
BN	Compile late mail results in Ballot Now and/or eScan.	
BN	Close Election in Ballot Now (or Suspend Polls on eScan for by-mail) and print all Ballot Now reports, including the Audit Trail Report.	<input type="checkbox"/> At a date and time established in state guidelines.
BN	Back up the Ballot Now database to CD.	
T	Read late mail results MBBs into Tally.	
T	Finalize Election in Tally and print all Tally reports and the full Audit Log for this database.	
T	Release Official Canvass.	

Key:

- B** BOSS Process
BN Ballot Now Process
PR Public Relations Event
S Security Procedure
SP Support Procedures Item
T Tally Process
TE Training Event
V Live Voting Event

Code:	eSlate-Related Items:	Details:
B, BN, T, SP	Back up Election to CD.	<input type="checkbox"/> All records collected, all electronic files and databases stored on CD.
T	Perform recount, if necessary.	<input type="checkbox"/> Recount entire election by reading SERVO MBBs into Tally or recount manually with Cast Vote Record reports from SERVO, or VBO and paper ballots. See: "Appendix G: Hart Voting System Recount Procedures" in the <i>Tally Software Training Manual</i> .
T	Back up recount, if performed, to CD.	<input type="checkbox"/> Do not back up until all legal recount deadlines have passed. All records collected (including software reports and Audit Trails/Logs), all electronic files and databases stored on CD.
SP	Reset ED equipment.	<input type="checkbox"/> This can wait, depending on equipment needs for the next election cycle.
SP	Tag equipment that needs maintenance and ship for repair.	
SP	Perform functionality tests on equipment and verify firmware version(s).	<input type="checkbox"/> This can wait, depending on equipment needs for the next election cycle. <input type="checkbox"/> Document Functionality Testing logs.
SP	Clean and store equipment until the next election cycle.	
SP	Perform routine maintenance on PC equipment and peripherals.	<input type="checkbox"/> Scanners <input type="checkbox"/> Printers
B, BN, T, SP	Perform routine maintenance on all election-related PC hard drives	<input type="checkbox"/> Delete practice, testing, and archival databases
S	Review office, warehouse, distribution, and polling place security procedures.	<input type="checkbox"/> What worked? <input type="checkbox"/> What needs revision?

Planning Ballot Media Quantities

Ballot Media to Write Per Election

Once the ballot is generated, copy the election data to MBBs and audio cards by going to the **Election** menu and clicking **Write Ballot Media**. Use the *MBB Worksheet* (MBB_41406.xls) on your Hart CD or the following guide when planning the number of MBBs and audio cards to write for an election.

Ballot Media to Write Per Election	
Test Mode MBBs	Election Mode MBBs
<ul style="list-style-type: none"> • 1 MBB for each JBC included in LAT 	<ul style="list-style-type: none"> • 1 MBB for each JBC included in Early Voting in person
<ul style="list-style-type: none"> • 1 MBB for each eScan included in LAT 	<ul style="list-style-type: none"> • 1 MBB for each JBC included in Election Day voting
<ul style="list-style-type: none"> • 1 MBB for each Ballot Now PC included in LAT 	<ul style="list-style-type: none"> • 1 MBB for each eScan included in Absentee Voting (by-mail)
<ul style="list-style-type: none"> • 1 MBB for warehouse testing (optional) 	<ul style="list-style-type: none"> • 1 MBB for each eScan included in Early Voting in person
<ul style="list-style-type: none"> • 1 MBB for each voting system in use at the Help Desk 	<ul style="list-style-type: none"> • 1 MBB for each eScan included in Election Day voting
Audio Cards	<ul style="list-style-type: none"> • 1 MBB per election source (i.e., Absentee, Early Voting, Election Day) for each Ballot Now (Server) PC used for voting
<ul style="list-style-type: none"> • 1 Audio Card per DAU eSlate included in the election (Early Voting and Election Day) 	<ul style="list-style-type: none"> • 1 MBB per election source for incremental Cast Vote Record (CVR) processing (e.g., late mail) for each Ballot Now (Server) PC utilized for voting
<ul style="list-style-type: none"> • 1 Audio Card for warehouse testing (optional) 	<ul style="list-style-type: none"> • 1 MBB to enable SERVO to add election Event(s) for backup (This MBB can be reused as one of the JBC or eSlate recount MBBs)
<ul style="list-style-type: none"> • 1 Audio Card for the DAU eSlate in use at the Help Desk 	<ul style="list-style-type: none"> • 1 MBB (128 MB) per 65,000 CVRs for JBC CVR recount MBBs, using SERVO, for Early Voting in person
<ul style="list-style-type: none"> • 10% of total as spare Audio Cards • Hart InterCivic recommends writing at least 10% above the number actually needed in the field as spare Audio Cards. 	<ul style="list-style-type: none"> • 1 MBB (128 MB) per 65,000 CVRs for JBC CVR recount MBBs, using SERVO, for Election Day in person
Other Ballot Media	<ul style="list-style-type: none"> • 1 MBB (128 MB) per 65,000 CVRs for eSlate CVR recount MBBs, using SERVO, for Early Voting in person
<ul style="list-style-type: none"> • Demonstration eSlate (Demo cards) with data similar to the live election for Voter Education and Outreach activities. 	<ul style="list-style-type: none"> • 1 MBB (128 MB) per 65,000 CVRs for eSlate CVR recount MBBs, using SERVO, for Election Day in person
<ul style="list-style-type: none"> • Training MBB and Audio Cards with data similar to the live election for poll worker training activities. 	<ul style="list-style-type: none"> • 1 MBB (128 MB) per 65,000 CVRs for eScan CVR recount MBBs, using SERVO, for Absentee (by mail)
	<ul style="list-style-type: none"> • 1 MBB (128 MB) per 65,000 CVRs for eScan CVR recount MBBs, using SERVO, for Early Voting in person
	<ul style="list-style-type: none"> • 1 MBB (128 MB) per 65,000 CVRs for eScan CVR recount MBBs, using SERVO, for Election Day in person
	<ul style="list-style-type: none"> • 10% of total as spare Election Mode MBBs • Hart InterCivic recommends writing at least 10% above the number actually needed for the JBC, eScan, and/or Ballot Now units included in Absentee, Early, or Election Day voting.

MBB Capacity



Include the MBB Cast Vote Record (CVR) capacity when planning the number of MBBs required for an election.

128 Megabyte ATA Format MBB Capacities:	
eSlate Subsystem	CVR Capacity of One MBB^a
JBC	10,000 (Access Code range of 0000-9999)
Ballot Now	65,000
eScan	20,000
SERVO	65,000

a. All values are conservative estimates based on small CVR log size and multi-page ballots.

Planning Personnel Deployment and Training for an Implementation

Personnel Deployment

The Hart Voting System is a scalable solution, and the number of personnel resources deployed to meet local needs will be likewise scalable. All personnel deployed should go through training specific to their responsibilities on the Hart Voting System.

Elections Office Staff

Hart InterCivic recommends that all elections office staff and all personnel working with the Hart Voting System take the Polling Place Operations Course. Other elections office staff should be trained specific to their assignments and responsibilities.

See:

“Hart Voting System Course Descriptions” on page 30.

“Appendix C: Voting System Standards Personnel and Training Requirements” on page 105.

Poll Workers

Poll workers should be adept at operating the eSlate (with VBO, if applicable), DAU, JBC, and eScan (if applicable). If poll workers are comfortable with the polling place components of the Hart Voting System, then they will be comfortable assisting voters.

Hart InterCivic recommends that all polling place workers understand the basics of voting on the eSlate and DAU units (with VBO, if applicable). Non-lead poll workers can do this by taking the optional Poll Worker's eSlate Operations Course. A Hart InterCivic Training Specialist or a trained county employee (trained through our Train-the-Trainer program) can meet this training need. All poll workers should have some hands-on experience with the Hart Voting System, and with a ballot similar to the one voters see, before working with voters.

Hart InterCivic recommends that at least two lead poll workers from each polling place take Hart InterCivic's Polling Place Operations Course with a Hart InterCivic Training Specialist or a trained county employee (trained through the Train-the-Trainer program). All elections office staff should also take part in this course early in the implementation cycle.

Hart InterCivic is dedicated to helping all jurisdictions that use the Hart Voting System train poll workers and educate voters. Your jurisdiction's implementation will determine the amount of training preparation assistance you will need from Hart. For example, Service Bureau customers need to obtain training MBBs, audio cards, and ballots (if applicable) from Hart in order to conduct poll worker training. Customers with the full Hart Voting System software suite can create their own training media.

See:

“Hart Voting System Course Descriptions” on page 30.

“System Documentation and Media” on page 35.

“Appendix C: Voting System Standards Personnel and Training Requirements” on page 105.

Hart Voting System Course Descriptions

Customers purchasing the Hart Voting System should plan on spending focused time attending Hart training sessions. Brief training course descriptions are included here.

The Hart Voting System Management and Tasks Course: In this course, elections officials learn the workflow of the Hart Voting System, how to manage the Hart Voting System for an efficient, secure, successful election, and how to complete administrator-specific tasks.

The BOSS Operator Training Course: In this course, elections officials, office staff, and Ballot Origination Software System (BOSS) data entry specialists run BOSS ballot generating software to define and create eSlate and Ballot Now ballot formats and styles. Training includes everything from logging into the Ballot Origination Software System to writing PC flash cards called Mobile Ballot Boxes (MBBs) containing ballot information for the eSlates and Ballot Now, including the eScan.

The Ballot Now Operator Training Course: In this course, elections officials, office staff, and Ballot Now operators use MBBs to print paper ballots that can be scanned into the system via either Ballot Now or the eScan. Users scan ballots, save Cast Vote Records back to MBBs, and send MBBs to Tally for tabulation. Ballot Now training includes assigning write-ins to certified write-in candidates, and converting the handwritten image on the paper ballot into an electronic Cast Vote Record readable by the Tally tabulation software. Training also includes electronically viewing ballots that need resolution and resolving them.

The Tally Operator Training Course: In this course, elections officials, office staff, and tabulation specialists use Tally software with valid data from election MBBs to tabulate an election and create election tabulation reports. This course includes everything from logging into the software to recount procedures. Tally course instructions also cover backing up the election to CD and assigning write-in candidates from eScan paper ballots. If the Tally-Rally connection will be implemented, this course also covers Rally station management.

The Rally Operator Training Course: In this optional course, Rally station operators use Rally software to set up Rally station PCs, log in to the application, read MBBs and transfer ballot data, troubleshoot, print reports, and archive the Rally database.

The eSlate Support Procedures Course: In the Support Procedures course, elections officials, support personnel, and warehouse staff physically set up system hardware, perform Acceptance and Functionality Testing, perform Logic and Accuracy testing, reset the polling place hardware systems for a new election, practice equipment troubleshooting and back up procedures, identify help desk procedures, and prepare the hardware systems for an election. This course also includes MBB processing procedures for Early Voting and Election Day and post-election procedures. The polling place equipment Troubleshooting module of this course is available as a separate course for election event technical support personnel. Additionally, the Help Desk module is available as a separate course for election event help desk operators.

The eSlate Polling Place Operations Course: In this course, elections officials, office staff, lead election poll workers, and alternate lead poll workers (at least two poll workers per polling place) receive training to set up the JBC and eSlate, open the polls, run the system in a secure setting, identify when voters may need assistance, close (and/or suspend) polls, power down the system, handle sensitive MBBs appropriately, and pack the equipment. This course includes instructions on features such as curbside voting and handling “provisional” voters. It also includes a module with a polling place simulation. Finally, this course includes a reference guide for each election poll worker who is operating the Judge’s Booth Controller.

The Poll Worker's eSlate Operations Course: In this optional short course (refer to contract), elections officials, office staff, and non-lead poll workers receive training in the specifics of operating the eSlate and the Disabled Access Unit (DAU eSlate). Trainees also learn how to educate and assist voters using the eSlate and Disabled Access Unit. Training includes the basic operations of the eSlate and DAU eSlate, and answering questions that voters may have about special features, such as the VBO, write-in voting, moving through pages of the ballot with the PREV and NEXT buttons, using the summary page to change a vote, intentionally undervoting, and using the headphones and various input devices on the DAU eSlate. This course includes a reference guide for poll workers.

The eScan Operations Course: In this course, elections officials, office staff, lead election poll workers, and alternate lead poll workers (at least two poll workers per polling place) receive training to set up the eScan, open the polls, run the system in a secure setting, identify when voters may need assistance, close (and/or suspend) polls, power down the system, handle sensitive MBBs appropriately, and pack the equipment. This course also includes a module with a polling place simulation. There is a reference for each election poll worker who is operating the eScan. In addition, this course has a segment on Absentee/by-mail use of the eScan, if applicable to the implementation.

The Hart Voting System Polling Place Operations Course: In this course, elections officials, office staff, lead election poll workers, and alternate lead poll workers (at least two poll workers per polling place) receive training to set up the full system - eScan, JBC and eSlate with VBO. The course includes training users how to open the polls, run the system in a secure setting, identify when voters may need assistance, close (and/or suspend) polls, power down the system, combine results on the eScan, handle sensitive MBBs appropriately, and pack the equipment. This course includes instructions on features such as curbside voting and handling "provisional" voters. It also includes a module with a polling place simulation. There is a reference for each election poll worker who is operating the polling place system. In addition, this course has a segment on Absentee/by-mail use of the eScan, if applicable to the implementation.

The Hart Voting System Poll Worker's Guide to Assisting Voters Course: In this optional short course (refer to contract), elections officials, office staff, and non-lead poll workers receive training in the specifics of operating the eScan and the Disabled Access Unit (DAU eSlate) voter's perspective. Trainees learn how to educate and assist voters using the eScan and Disabled Access Unit. Training includes the basic operations of the eScan and DAU eSlate, and answering questions that voters may have about special features, such as the VBO, write-in voting, undervoting, and using the headphones and various input devices on the DAU eSlate. This course includes a reference guide for poll workers.

Assisting Persons with Disabilities: Hart InterCivic offers an optional (additional fees apply), small group, course designed to educate at least one person per polling place in the etiquette, skills, and sensitivity appropriate to assisting voters with disabilities. This course includes hands-on experience with adaptive devices and the DAU eSlate. It also includes role playing situations. Finally, this course includes a reference for each participant.

Train-the-Trainer: Hart InterCivic also offers Train-the-Trainer courses for the Polling Place Operations courses. These longer courses are designed to teach local facilitators Hart Voting System training skills and content. Optional train-the-trainer sessions are available for the Assisting Persons with Disabilities and polling place equipment Troubleshooting courses (additional fees apply).

Hart Voting System Training Schedules Overview

The following pages display an overview of the Hart Voting System courses, recommended scheduling, and an example spreadsheet of courses and timeframes. A custom training planner is offered per implementation.

Hart Voting System Courses			
Course Topic	Approximate Hours^a	Class Size	Documentation Included^b
Management and Tasks	2-4	8	Training Manual
BOSS	12-16	8	Operations and Training Manuals
Ballot Now	4	8	Operations and Training Manuals
eScan Absentee	2	8	Desk Reference
Tally (and Rally, if applicable)	4-8	8	Operations and Training Manuals
Rally Substation	2	10	Operations and Training Manuals
Support Procedures	4-8	16	Operations and Training Manuals
Polling Place Operations	4	24	Desk Reference
Train-the-Trainer	2-16	varies	Training Manual

a. Some course lengths vary, depending on the size of the jurisdiction and complexity of the implementation.

b. One hard copy set of operations manuals per implementation and one hard copy training manual per trainee.

Hart Voting System Training Course Sequence			
Sequence	Time Frame	Course	Audience
1.	After Business Analysis is completed	Management and Tasks	Elections Officials and Management Staff
2.	Immediately after Management and Tasks course	Administration-Level Polling Place Operations for Elections Office Staff (and Early Voting Poll Workers)	Elections Officials, Central Office Staff, Warehouse and Support Staff, (Early Voting Poll Workers)
3.	At least a month before election preparation begins and immediately after Administration-Level Polling Place Operations	Software Courses - BOSS, Ballot Now, (eScan Absentee), Tally, Rally	Elections Officials, Software Operators, Absentee/by-mail Ballot Specialists
4.	Immediately upon completion of software training	Support Procedures	Support Personnel
5.	Prior to poll worker training and/or upon completion of Support Procedures training	Train-the-Trainer	Locally Identified Trainers
6.	Prior to election event	Polling Place Operations	Lead and Alternate Lead Poll Workers

Training Planner

Hart Voting System Training Planner for Sample County																	
Course Titles	Trainees						Class Details			Calculations							
	Central Office Staff	Support/Warehouse Personnel	Paper Ballot Resolution Team Members	Rally Substation Operators	Lead Poll Workers	Alternate Lead Poll Workers	Non-lead Poll Workers/Clerks	Maximum Class Size	Time Allowed for Course	Sessions Per Day	Number of Trainees	Number of Sessions	Number of Person-Days	Number of Simultaneous Sessions	Number of Calendar Days	Number of Classroom Hours	Number of Trainer Person-Hours Work
Hart Voting System Management and Tasks Course ¹	2							8	4 hours	2	2	1	0.5	1	0.5	4	6
Polling Place Operations Course (Administrative-level) ¹	10	6						24	4 hours	2	16	1	0.5	1	0.5	4	6
BOSS Operator Training Course ²	2							8	2 days	0.5	2	1	2	1	2	16	24
Ballot Now Operator Training Course ²	2		2					8	1 day	1	4	1	1	1	1	8	12
Tally and Rally Operator Training Course ²	2	2						8	1 day	1	4	1	1	1	1	8	12
Rally Substation Operator Training Course ²				2				10	2 hours	4	2	1	0.3	1	0.3	2	3
Support Procedures Course ²	2	4						16	1 day	1	6	1	1	1	1	8	12
Intra-Office Training Mock Election ²	10	4	2	2				24	1 day	1	18	1	1	1	1	8	12
Early Voting Poll Worker's eSlate Operations Course ³						10		50	1 hour	6	10	1	0.3	1	0.3	2	3
Early Voting eSlate Polling Place Operations Course ³					10	10		24	4 hours	2	20	1	0.5	1	0.5	4	6
Election Day Poll Worker's eSlate Operations Course ³						50		50	1 hour	8	50	1	0.3	1	0.3	2	3
Election Day eSlate Polling Place Operations Course ³					50	50		24	4 hours	2	100	5	2.5	1	2.5	20	30
Assisting Persons with Disabilities Course ³ (optional)	2				10	10	10	12	2 hours	4	32	3	0.8	1	0.8	6	9
Polling Place Courses Train-the-Trainer ¹	2	2			2	2		20	2 days	0.5	8	1	2	1	2	16	24

Total Number of Trainees	274
Total Calendar Days of Training	13.5
Total Classroom Hours of Training	108
Total Trainer Person-Hours of Work	162

⁽¹⁾ No. Management-Level Trainees	22
⁽²⁾ No. Software Trainees	36
⁽³⁾ No. Poll Worker Trainees	184

No. Precincts	50
No. Registered Voters	50,000
No. By-Mail Voters	1,000
No. Early Voting Polling Places	10
No. Election Day Polling Places	50

This is the Hart InterCivic Training Planner.

The table is based on:

- No more than two software course trainees per available PC
- Hart InterCivic Trainers leading the first phase of Election Day and Early Voting poll worker training
- Conducting full Polling Place Operations training with lead and alternate lead poll workers
- Implementing Hart InterCivic's Train-the-trainer program for future poll worker training
- Central Office Staff of up to 8
- Support Staff of up to 8
- Miscellaneous temporary and part-time staff

This training planner is intended to reflect training included in the initial phase of implementation. Training is not ongoing or repeating unless otherwise indicated in the contract.

Note: The Intra-office Training Mock Election is intended as an in-house practice applying the skills learned in training. It is not a public test of the system.

SampleCo\Hart_TrainingPlannerrev50R.xls

System Documentation and Media

The following table identifies Hart Voting System documentation and media included with the system. Actual documentation and media included may vary according to individual implementation contracts. All items are provided in training sessions. All items are provided in the amounts shown, and electronic copies are provided on CD (in Portable Document Format (.pdf) unless otherwise noted). System revisions include all relevant documents listed in electronic format.

Document/Media:	Comments:	Number of Copies:
Software Operations Manuals	BOSS, Ballot Now, Tally, Rally, eCM Manager, TRANS, SERVO, BRAVO, Fusion and/or Infusion as per software installed	1 per implementation
Software Training Manuals	Hart Voting System Management and Tasks, BOSS, Ballot Now, Tally, Rally as per software installed	1 per trainee
Support Procedures	Warehouse and support procedures, including SERVO and maintenance bulletin updates	1 per trainee
Train-the-Trainer Handbook	Training manual for polling place courses	1 per trainee
Desk References	Polling place operations training guide and polling place reference for lead poll workers	1 per trainee
Polling Place Set Up Video	<input type="checkbox"/> VHS, .mpg, and .wmv formats <input type="checkbox"/> Video instruction of setting up and connecting the system	1 per implementation
Voter Instruction Script	Script for giving voters verbal instructions at the polling place	1 per four trainees
All Logs	See: "Appendix G: Election Logs" on page 115.	Provided on the Hart CD and in training sessions
PowerPoint Slide Shows	Slide shows for all standard poll worker training courses	1 electronic copy

The following table identifies other Hart Voting System documentation recommended for the implementation and available for purchase.

Tip(s):

Documents used in general Voter Education and Outreach (VEO) activities should also be used at the polls in order to provide consistent messaging to voters.

Document/Media:	Comments:	Number of Copies:
Desk References	<input type="checkbox"/> EV or ED, same as used in training <input type="checkbox"/> One per polling place kit as poll worker guide <input type="checkbox"/> One per troubleshooting technician	1 per polling place kit 1 per technician
Troubleshooting section of the <i>Support Procedures Training Manual</i>	One per troubleshooting technician	1 per technician
Voter Instruction Script	Script for giving voters verbal instructions at the polling place	1 per four poll workers
Logs	See: "Appendix G: Election Logs" on page 115.	1 per polling place
Quick Reference	DAU curbside procedure reminder for poll workers (fits in booth sleeve)	1 per DAU eSlate
Signage	Booth number signs	1 per booth
Voter Instruction Flyers	<input type="checkbox"/> Instruction handout for voters <input type="checkbox"/> Available in multiple languages	25% - 50% of expected turnout
Voter Instruction Flyers - DAU	Voter instruction flyer in Braille and large print	1 per DAU eSlate
Voter Instruction Flyers - DAU	DAU eSlate voter instructions for using tactile input switches or sip and puff device	1 per DAU eSlate
Voter Instruction Flyers - Ballot Now	Voter instruction flyers to include in mailing or at the polling place for paper ballot system	1 per absentee ballot
Voter Instruction Booth Placard	<input type="checkbox"/> Voter instruction card for the booth sleeve <input type="checkbox"/> Available in multiple languages	1 per eSlate or DAU eSlate booth
Voter Instruction Booth Placard	Cast Ballot button flag placard to place in booth	1 per eSlate or DAU eSlate booth
Various custom documents	Available through the Voter Education and Outreach (VEO) program	Per VEO assessment and plan

The following table identifies other documents and media available for purchase.

Document/Media:	Comments:	Number of Copies:
Demonstration eSlate Desk Reference	Included with optional purchase or lease of Demonstration eSlate	1 per Demo eSlate
Demonstration eSlate Quick Reference	Included with optional purchase or lease of Demonstration eSlate	1 per Demo eSlate
Assisting Persons with Disabilities Desk Reference	Included with an optional two-hour Assisting Persons with Disabilities course	1 per trainee
Poll worker training videos	Polling place operations videos containing the following components of the Hart Voting System are available on DVD and VHS: <input type="checkbox"/> eSlate <input type="checkbox"/> eSlate with VBO <input type="checkbox"/> eSlate and eScan <input type="checkbox"/> eSlate with VBO and eScan	As needed per implementation
"I Voted" Stickers	For voters as they exit polls	1 per voter
Various custom documents	Available through the Voter Education and Outreach (VEO) program	Per VEO assessment and plan

Notes:



This chapter covers the following software administration topics:

- Recommendations for software password practices and personal computer hardware
- Information about eCM management
- Software installation
- Database management topics relevant to elections administrators
- Software user permissions
- Software and polling place hardware audit trail reports

Software Password, Certificate, and PIN Tips

Best Practices

- Do not give out an administrator password, applicable either to the PC where the Hart Voting System software is housed, or to a Hart Voting System application itself.
- Change every user ID, password, certificate, eCM key ID, signing key, and PIN(s) during PC acceptance and at regular intervals and in accordance with federal, state, and local guidelines.
- The user currently logged in should stay at the computer while running the application and exit the application if s/he steps away from the PC.

Avoid Using

- Any password you have used before
- Any string of three characters repeated or reversed
- Any character repeated more than twice
- Your name or your initials
- The computer or application user ID
- The names of relatives, birthdays, phone numbers or the company name
- The number for this year, last year or next year, or the three-character abbreviations for the months
- Telephone number or car license plate numbers

Do Use

- A combination of upper and lowercase letters
- A password that is at least 6 - 12 characters long
- A new password for every user at regularly scheduled intervals (e.g., annually or quarterly)
- Random characters users will remember

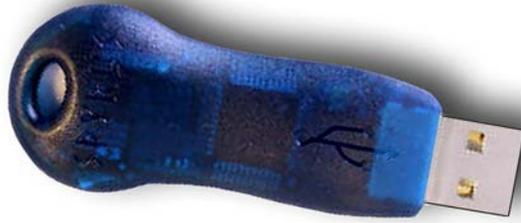
Tips for a Secure Password, Certificate, or PIN

- Use the first letters of the words in a memorable phrase.
- Use a meaningless but easy-to-remember phrase.
- Insert numbers into the phrase.
- Note the password, certificate information, and/or eCM PIN, in a private and secure location.

Computer Security

Computers running Hart InterCivic software should be kept in locked spaces with limited access. Password-protected screen savers or other similar security measures should be applied.

eSlate Cryptographic Module (eCM)



What is the eCM?

The eCM is a physical USB security device provided by Hart InterCivic. It is required for access to secure functions in the BOSS, Ballot Now, Tally, Rally, and SERVO applications. The eCM must be generated using the eCM Manager application.

When is the eCM Used?

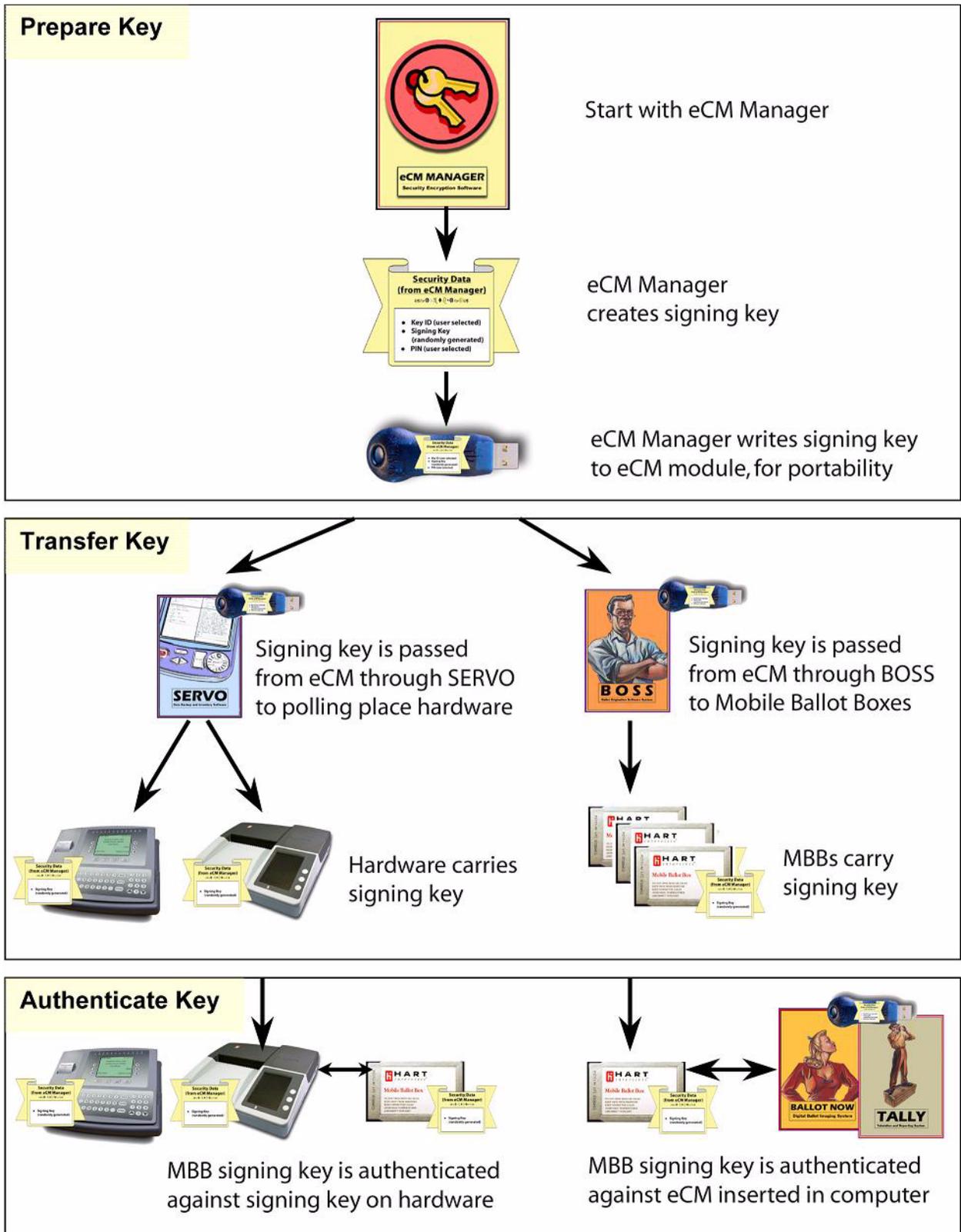
In a given election, the signing key on the eCM is used by the BOSS application to accept the ballot formats for the election, and a matching signing key must also be present in the eCM(s) used in the Ballot Now, Tally, Rally, and SERVO applications.

The simplest way to use an eCM is to keep the device handy (e.g., on a lanyard on your person) and to insert the eCM token into a USB port on an election PC each time that PC is being used, removing the eCM when finished.

When the eCM is accessed, Ballot Now requires the operator to enter the eCM PIN (a password selected by a jurisdiction administrator before any signing keys are generated).

Application	Secure Function Requiring an eCM
BOSS	<ul style="list-style-type: none"> Accept generated ballot format(s)
Ballot Now	<ul style="list-style-type: none"> Read any MBB (Select Election) Close an MBB Close the Election with an open MBB inserted in the card reader
Tally	<ul style="list-style-type: none"> Read the first MBB during a Tally session
Rally	<ul style="list-style-type: none"> Read the first MBB during a Rally session
SERVO	<ul style="list-style-type: none"> Prepare each JBC to accept an MBB for the election (Program Key) Prepare each eScan to accept an MBB for the election (Program Key) Create an Event Create Recovery MBB(s) Create Recount MBB(s)

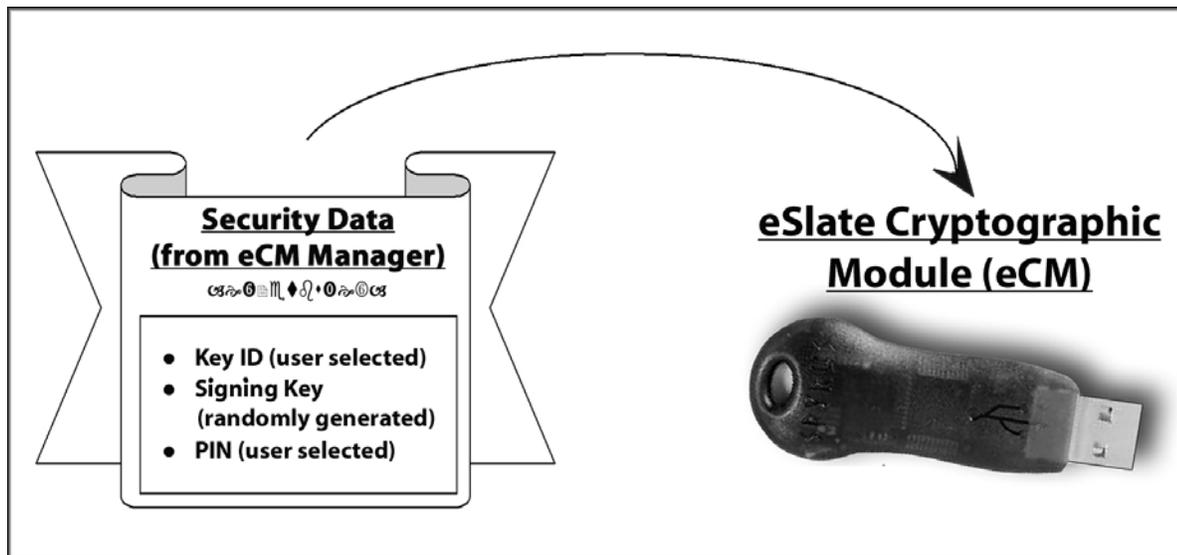
eCM Signing Key Workflow



About the eCM Manager Software Application

Hart InterCivic's eCM Manager application is used to generate signing keys and write them to eCM devices. eCM Manager can also be used to read and/or verify signing keys that have previously been written to eCM devices.

In order to create a new signing key, the authorized user enters a one- or two-digit Key ID of his/her preference. Like a filename, the Key ID is simply used as a reference name for the unique signing key being created. When the user enters a new Key ID, eCM Manager automatically generates a random, 128-bit encrypted signing key, which is not visible. However, the encrypted signing key is then encrypted again, resulting in a visible "Key GUID", which indicates to the user that a new signing key has been successfully generated. Before the signing key is written to the eCM, the user must select a PIN (password) to regulate access to that eCM.



BEFORE exiting eCM Manager, store a record of the signing key as an .eCM file in a separate location (e.g., the local PC disk drive, or a CD).

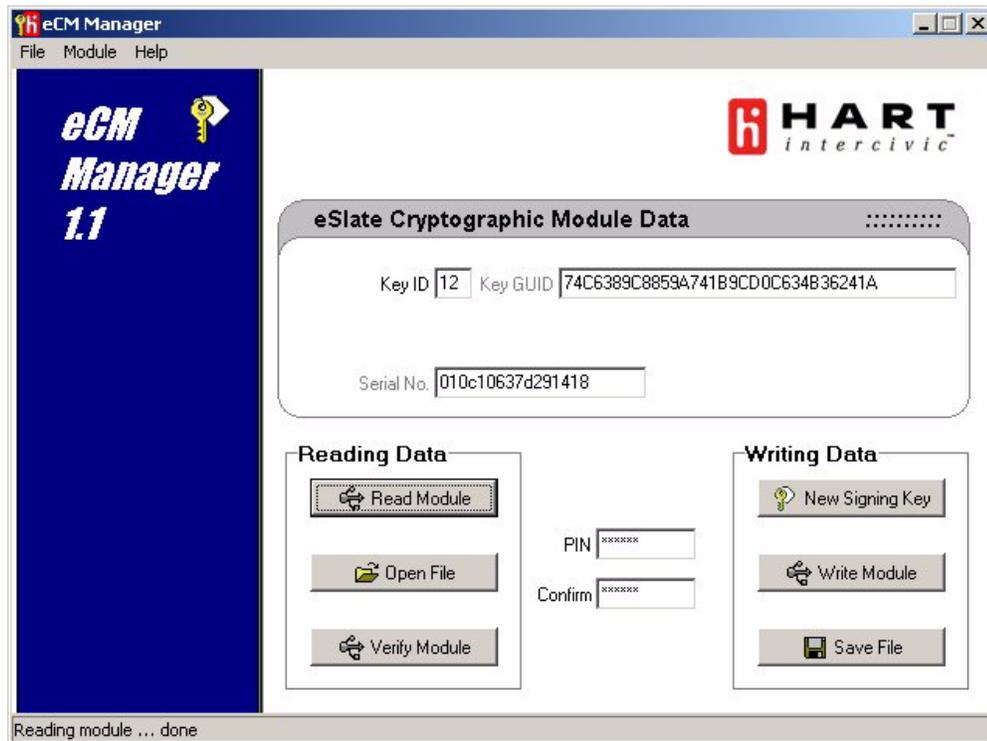
The signing key and PIN on the eCM is transferred to MBBs at the time that MBBs are written, thereby creating a means to authenticate MBBs at critical points in the election process. Only a user with an eCM that includes the matching signing key may access secure functions in the Hart Voting System. In addition to having the eCM device, the authorized user must know its PIN in order to perform secure functions.

For a given election, you should create several eCMs in order to have a separate eCM available for use with each computer running a Hart Voting System software application. Each copy of the eCM *must* contain the same signing key and Key ID, but each does NOT have to have the same PIN. The advantage of using the same PIN for all users is a reduced need to specially mark and track the PIN for each copy of the eCM. However, a separate PIN for each eCM increases security.

You can also increase security by creating new signing keys and rewriting eCMs at regular intervals (e.g., with each election, annually or quarterly), but this also adds a level of complexity to procedures. For example, each JBC and/or eScan must be processed in SERVO to receive the new signing key each time it is changed. To determine how often to create new signing keys, follow federal, state, and local security guidelines.

Using eCM Manager

Only administrators should have access to the eCM Manager application. For complete and detailed information on eCM Manager, refer to the *eCM Manager Operations Manual*. For each election, write the number of eCMs necessary:



1. Open eCM Manager.
2. Plug an eCM into a USB port on the computer.
3. In the **Key ID** field, enter an ID for the eCM, using a number from 0 to 99. (The Key ID MUST be the same for all eCMs used in an election).
4. Click the **New Signing Key** button.
5. In the **PIN** field, enter a PIN of 6-12 letters and/or numbers. This is case sensitive.
6. Repeat the PIN in the **Confirm** field.
7. Click the **Write Module** button and respond to any messages that appear.
8. Note the eCM **Serial No.** field display.
9. Remove the eCM, label it for the election, and record the serial number and PIN in a secure location.
10. Insert the next eCM for this election. If using a unique PIN per eCM, enter the new PIN and confirm. Click the **Write Module** button and respond to any messages that appear.
11. Note the eCM **Serial No.** field display.
12. Remove the eCM, label it for the election, and record the serial number and PIN in a secure location.
13. Continue writing eCMs.
14. When finished writing eCMs, click the **Save File** button and follow the prompts to save the module data to the desired location on your PC. This data can be used to create more eCMs for this election or to verify existing eCMs. *You must save before exiting eCM Manager.*
15. Record the name of the .eCM file and the date saved.
16. Back up the .eCM file to CD.
17. Store labeled eCMs in a secure location.

Other eCM Manager Features

1. Write from one eCM to another:

Tip(s):

This procedure can be used to create additional eCMs if the .eCM file was not initially saved. Before exiting the eCM Manager, save the .eCM file so that eCMs can be written from that file, and as a risk-reduction step.

- a. Open eCM Manager.
 - b. Insert the source eCM into the USB port.
 - c. Enter the eCM PIN.
 - d. Click the **Read Module** button.
 - e. Insert the target eCM into the USB port.
 - f. Confirm the PIN *OR* enter a new eCM PIN and confirm.
 - g. Click the **Write Module** button.
 - h. Remove and label the new eCM.
2. Write an eCM from a saved .eCM file:
 - a. Open eCM Manager.
 - b. Click the **Open File** button.
 - c. Navigate to the saved .eCM file.
 - d. Confirm the PIN *OR* enter a new eCM PIN and confirm.
 - e. Insert an eCM into the USB port.
 - f. Click the **Write Module** button.
 - g. Remove and label the new eCM.
 3. Verify an eCM against an .eCM file:
 - a. Open the eCM Manager.
 - b. Insert the eCM to be verified into the USB port.
 - c. Click the **Open File** button to open the .eCM file.
 - d. Click the **Verify Module** button. A dialog box appears either confirming a match or identifying a mismatch.
 - e. If there is a match, remove and label the eCM and make sure the eCM Key ID and PIN are logged in a secure location.



eCM Device Management

- ❑ Before creating eCMs for an election, determine whether one PIN will be used for all eCMs for the election, or if each eCM will have its own unique PIN.
- ❑ Label eCMs with a recognizable notation (e.g., jurisdiction name), but NOT with the eCM Key ID, Key GUID, or PIN.
- ❑ Log and track the number of eCMs created, eCM serial numbers, and eCM PIN(s) and the individuals they are assigned to, and keep this information in a secure location.



Installing the eCM Driver on a PC

In order to use an eCM, a driver must be installed on each PC where the eCM will be used. This driver installation should take place during the initial installation of the Hart InterCivic software.

If, upon inserting the eCM into the USB port, a user encounters the Windows Found New Hardware Wizard follow these steps:

1. Follow the prompts in the Found New Hardware Wizard to browse for a suitable driver in a specified location.
2. Browse to the RoseUSBw.inf file in the Program Files\Hart InterCivic\Shared directory on the computer's C:\ drive.
3. Follow the prompts to complete the installation of the eCM driver.
4. Leave the eCM plugged into the USB slot in the computer.
5. Restart the computer.

See:

The *eCM Manager Operations Manual* for more information on the eCM Manager software application.

Planning for eScan Use

eScan is the Hart Voting System precinct digital scanning device. eScan ballot content is set up in BOSS, and ballots are printed from Ballot Now. eScan can read ballots for:

- Absentee voting for all precincts in the election
- Early Voting in-person at a polling place with one or multiple precincts assigned
- Election Day voting in-person at a polling place with one or multiple precincts assigned.

If using the eScan, there are several factors to consider in BOSS:

1. eScan passwords **MUST** be defined in the **eScan Options** window, accessible through the **Jurisdiction** tab of the **Jurisdiction** window.



Although eScan cannot be operated without passwords, BOSS does **NOT** remind you to define passwords before generating the ballot. *Remember to define eScan passwords!*

2. Before the ballot is accepted, eScan Ballot Processing permissions **MUST** be established in BOSS via the **eScan Options** window. The **Ballot Processing** permissions panel allows the BOSS user to determine *who* is authorized to place various types of mismarked eScan ballots (e.g., undervoted, overvoted, and blank ballots) into the eScan ballot box – the voter or the poll worker. Alternatively, eScan can be set to “Always Accept” undervoted, overvoted, or blank ballots. See the figure at right for the default settings.

Ballot Processing Default Settings

- > If the **Always Accept** option is selected for a particular type of mismatch (e.g., overvote, undervote, or blank), and the ballot contains that type of mismatch *only*, the ballot will immediately be accepted as-is, with no further notification message.
- > If the voter is authorized to accept a particular type of mismatch (**Voter Accepts**), and the ballot contains that type of mismatch *only*, eScan will display a notification message. Without further assistance from a poll worker, the voter may ignore the mismatch and cast the ballot as-is.
- > If the poll worker is authorized to accept a particular type of mismatch (**Poll Worker Accepts**), and the ballot contains that type of mismatch *only*, eScan will display a notification message. To ignore the mismatch and cast the ballot as-is, the voter must contact a poll worker for assistance.
- > If the ballot contains a mix of various mismarks (e.g., *both* undervotes *and* overvotes), and there is a mix of ballot processing permissions in place, the following rules apply:
 - ___ Poll worker assistance is required to cast the ballot if the ballot contains *any* type of mismatch for which poll worker authorization is required, regardless of other voter permissions that may exist.
 - ___ The voter may cast his or her ballot without further assistance if the ballot contains *no* mismarks that require poll worker authorization. However, if the ballot contains *any* type of mismatch that requires voter authorization, eScan displays a notification message before the ballot can be cast, regardless of other types of mismarks on the ballot that may be set to **Always Accept**.

See:

The *BOSS Operations Manual* for all possible ballot processing settings.

3. Ballot Now/Paper Ballot settings in BOSS apply to ALL paper ballots. Keep this in mind when:
 - > Writing Ballot Now instructions
 - __To write instructions, go to the **Election** menu and click **Jurisdiction**. On the **Jurisdiction** tab, click the **Ballot Instruction Texts** button and select **Ballot Now Instruction Text** in the window that appears.
 - > Selecting paper ballot templates
 - __To select templates, go to the **Election** menu and click **Ballot Formats**. In the **Ballot Generation/Preview** window, click the **Ballot Templates** tab.
4. In order to set up the eScan for Absentee voting, you must enter the Absentee location Polling Place ID into the eScan during device configuration. This ID is not available from BOSS reports.



Find the ABSENTEE Polling Place Description on the **Polling Places** tab of the **Jurisdiction** window *after* the ballot has been generated with paper ballot templates selected.

Jurisdiction				
Jurisdiction	Precincts	Contests	Polling Places	
Polling Places and Precinct Assignments				
Precinct to Polling Place Assignments for <input type="radio"/> Election Day <input checked="" type="radio"/> Early Voting				
ID	* Polling Place Name	Polling Place Description	Assigned Precincts	
2	Highgate Hill Ballot Now	none ABSENTEE	1	

Tip(s):

The Ballot Now Polling Place Name is automatically created when any paper ballot template is used to generate the ballots.

Note:

You do not need to hand-sort eScan ballots with write-ins. Write-in images from the eScan are read and tabulated in Tally.

See:

The *Tally Software Training Manual* for information about working with write-in images in Tally.

Planning for Demonstration eSlate Use

What is the Demonstration eSlate?

The Demonstration eSlate, also known as a “demo unit,” allows voters to practice using the eSlate buttons and interface (including headphones and adaptive devices, if desired) on a functioning unit that cannot record votes. The demo unit does not require a JBC in order to display ballots because it uses a special ATA memory card that contains both ballot and audio data.

Creating a Demonstration eSlate Ballot in BOSS

When creating a ballot to display on the demo unit, ensure the following:

- The **VBO Required** checkbox in the **eSlate Settings** window is selected if the demo unit will be connected to a VBO unit. If this checkbox is selected and a VBO unit is *not* connected, the eSlate functions as if a VBO unit is present.
- The first precinct in the **Polling Places** tab of the **Jurisdiction** window is associated with a polling place. The demo unit displays only the ballot style for the first precinct listed.
- All English audio has been recorded.
- All multi-language text has been translated and audio has been recorded, if applicable.

Once you have ensured that your demonstration ballot is correct, generate ballots using a template for the eSlate and write a demo card for each demo unit. Hart recommends that you create demo cards from a demonstration election that contains fictional, sports/famous, or historical names for candidates. You should not create demo cards from a live election database.

Note:

Although your eCM token and password are required to generate a ballot to use with the demo unit, you do not need to program your signing key to the demo unit in SERVVO, nor must you reset the demo unit between uses.

See:

The *Demonstration eSlate Preparation Guide* for more information including setting up and using the demo unit.

Hart Voting System Software Installation

Hart Voting System software will be installed and tested by Hart InterCivic. In addition, the system software should be acceptance tested by the client after installation.

See:

“Appendix F: Training Mock Election” on page 111 for an outline appropriate for system software acceptance testing. Also refer to the *Support Procedures Training Manual* for acceptance testing checklists.

Tally Install Settings

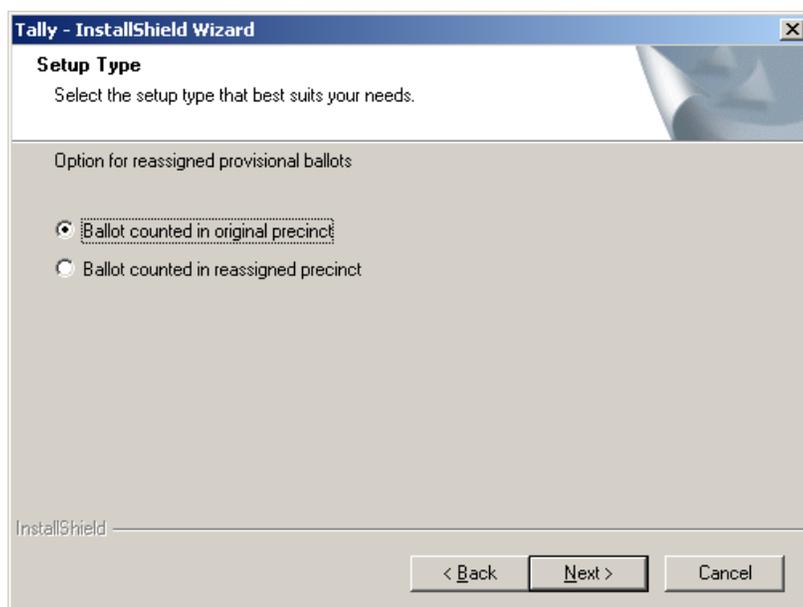
When Tally is installed the following settings must be established, as appropriate for adherence to federal, state, and local guidelines. These settings will be selected by the Hart InterCivic installer, based on client choices.

1. Select **Retrievable Ballot Interface** if Early Voting ballots will be retrievable by Ballot Code.
2. Select **Provisional Ballot Parsing Interface** if provisional ballots may be reassigned in order to report only contests available in the provisional voters’ actual precinct (the precinct of residence).

See:

“Provisional Parsing” on page 100.

3. If the **Provisional Ballot Parsing** option was selected, the next InstallShield Wizard window prompts the installer for the destination of parsed provisional ballots for reporting purposes. Parsed provisionals can report to either the precinct of origination or to the reassigned precinct (the precinct of residence).

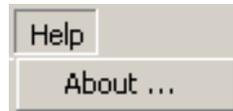


Verification of Software and Firmware Versions

Follow federal, state, and local guidelines to verify application versions. Software and firmware are certified by an Independent Testing Authority (ITA) and by the Election Assistance Commission (EAC). Each state of the U.S. also has certification guidelines. Software and firmware versions should be verified during acceptance testing and after any software or firmware upgrade, at a minimum.

Software Version Verification

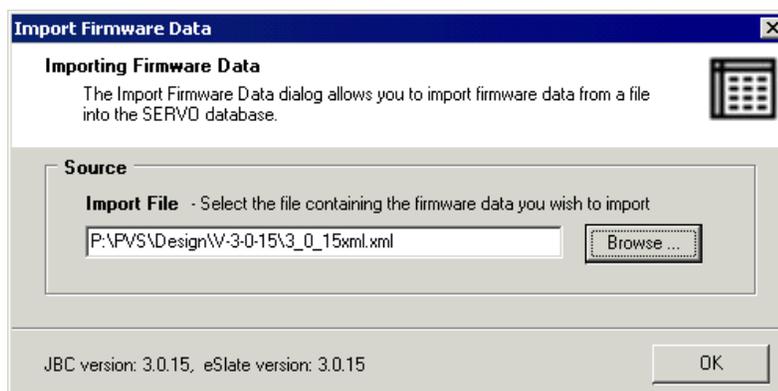
Obtain the list of certified software from the Secretary of State's (SOS) office (often available via SOS website). Per application, go to the **Help** menu and click **About** to read the version release number, N.N.N.



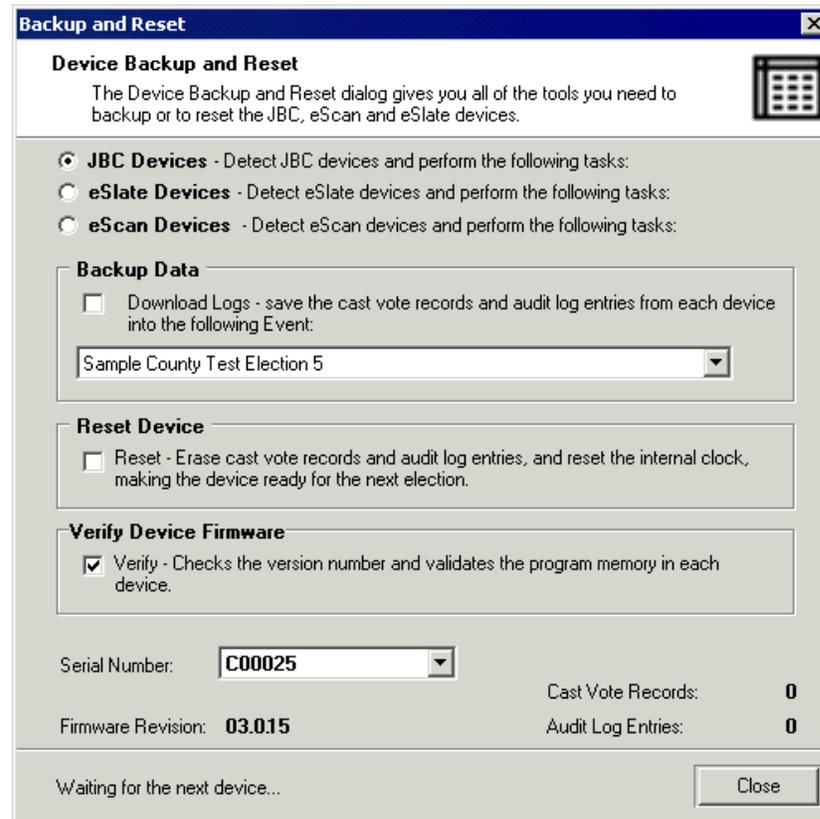
Firmware Version Verification

Firmware is the embedded software that runs polling place devices (JBCs, eSlates, and eScans). Using SERVO, the Hart Voting System application for System Election Records and Verification of Operations, import the .xml file with the state certified firmware versions for each polling place device type. This file should be available from either the SOS office or Hart InterCivic. After importing this file, compare each device against the file for verification of firmware version.

1. In SERVO, import the appropriate firmware version file from the **Import Firmware Data** window. Go to the **File** menu and click **Import Firmware Datafile**.



2. Go to the **Device** menu and click **Backup and Reset**. In the **Backup and Reset** window, connect to each device and select the **Verify Device Firmware** checkbox.
 - 2.1 If the firmware of the device matches the last imported firmware data file, the device serial number and firmware revision display.



- 2.2 *OR*, if the device firmware or the device firmware hash *does not* match the last imported firmware data file, a warning message appears. Log this and contact a Hart InterCivic representative.



3. Go to the **Reports** menu, click **Firmware History**, and print the “Firmware History” report.

Device	Serial #	Firmware	Device	Serial #	Firmware	Device	Serial #	Firmware
eSlate								
	A04F74	03.0.15						
	A0504F	03.0.15						
JBC								
	C0011B	03.0.15						

Database Management

BOSS Database Management

BOSS database management includes naming the database with a convention that is user friendly; keeping track of the database status; proofreading and using BOSS reports; testing; noting the database file path for CD backup; and deleting and restoring databases. The BOSS **Open Database** window displays the Database Description, Database Filepath, and Database Status. The BOSS title bar displays the Database Description after the user has selected an available database.

BOSS Database Naming Conventions (Database Description)

Use a consistent naming convention. There is a limit of 50 characters in the **New Database Description** field in BOSS. Suggested convention:

Description of the Database:	Sequence Number:	Election Type and Date:
TRAINING	1	Special 5.03.06
ELECTION	2	Special 5.03.06

Description of the Database

Describe the function of this database. Databases may be set up for training purposes, voter education and outreach events, or live elections. The “Description of the Database” wording may be entered in ALL CAPS to help with database identification.

Sequence Number

Election databases are live databases that are used for ballot generating, proofing from ballots, writing media, performing logic and accuracy testing, and running live elections. The sequence number indicates the iteration of the database from the original database and how many times errors were detected and the database copied forward and corrected.

For example, you created a database called “ELECTION 1 Special 5.03.03.” The “ELECTION 1 Special 5.03.06” database had errors, so you copy it forward to make corrections. “ELECTION 2 Special 5.03.06” is the second iteration of the database. Delete the original database. Only one working ELECTION database should exist at a time.

Election Type and Date

Include the election type and the date of the official Election Day; for example, “General 11.08.05.”

BOSS Database Status

Status:	Availability:
Open	In this state, users with the correct security permissions can enter and edit ballot data.
Ballot Generated	In this state, the ballot has been generated and further changes to the database cannot be made. New data cannot be entered, and existing data cannot be edited. Users with the correct security permissions can write MBB and audio cards.
Finalized	In this state, the election has been locked and is available for Tally processing. Changes to the database cannot be made. Media cards cannot be written.

Proofreading

Proofreading includes checking BOSS reports for errors in spelling and assignments as well as checking ballot proofs for errors. English content can be proofed from reports. After generating ballot previews, other languages can be proofed from the ballot preview printouts.

Proofreading from Reports

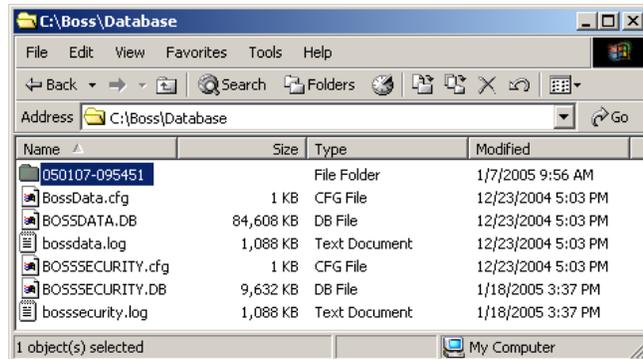
Report:	Availability:	Proofreading Function:
Active Contests Options List	All db statuses	Check all election data for spelling and correct candidate/option assignments to contests
Contest List with Details	All db statuses	Check contest-precinct assignments
Assigned Precinct (District Report)	All db statuses	Check precinct-district assignments
Ballot Content Proof	Available after ballot is generated	Check ballot content per style, including precincts assigned and contests, but not including contest options
Ballot Style List by Precinct	Available after ballot is generated	Check precinct assignments to ballot styles
Ballot Style List by District	Available after ballot is generated	Check district AND precinct assignments to ballot styles

Testing

Logic and Accuracy testing (L&A, or LAT) is testing of the accuracy of the tabulation system compared to the input on the voting device. Logic and accuracy testing should take place before going live with an election, including Early and Absentee voting. Follow federal, state, and local guidelines for logic and accuracy testing. Refer to the Tally and Support Procedures documents for more information on logic and accuracy testing and functionality testing (testing of the hardware functionality). Logic and accuracy testing is done from the BOSS ELECTION database that will be used for the live election and the Tally TEST database.

BOSS Database File Path

The database file path records the directory for the BossData.db database file. All BOSS databases include this file name in a folder that is unique to the database. The folder is named according to the Year, Month, Day – Hour, Minute, Second (24-hour clock) that the database was created. For example, database folder “050107-095451” was created on January 7, 2005 at 9:54:51 a.m. Each numbered BOSS folder includes BossData.db, BossData.cfg, and BossData.log files.



Backing Up a BOSS Database

Back up by navigating to the BOSS database folder and copying the entire numbered folder to CD, or by using the **Archive** function in the **Open Database** window. The **Archive** function saves only the original BOSS database (BossData.db) and database configuration (BossData.cfg) files to a new location, not the entire numbered folder.

Back up the numbered BOSS database folder (or use the **Archive** function in BOSS), and export all data:

- Immediately before exporting text for translation
- After importing translated text and audio
- After completing all proofreading and before generating the ballot
- After generating the ballot and writing media, but before finalizing the database
- After finalizing the database.

See:

“Appendix D: Backing Up Election Databases” on page 107.

Deleting a BOSS Database

Delete BOSS databases that were used for practice or testing purposes. Delete databases that contained errors, after copying these databases forward to correct errors. Once an election is completed, and after an appropriate (federally or locally mandated) waiting period has passed, election databases may be deleted in order to save hard drive space on the PC.

To delete a BOSS database, take note of the database file path in the **Open Database** window, and then click the **Delete Database** button to delete the database from the window. Next, exit BOSS, navigate to the numbered folder indicated in the database file path, and delete the numbered database folder.

Restoring a BOSS Database

A backed-up or archived BOSS database, with configuration file, can be restored into the BOSS database directory structure. This function is useful for bringing in a BOSS database created on a separate BOSS PC or for bringing in a backed-up BOSS database for use as a template for an election similar to a past election. This functionality can also provide emergency backup to a previous state of the database if the BOSS database is archived before generating and before finalizing, for example.

When the Database is Restored

- BOSS creates a new database folder named with current date and time for the restored database.
- The restored database appears in the **Open Database** window's list of available databases.
- The restored database exists in the state it was in when archived (e.g., a finalized database will remain finalized).

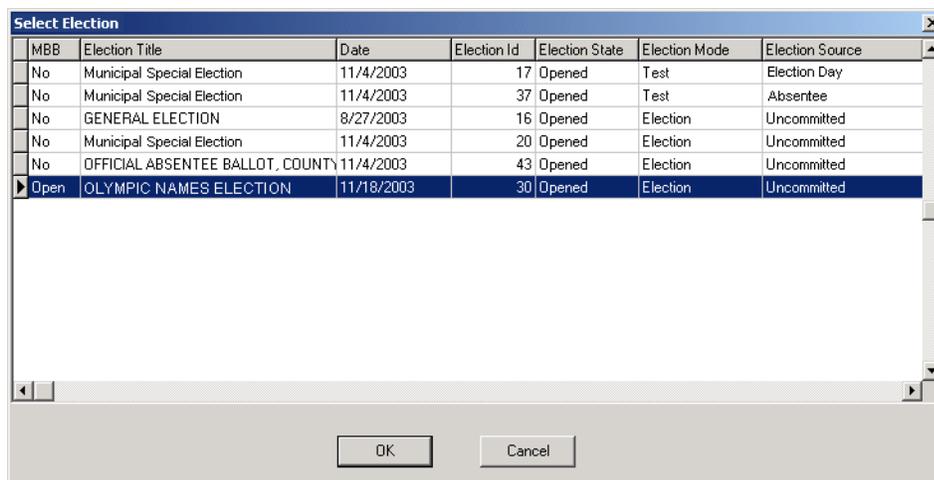
Ballot Now Database Management

Ballot Now database management includes keeping track of database status and mode; testing; understanding the database file path for CD backup; and closing and deleting unnecessary election databases.

Ballot Now Database Naming Conventions

The **Select Election** window and the **Ballot Now** window title bar both display the BOSS database **Election Title** field. You cannot rename a Ballot Now database or its description.

The Ballot Now **Select Election** window displays the following information:



MBB	Election Title	Date	Election Id	Election State	Election Mode	Election Source
No	Municipal Special Election	11/4/2003	17	Opened	Test	Election Day
No	Municipal Special Election	11/4/2003	37	Opened	Test	Absentee
No	GENERAL ELECTION	8/27/2003	16	Opened	Election	Uncommitted
No	Municipal Special Election	11/4/2003	20	Opened	Election	Uncommitted
No	OFFICIAL ABSENTEE BALLOT, COUNTY	11/4/2003	43	Opened	Election	Uncommitted
Open	OLYMPIC NAMES ELECTION	11/18/2003	30	Opened	Election	Uncommitted

Column Label:	Content Description:
MBB	MBB status - No (not present), Open, or Closed
Election Title	Election Title from BOSS (NOT BOSS Database Description)
Date	Election Day date from BOSS
Election Id	Election ID from BOSS used on Ballot Now database folder
Election State	Election State in Ballot Now - Opened or Closed
Election Mode	Election Mode from MBB type - Test or Election
Election Source	Election Source tagged for this MBB - Absentee, Early Voting, or Election Day This will display only after CVRs have been saved to the MBB.

Ballot Now Election (Database) State

A Ballot Now election can be closed with or without the presence of an MBB. In order to close an election, all scan batches must have been resolved and saved to the MBB. The Ballot Now “Election State” is not to be confused with the MBB state. An MBB can also be in an open or closed state.

Status:	Availability:
Opened	In this state, the database is available to write Cast Vote Records (CVRs) to a Mobile Ballot Box (MBB).
Closed	In this state, the database is not available to write CVRs to an MBB. The database is available to delete.

Ballot Now Database Mode

Mode:	Availability:
Test	Initialized from a Test Mode MBB. Ballot Now will print and scan ballots marked “Test”. Ballot Now will print ballots marked “Sample”. This database is separate from the Election mode database, and shares the ID number followed by a “T”.
Election	Initialized from an Election Mode MBB. Ballot Now will print and scan live election ballots. Ballot Now will print ballots marked “Sample”. This database is separate from the Test mode database.

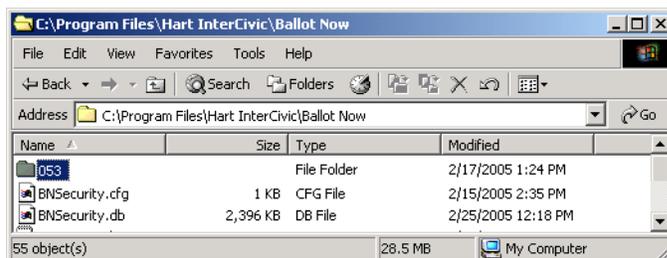
Testing

Logic and Accuracy testing is testing of the tabulation system. Logic and Accuracy Testing (LAT or L&A) should take place before going live with an election, including Early and Absentee voting. Follow federal, state, and local guidelines for logic and accuracy testing. Refer to Hart Voting System Support Procedures documents for specific information on conducting system Logic and Accuracy Testing. Ballot Now and eScan testing should be performed with Test Mode MBBs. eScan embedded LAT MUST be performed with Test Mode MBBs.

Functionality Testing, which is testing of the equipment, should take place before each election cycle and should include scanner maintenance and cleaning. Refer to eSlate Support Procedures documents for a checklist to guide Ballot Now functionality testing. Refer to the scanner manufacturer’s documentation for scanner maintenance and cleaning information.

Ballot Now Database File Path

The Ballot Now database folder is located at “C:\Program Files\Hart Intercivic\Ballot Now\###” (three-digit Election ID number). Identify the (BOSS) Election ID in the **Select Election** window (by going to the **Election** menu and clicking **Select Election**) and/or in the “Election Report”. Test databases also append the Election ID with a “T”. The Ballot Now database in the folder is named “BallotNow.db”.



Backing Up Ballot Now Databases

When backing up a Ballot Now database to CD, refer to the database “Election ID” in the **Select Election** window. This ID number is also viewable in the “Election Report”. Follow the directory path to the folder with this Election ID (C:\Program Files\Hart Intercivic\Ballot Now\###). Back up the entire folder. In addition, back up the BNsecurity.db and BNsecurity.cfg files in the “Ballot Now” folder. Ballot Now does not include a “backup” or “archive” function within the application.

Back up the numbered Ballot Now database folder and BNsecurity.db and BNsecurity.cfg files:

- At any time before closing the election (optional)
- After closing the election.

See:

“Appendix D: Backing Up Election Databases” on page 107.

Deleting Ballot Now Databases

Ballot Now databases (elections) must be in a “Closed” state before they can be deleted. Delete Ballot Now databases that were used for practice purposes.

Once an election is completed, after an appropriate (federally or locally mandated) waiting period has passed, and after the Ballot Now database has been backed up, election databases may be deleted in order to save hard drive space on the PC. The delete function itself does not require that an MBB be present.

Deleting a Closed Ballot Now Election (Database)

1. Log in to Ballot Now as an Administrator-level user.
2. With or without the MBB card in the card device, select the election and note the (BOSS) Election ID in the **Select Election** window (also viewable in the “Election Report”).
3. Go to the **Election** menu and click **Delete Election**.
4. Follow the prompts to delete the election. (If MBB was not closed and is present in the card device, the eCM PIN is required.)
5. If instructed to do so (see messages below), exit Ballot Now, navigate to the directory for the database, and delete the folder with the correct Election ID for this database. If necessary, restart the PC and retry.



Tally Database Management

Tally database management includes naming the database with a convention that is user friendly; keeping track of database status and mode; testing; and noting the database file path for CD backup.

Tally Database Naming Conventions

Use a consistent naming convention. Suggested convention:

Function of the Database:	Sequence Number:	Election Description:
TEST TRAINING	4	General Election 11.05.02
TEST	1	Community Election 5.03.03
ELECTION	1	Community Election 5.03.03
RECOUNT	2	Community Election 5.03.03

Function of the Database

Describe the function of this database. The database may be a test, a live election, a recount, or a Tally database set up for training purposes. "Test" and "Election" are also database modes, but including this in the description name is helpful to the user. The "Function of the Database" wording should be entered in ALL CAPS to help with database identification.

Sequence Number

This signifies the number of times this database, for this function, has been brought into Tally.

Election Description

Describe the election event with, at minimum, the election title or the database description from BOSS and the date (Election Day date). Tally's Database Wizard autofills the **Enter a description for the Database** field with the **Election Title** field data from BOSS.

Tally Database Status

Status:	Availability:
New	In this state, the database has no votes recorded yet (no MBBs from Test or Election have been tabulated), and it is available to process MBBs.
Opened	In this state, the database has votes recorded in it and is available to continue processing MBBs.
Finalized	In this state, the database is not available to process MBBs. All MBBs for the election have been read. The database is available for reporting, write-in, retrievable, and provisional ballot resolution, vote adjustments, and exporting, but NOT for processing MBBs.

Note:

Only one New or Opened Election mode database, from the same finalized BOSS database, can exist in the same Tally application at one time. After finalizing an Election Mode database, another Election Mode database may be initialized in Tally.

Database Mode

Mode:	Availability:
Test	Tally will only read and tabulate Test mode MBBs. Test mode is employed for Logic and Accuracy testing. Multiple New, Opened, or Finalized Test mode databases, from the same finalized BOSS database, can exist simultaneously.
Election	Tally will only read and tabulate Election mode MBBs. Only one New or Opened Election mode database, from the same finalized BOSS database, can exist in the same Tally application at one time. Election mode is employed for “live” election data.

Note:

Test and Election mode databases from the same finalized BOSS database can exist simultaneously, in any state, in the same Tally application. Test and Election databases from the same finalized BOSS database are completely separate.

Testing

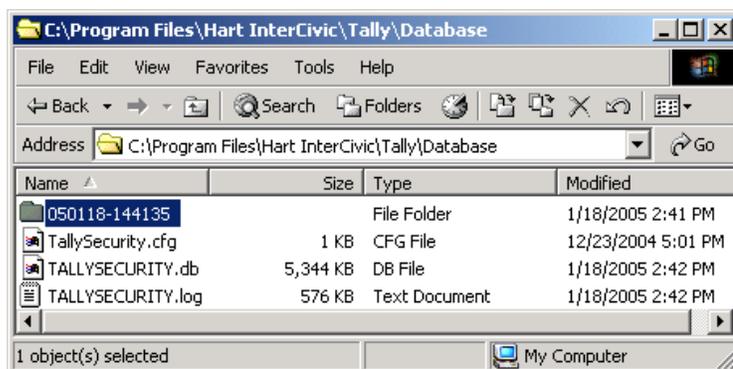
Logic and Accuracy testing (L&A or LAT) is testing of the accuracy of the tabulation system compared to the input on the voting device. Logic and accuracy testing should take place before going live with an election, including Absentee and Early voting in-person. Follow federal, state, and local guidelines for logic and accuracy testing. Logic and accuracy testing is done from the BOSS ELECTION database that will be used for the live election and the Tally TEST database.

See:

The *Tally Software Training Manual* and the *Support Procedures Training Manual* for more information about logic and accuracy testing and functionality testing (testing of the hardware functionality) with the system.

Tally Database File Path

The database file path records the directory for the TallyData.db database and TallyData.cfg files. All Tally databases include these files in a numbered folder that is unique to that database. When creating a new Tally database from a finalized BOSS database, the Tally application copies the BossData.db file from the finalized BOSS database and converts that file to a TallyData.db file. For each new Tally Election database created, a new folder for the TallyData.db and TallyData.cfg files is automatically created on the computer hard drive in the path C:\Program Files\HartInterCivic\Tally\Database. The Tally database folder itself is named according to the Year, Month, Day – Hour, Minute, Second (24-hour clock) that the database was created. For example, database folder “050118-144135” was created on January 18, 2005 at 2:41:35 p.m.



Backing up a Tally Database

Back up by navigating to the Tally database folder and copying the entire folder to CD, or by using the **Backup** function in Tally. The **Backup** function saves the original Tally database file (TallyData.db) and configuration file (TallyData.cfg) to a new location. Hart InterCivic recommends that Tally databases be backed up frequently during live election tabulation. For advanced users, a backed-up database can also be restored to a previous condition and/or state.

Back up the numbered Tally database folder (or use the **Backup** function in Tally):

- After each instance of creating printed and exported reports for public use (e.g., media outlets)
- After processing absentee by-mail MBBs on Election Day
- After processing Early Voting MBBs
- After each instance of creating printed and exported reports for public use (e.g., media outlets) on Election Day
- After processing absentee by-mail late mail MBBs after Election Day
- Before resolving write-in votes
- Before resolving provisional ballots
- Before finalizing
- After finalizing
- Immediately after Canvassing.

See:

“Appendix D: Backing Up Election Databases” on page 107.

“Restoring a Tally Database to a Previous State” in the *Tally Software Training Manual*.

Deleting a Tally Database

Delete Tally databases that were used for practice purposes. Once an election is completed, after an appropriate (federally or locally mandated) waiting period has passed, and after the Tally database has been backed up, election databases may be deleted in order to save hard drive space on the PC. To delete a Tally database, take note of the database file path in the **Election Databases** panel of the **Tally** window, and click the **Delete** button to delete the database from the window. If deleting Tally databases with the “New” status, Tally may also direct the user to exit Tally, navigate to the folder indicated in the database file path, and delete the database folder.

Rally Database Management

Each Rally PC has one Rally database folder located at “C:\Program Files\Hart InterCivic\Rally\Database”. All data run on each Rally PC saves into this folder. There is one Rally database named “Mbbtrans.db”. Rally saves all data to this database. The Rally database folder should be backed up to CD, in a folder named and dated for the election, after each election in which Rally is used.

After the database folder backup, reset the database in the “Rally\Database” folder to a blank state. In Rally, go to the **Database** menu and click **Reset**. Resetting the database folder also resets the Rally station name, in preparation for the next election.

Back up each Rally station “Database” folder (or use the **Archive** function in Rally):

- After processing all MBBs and printing and exporting final reports and before resetting the Rally database (including before resetting the Rally database as an emergency procedure).

See:

“Appendix D: Backing Up Election Databases” on page 107.

SERVO Database Management

Each SERVO PC has one SERVO database folder located at “C:\Program Files\Hart InterCivic\SERVO\Database”. All data run on each SERVO PC saves into this folder. There is one SERVO database named “ServoData.db”. SERVO saves all data to this database. Equipment information is accumulated here. Cast Vote Record (CVR) information is organized into SERVO “Events” within the database. An “Event” records the CVR data backed up from JBCs and/or eSlates used during Early Voting or Election Day activities. Equipment used for Early Voting and Election Day for the same election must be backed up to separate Events.

All Events added to SERVO will continue to accumulate into the same ServoData.db database file in the SERVO\Database folder. Each SERVO “Event” records data from an election or subset of an election. Equipment backed up to SERVO Events created on multiple computers should be combined into one “master” Event on one of those computers.

See:

The *SERVO Operations Manual* for details about this functionality.

Back up election SERVO “Database” folder:

- After each election in which SERVO is used.

See:

“Appendix D: Backing Up Election Databases” on page 107.

TRANS File Management

TRANS is the Translation, Recording, and Audio Normalization System for the Hart Voting System. TRANS is used when translating text and recording all audio (including English) for ballots. There is no database management required for TRANS, but there is file management required. Each language file exported from BOSS is uniquely named per language (e.g., "BallotText_ES.xml" = Spanish text, "BallotText_VI.xml" = Vietnamese text), but NOT uniquely named per export or per election. Therefore, it is important to name the folders that these files are placed into. TRANS best practices include:

- After exporting files from BOSS (or as part of export), separate files into folders uniquely named with the term "Export", "TEXT" (for .xml files) or "AUDIO" (for .xml files), and the election, language, and current date.
- Zip files or folders before copying to CD or sending via e-mail.
- Make certain that any third party translation services have signed a TRANS licensing agreement.
- Load only one .xml file at a time into a TRANS "Jobs" folder.
- After translating and/or recording, copy files from the TRANS "Jobs" folder into folders uniquely named with the term "Import", "TEXT" (for .xml files) or "AUDIO" (for .xml files), and the election, language, and current date.
- Zip files or folders before copying to CD or sending via e-mail.
- Import multi-language text and audio into BOSS only from an "Import" folder.
- When finished translating and/or recording, copying, zipping, and shipping files, all files in the TRANS "Jobs" folder should be deleted.

eCM Manager File Management

There is no database management required for eCM Manager, but file management and management of eCMs and associated Key IDs and PIN(s) are required. eCM file management best practices include:

- Save the .eCM file to a named folder after creating eCMs and BEFORE EXITING the eCM Manager application.
- Back up the .eCM file to CD.
- Log the .eCM folder location, CD location, date created and contents.



If the .eCM file is not saved before exiting eCM Manager, the user must read the eCM device originally written to, and then save the file.

See:

"eSlate Cryptographic Module (eCM)" on page 40.

BOSS User Permissions and Audit Trail

First Login After Installation of BOSS

The following steps must be completed at the first startup of BOSS after installation. If this has already been completed during installation and testing by Hart InterCivic, the customer should create local users and permissions and delete those users added during installation and testing.

1. Start BOSS from either the desktop shortcut or the **Start** button on the Windows taskbar.
2. In the **User ID** field enter a User ID for an administrator who will have ALL authority in BOSS. Field limit is 6-12 letters or numbers, case sensitive.
3. In the **Password** and **Confirm Password** fields, enter the password for the administrator user. Field limit 6-12 letters or numbers, case sensitive.
4. Click **OK**.

Creating Additional Users

1. Go to the **Administration** menu and click **Non-Election Tasks**.
2. Click **Yes** to log off the current database.
3. Go to the **Administration** menu and click **Users Maintenance**.
4. Click the **Add User** button and enter a new User ID and Password.
5. Select the appropriate permission setting and click **OK**.

BOSS User Permissions

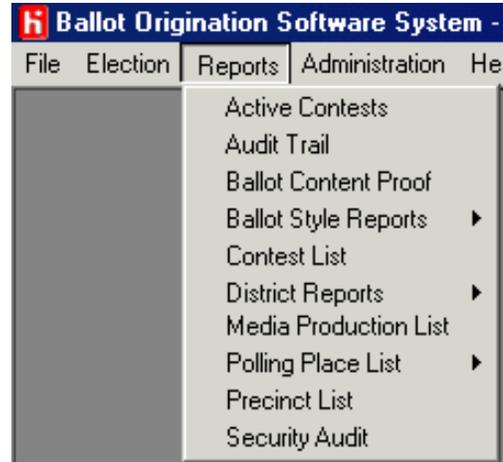
BOSS Function:	UPDATE:	VIEW:	ALL:
Create Databases	No	No	Yes
Change Current User Password	Yes	Yes	Yes
Delete Databases	No	No	Yes
Modify Databases	Yes	No	Yes
Users Maintenance	No	No	Yes
View and Print Election Reports	Yes	Yes	Yes
View and Print Security Audit	No	No	Yes

Viewing BOSS Audit Reports

There are two types of BOSS audit reports. An Audit Trail Report shows actions performed within a specific BOSS election database (e.g., candidates added by a user). The BOSS Security Audit Report allows a BOSS administrator with ALL authority to identify what has been accessed/changed, by whom, at what time, within the BOSS application since installation (e.g., adding users).

These reports allow a BOSS administrator to keep track of BOSS databases, and they allow administrator-level users to identify what has been accessed/changed, by whom, when.

To access BOSS audit reports, go to the **Reports** menu and select the desired audit report.



BOSS “Audit Trail” Report

Select parameters in each of the fields at the top of the **Audit Trail** window and click the **Retrieve** button to view an “Audit Trail” report.

The screenshot shows the 'Audit Trail' window. At the top, there are search filters for 'Begin', 'End', 'User', 'Area', and 'Action', along with 'Retrieve', 'Print', and 'Close' buttons. The main content area displays the following information:

Audit Trail
 Sample County — General Election 11/07/2006 — Ballot Preparation
 c:\boss\database\050508-101455 (BOSS 4.2.12) Page 1 5/10/2005 1:10

Date	User	Area	Action
05/07/2005	username	Election	Add
14:01:42	ID=1,	Election Type=GE(General Election), Date=07-MAY-2005, English Title="", English Audio ID=,	BOSS Database ID=, BOSS Application ID=
05/07/2005	username	Election	Update
14:01:42	ID=1,	Election Type=GE(General Election), Date=07-MAY-2005, English Title="", English Audio ID=,	BOSS Database ID=1044, BOSS Application ID=1044
14:02:20	ID=1,	Election Type=GE(General Election), Date=07-NOV-2006, English Title="General Election", English Audio ID=1524,	BOSS Database ID=1044, BOSS Application ID=1044
05/07/2005	username	Jurisdiction Rules	Add
14:02:20		English Jurisdiction Name= Sample County, Spanish Jurisdiction Name= , State= CO, Indicate Incumbents=Y,	English Write-in Title= Write-in, Spanish Write-in Title= , Vote Code Active= 30, Remote Phone Number=
05/07/2005	username	Party	Delete
14:02:23		Party Code="NP", English Name="", Internal Party ID=1, Non-Partisan=Yes, Primary Ballot Header="Non-Partisan Ballot",	English Audio ID=
05/07/2005	username	Party	Add
14:02:24		Party Code="NP", English Name="Non-Partisan", Internal Party ID=1, Non-Partisan=Yes, Primary Ballot Header="Official Ballot",	English Audio ID=1530
14:02:24		Party Code="REP", English Name="Republican Party", Internal Party ID=2, Non-Partisan=No, Primary Ballot Header="",	English Audio ID=1532
14:02:24		Party Code="DEM", English Name="Democratic Party", Internal Party ID=3, Non-Partisan=No, Primary Ballot Header="",	English Audio ID=1533
14:02:24		Party Code="LIB", English Name="Libertarian Party", Internal Party ID=4, Non-Partisan=No, Primary Ballot Header="",	English Audio ID=1534
05/07/2005	username	Precinct	Add
14:02:27	ID=1,	Name="1001", Split Name="", # Reg Voters=500,	English Audio ID=

Information in the BOSS “Audit Trail” Report

The “Audit Trail” report provides data describing activity in the database.

Transactions listed in this report:

- The date and time an action occurred
- The User ID of the user logged in to BOSS when the action occurred
- The area of the BOSS application in which the user was working
- The type of action the user performed

Audit Trail Report Sections:	Description:
Header	Standard BOSS report header
Date/Time Stamp	The date and time of an action
User	The User ID of the user logged in to BOSS when the action occurred
Area	<p>The area of the BOSS application in which the user was working</p> <p>Areas included:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Active Contest <input type="checkbox"/> Ballot Templates <input type="checkbox"/> Contest <input type="checkbox"/> District <input type="checkbox"/> District Contest Associations <input type="checkbox"/> Election <input type="checkbox"/> Instruction Text <input type="checkbox"/> Jurisdiction Rules <input type="checkbox"/> Options <input type="checkbox"/> Option Details <input type="checkbox"/> Party <input type="checkbox"/> Poll/Precinct Associations <input type="checkbox"/> Polling Place <input type="checkbox"/> Precinct <input type="checkbox"/> Precinct Contest Associations <input type="checkbox"/> Precinct District Associations <input type="checkbox"/> Proposition Text <input type="checkbox"/> Session
Action	<p>The type of action that the user performed:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Add <input type="checkbox"/> Delete <input type="checkbox"/> Update

BOSS “Security Audit” Report

The “Security Audit” report lists all auditable events performed in BOSS since the BOSS installation.

Security Audit Report			
Date/Time Stamp	User ID	Event Description	Event Details
5/11/2005 11:39:43	username	DATABASE OPENED	Closed Primary - c:\boss\database\050510-161913\BossData.db
5/11/2005 11:39:37	username	DELETED ELECTION	db_id = 1046
5/11/2005 11:39:31	username	DATABASE CLOSED	
5/11/2005 11:34:16	username	BALLOT ACCEPTED	
5/11/2005 11:32:57	username	KEY ACCESSED	signing key access
5/11/2005 11:32:48	username	BALLOT GENERATED	
5/11/2005 11:21:37	username	DATABASE OPENED	Contest/Precinct/District - c:\boss\database\050511-112053\BossData
5/11/2005 11:21:30	username	ADDED ELECTION	Contest/Precinct/District - c:\boss\database\050511-112053\BossData
5/11/2005 11:21:30	username	DATABASE CLOSED	
5/11/2005 11:21:29	username	DATABASE OPENED	Sample County General - c:\boss\database\050507-140100\BossData
5/11/2005 11:20:44	username	DATABASE CLOSED	
5/11/2005 11:19:32	username	DATABASE OPENED	Sample County General - c:\boss\database\050507-140100\BossData
5/11/2005 11:19:28	username	DATABASE CLOSED	
5/11/2005 11:12:57	username	DATABASE OPENED	Contest, Precinct, District, Pct Level Contest - c:\boss\database\050511-110939\BossData
5/11/2005 11:12:50	username	DELETED ELECTION	db_id = 1049
5/11/2005 11:12:47	username	DATABASE CLOSED	
5/11/2005 11:10:33	username	DATABASE OPENED	SC General with Districts - c:\boss\database\050511-110939\BossData
5/11/2005 11:10:18	username	ADDED ELECTION	SC General with Districts - c:\boss\database\050511-110939\BossData
5/11/2005 11:10:18	username	DATABASE CLOSED	
5/11/2005 11:10:15	username	DATABASE OPENED	Contest, Precinct, District - c:\boss\database\050508-101455\BossData
5/11/2005 11:09:33	username	DATABASE CLOSED	

Information in the BOSS “Security Audit” Report

The “Security Audit” report provides data describing activity in the BOSS application since installation.

Transactions listed in this report are:

- The date and time an action occurred
- The User ID of the user logged in to BOSS when the event occurred
- The type of event
- Event details.

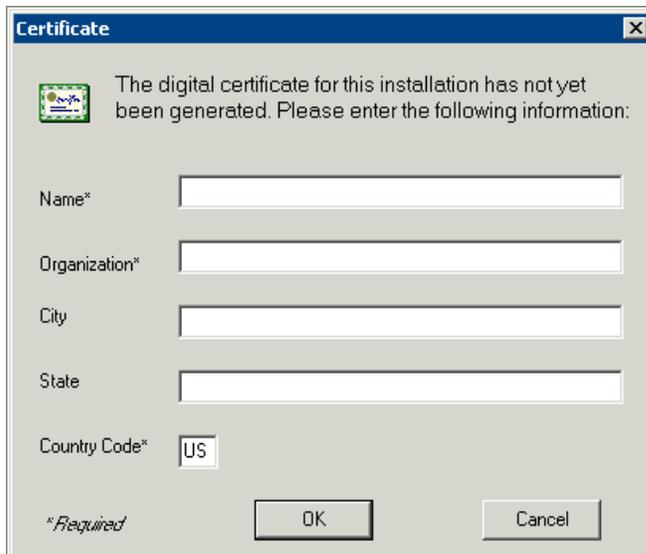
The sort order for the “Security Audit” report is *chronological by most recent event*.

Security Audit Report Sections:	Description:
Header	Standard BOSS report header
Date/Time Stamp	The date and time of an event
User ID	The ID of the user who performed the action
Event Description	The type of event that occurred: <input type="checkbox"/> Added Election <input type="checkbox"/> Added User <input type="checkbox"/> Ballot Accepted <input type="checkbox"/> Ballot Generated <input type="checkbox"/> Ballot Rejected <input type="checkbox"/> Database Closed <input type="checkbox"/> Database Opened <input type="checkbox"/> Deleted Election <input type="checkbox"/> First Use <input type="checkbox"/> Key Accessed <input type="checkbox"/> Logoff <input type="checkbox"/> Logon <input type="checkbox"/> MBBs Written
Event Details	BOSS Database Description and filepath or other details about the event
Footer	Standard BOSS report footer

Ballot Now User Permissions, Certificates, and Audit Trail

First Login After Installation of Ballot Now

Complete the following steps at the first startup of Ballot Now after installation. If this has already been completed during installation and testing by Hart InterCivic, the customer should create local users and permissions and delete those users added during installation and testing.



The dialog box titled "Certificate" contains the following text and fields:

The digital certificate for this installation has not yet been generated. Please enter the following information:

Name*

Organization*

City

State

Country Code*

* Required

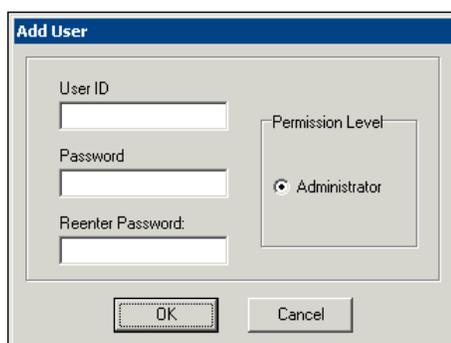
Buttons: OK, Cancel

1. Start Ballot Now from either the desktop shortcut or **Start/Programs/Hart InterCivic/Ballot Now** on the Windows taskbar.
2. Complete the certificate that displays and click **OK**. The certificate is used to verify a trusted connection (as with a client-server setup). Enter a unique password or an administrator-level User ID in the certificate **Name** field. Log certificate information.

See:

"Managing Ballot Now Certificates" on page 70.

3. Add an administrator-level user:



The dialog box titled "Add User" contains the following fields and options:

User ID

Password

Reenter Password:

Permission Level

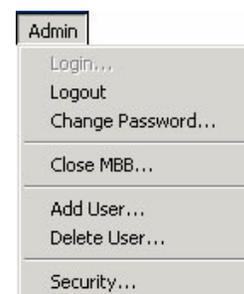
Administrator

Buttons: OK, Cancel

- a. In the **User ID** field, enter a User ID for a user who will have Administrator-level permissions in Ballot Now. The field limit is 6 - 12 letters or numbers, case sensitive.
- b. In the **Password** and **Reenter Password** fields, enter the password for the Administrator-level user. The field limit is 6-12 letters or numbers, case sensitive.
- c. Click **OK**.

Managing Additional Users

- To create additional users, go to the **Admin** menu and click **Add User**.
- In the **Add User** window, add new users with appropriate permission settings and click **OK**. (The field limit is 6 - 12 letters or numbers, case sensitive.)



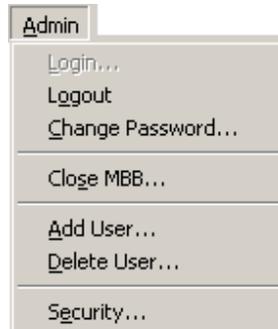
- > Users currently logged in can change their passwords by going to the **Admin** menu and clicking **Change Password**.
- > Administrator-level users can delete users by going to the **Admin** menu and clicking **Delete User**.
- > Users cannot view passwords.

Ballot Now User Permissions

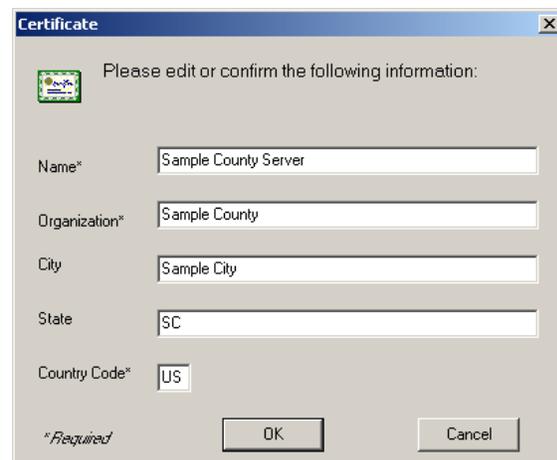
Ballot Now Functions:	Administrator:		Operator:		Resolution Board:	
	Server	Client	Server	Client	Server	Client
Add "Certified" Write-ins	Yes	Yes	Yes	Yes	No	No
Add/Delete User	Yes	Yes	No	No	No	No
Change Password	Yes	Yes	Yes	Yes	Yes	Yes
Change Program Options	Yes	No	Yes	No	No	No
Close Election	Yes	No	No	No	No	No
Close MBB	Yes	No	No	No	No	No
Delete Election	Yes	No	No	No	No	No
Log In	Yes	Yes	Yes	Yes	Yes	Yes
Log Out	Yes	Yes	Yes	Yes	Yes	Yes
Manage Scan Batches	Yes	Yes	No	No	No	No
Print Ballots	Yes	No	Yes	No	No	No
Resolve Ballots	Yes	Yes	No	No	Yes	Yes
Scan Ballots	Yes	No	Yes	No	No	No
Search for Ballot by Serial Number	Yes	Yes	No	No	No	No
Select Election	Yes	Yes	Yes	Yes	Yes	Yes
Select Election Source for Write to MBB	Yes	No	No	No	No	No
Set Election Source	Yes	No	Yes	No	No	No
View/Print Reports	Yes	Yes	Yes	Yes	No	No
Write CVRs to MBB	Yes	No	No	No	No	No

Managing Ballot Now Certificates

1. Certificates must be separately managed, by an administrator-level user, on each Ballot Now PC.
 - > A second administrator-level user must be added in order to access the **Ballot Now Security Management** window on the client PC while an administrator is logged in on the server PC.
2. To manage certificates, go to the **Admin** menu and click **Security**.



3. In the **Ballot Now Security Management** window, click **Edit Local Certificate** in order to change content in the certificate for the Ballot Now application on the local PC. In the **Certificate** window, review information and/or change content, and then click **OK**.

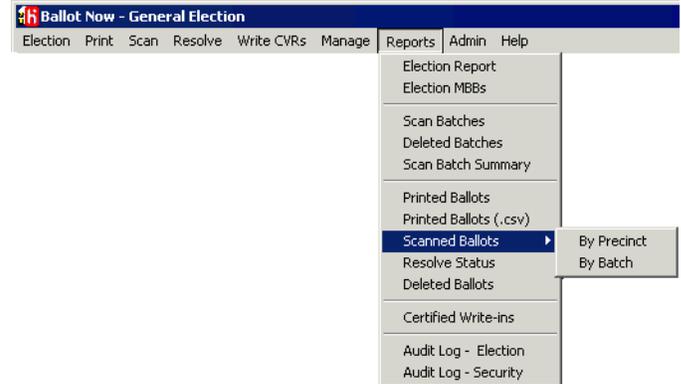


4. Click **Clear Trusted Certificates** to clear previously accepted certificates from a networked PC.
5. The footer of the **Ballot Now Security Management** window indicates the current number of accepted trusted certificates residing on the local PC.
6. Click **Close** to exit the **Ballot Now Security Management** window.

Viewing Ballot Now “Audit Log” Reports

There are two types of Ballot Now audit log reports. An Election Database Audit Log shows actions performed within a specific Ballot Now election database (e.g., resolution actions taken by a user). The Ballot Now Security Database Audit Log shows actions performed in the Ballot Now application since installation (e.g., adding users).

These reports allow a Ballot Now administrator to keep track of Ballot Now databases, and they allow administrator-level users to identify what has been accessed/changed, by whom. To access the “Audit Log” reports go to the **Reports** menu.



Go to the **Reports** menu and select an **Audit Log** menu item to view a Ballot Now “Audit Log” report.

Ballot Now “Election Database Audit Log” Report

The Ballot Now “Election Database Audit Log” Report lists activities in the election database. Print, search and view pages from the **Ballot Now Report** window, using standard Windows navigation.

Record	User ID	Date / Time	Code	Description	Detail
1	bnwadmn	12/15/2005 2:34:27 PM	88	Initialize New Election	Election ID 44, Mode Election
2	bnwadmn	12/15/2005 2:34:58 PM	5	Open Election	Election Id 44, Mode Election
3	bnwadmn	12/15/2005 2:34:58 PM	42	Voter Counters	Pub: 000000 Pvt:000000000
4	bnwadmn	12/15/2005 2:34:58 PM	43	MBB ID	MBB ID: 3, Present: YES
5	bnwadmn	12/15/2005 2:34:58 PM	45	Security DB Version	3.00.00
6	bnwadmn	12/15/2005 2:34:58 PM	46	Database Version	3.00.00
7	bnwadmn	12/15/2005 2:34:58 PM	47	Ballot Now Version	3.2.4.1
8	bnwadmn	12/15/2005 2:34:58 PM	48	BNIP Version	3.2.4.1
9	bnwadmn	12/15/2005 2:35:26 PM	87	View Report	ElectionDBAuditLog
10	bnwadmn	12/15/2005 2:35:37 PM	87	View Report	SecurityDBAuditLog
11	bnwadmn	12/15/2005 2:36:20 PM	14	Preferences	Scanner:M4097,Disallow Dups.:YES
12	bnwadmn	12/15/2005 2:36:20 PM	14	Preferences	Disallow Incomplete Ballots:YES
13	bnwadmn	12/15/2005 2:36:20 PM	14	Preferences	Use Ser.#:YES,Use Stubs:NO
14	bnwadmn	12/15/2005 2:36:20 PM	14	Preferences	SNReadable:YES,Freeform Write-in:NO
15	bnwadmn	12/15/2005 2:36:20 PM	14	Preferences	Serial Number Placement:Both
16	bnwadmn	12/15/2005 2:36:37 PM	14	Preferences	Scanner:M4097,Disallow Dups.:YES
17	bnwadmn	12/15/2005 2:36:37 PM	14	Preferences	Disallow Incomplete Ballots:YES
18	bnwadmn	12/15/2005 2:36:37 PM	14	Preferences	Use Ser.#:YES,Use Stubs:NO
19	bnwadmn	12/15/2005 2:36:37 PM	14	Preferences	SNReadable:YES,Freeform Write-in:YES
20	bnwadmn	12/15/2005 2:36:37 PM	14	Preferences	Serial Number Placement:Both

Information in the Ballot Now “Election Database Audit Log” Report

The Ballot Now “Election Database Audit Log” Report lists the transactions users performed in the Ballot Now application while working with a specific election database. Transactions listed in this report are:

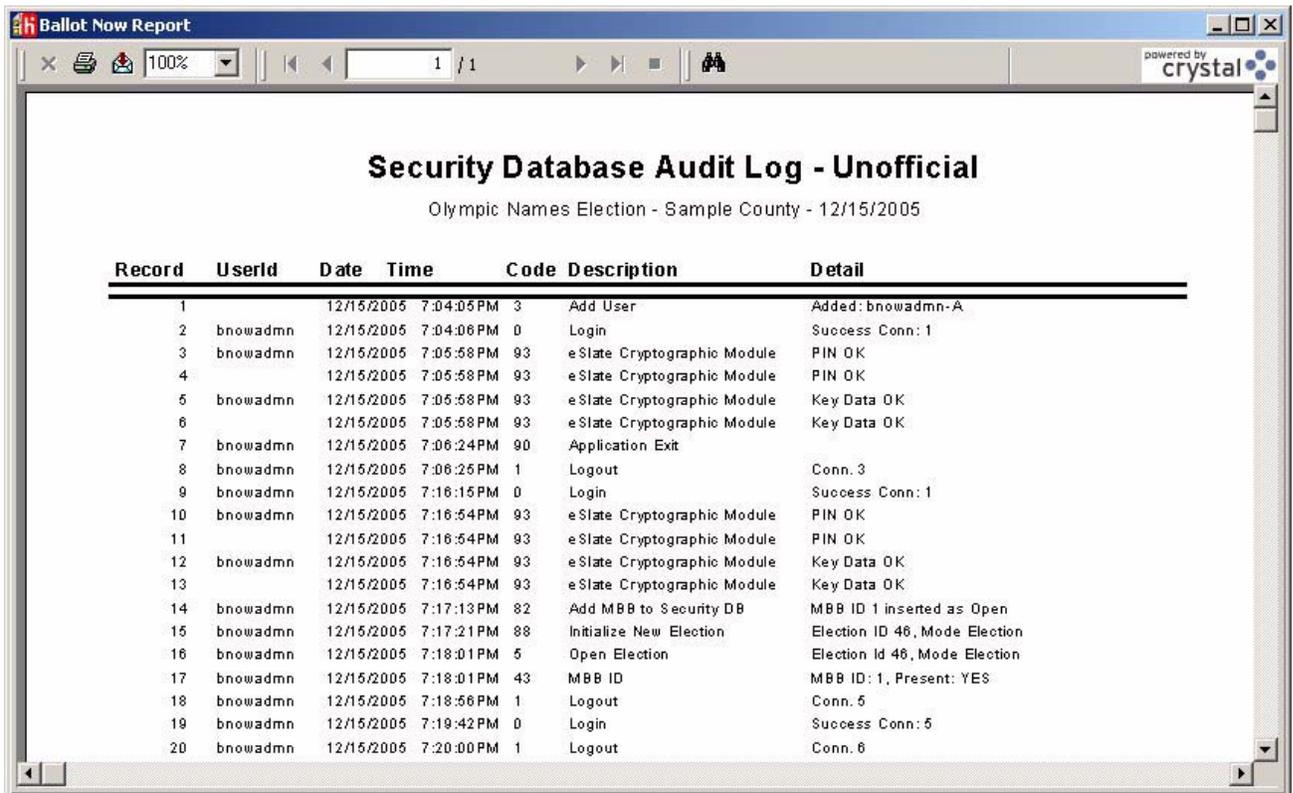
- Transaction record number
- Username of the user logged in to Ballot Now when transaction occurred
- Date transaction occurred
- Time of day transaction occurred
- Code for the transaction
- Description of the transaction
- Details of the transaction.

The sort order for this report is the *date and time transaction occurred*.

Audit Log Report Section:	Description:
Header	Standard Ballot Now report header
Record	The transaction record number (1 to n)
UserId	The username of the user logged in to Ballot Now when transaction occurred
Date	The date transaction occurred
Time	The time of day transaction occurred
Code	The code number for the transaction type See: The <i>Ballot Now Operations Manual</i> for a list of Ballot Now audit code descriptions.
Description	A description of the transaction
Detail	The details of the transaction described in the Description column
Footer	Standard Ballot Now report footer

Ballot Now “Security Database Audit Log” Report

The Ballot Now “Security Database Audit Log” Report lists security database transactions. Print, search and view pages from the **Ballot Now Report** window, using standard Windows navigation.



Record	UserId	Date	Time	Code	Description	Detail
1		12/15/2005	7:04:05 PM	3	Add User	Added: bnowadmn-A
2	bnowadmn	12/15/2005	7:04:06 PM	0	Login	Success Conn: 1
3	bnowadmn	12/15/2005	7:05:58 PM	93	eSlate Cryptographic Module	PIN OK
4		12/15/2005	7:05:58 PM	93	eSlate Cryptographic Module	PIN OK
5	bnowadmn	12/15/2005	7:05:58 PM	93	eSlate Cryptographic Module	Key Data OK
6		12/15/2005	7:05:58 PM	93	eSlate Cryptographic Module	Key Data OK
7	bnowadmn	12/15/2005	7:06:24 PM	90	Application Exit	
8	bnowadmn	12/15/2005	7:06:25 PM	1	Logout	Conn. 3
9	bnowadmn	12/15/2005	7:16:15 PM	0	Login	Success Conn: 1
10	bnowadmn	12/15/2005	7:16:54 PM	93	eSlate Cryptographic Module	PIN OK
11		12/15/2005	7:16:54 PM	93	eSlate Cryptographic Module	PIN OK
12	bnowadmn	12/15/2005	7:16:54 PM	93	eSlate Cryptographic Module	Key Data OK
13		12/15/2005	7:16:54 PM	93	eSlate Cryptographic Module	Key Data OK
14	bnowadmn	12/15/2005	7:17:13 PM	82	Add MBB to Security DB	MBB ID 1 inserted as Open
15	bnowadmn	12/15/2005	7:17:21 PM	88	Initialize New Election	Election ID 46, Mode Election
16	bnowadmn	12/15/2005	7:18:01 PM	5	Open Election	Election Id 46, Mode Election
17	bnowadmn	12/15/2005	7:18:01 PM	43	MBB ID	MBB ID: 1, Present: YES
18	bnowadmn	12/15/2005	7:18:56 PM	1	Logout	Conn. 5
19	bnowadmn	12/15/2005	7:19:42 PM	0	Login	Success Conn: 5
20	bnowadmn	12/15/2005	7:20:00 PM	1	Logout	Conn. 6

Information in the Ballot Now “Security Database Audit Log” Report

The Ballot Now “Security Database Audit Log” Report lists the transactions users performed in the Ballot Now application outside of a specific election. Transactions are listed and sorted in the same format as that used in the “Election Database Audit Log” report.

See:

The *Ballot Now Operations Manual* for a list of Ballot Now audit code descriptions.

Ballot Now Filtered Audit Log Reports

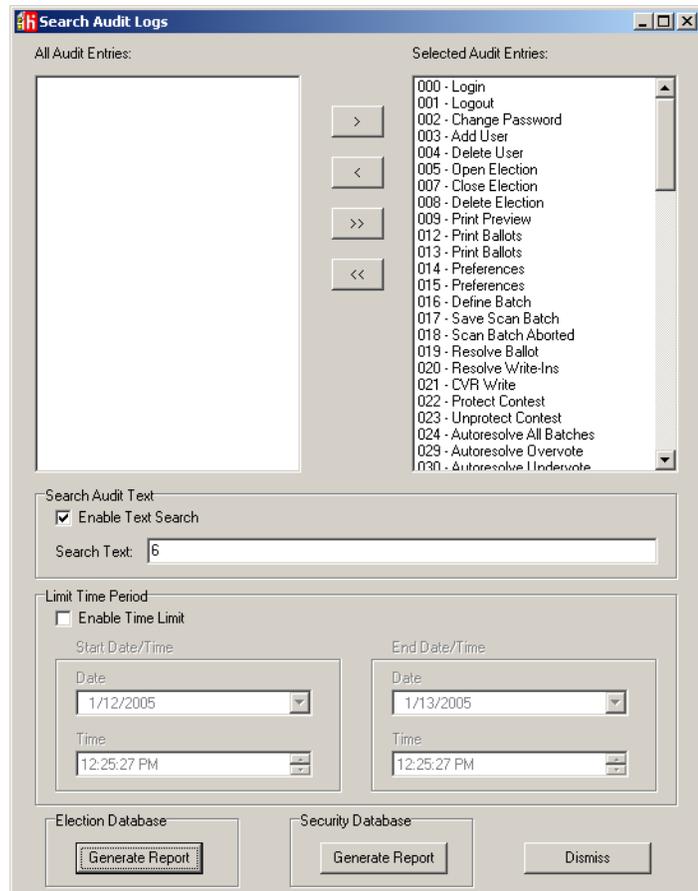
In order to print an audit log report specific to a user action, ballot serial number, or any other action description that would appear in the “detail” field of an “Audit Log” report, go to the **Reports** menu and click **Search Audit Logs**.

1. In the **Search Audit Logs** window, use arrow buttons to move target entry types from the **Available Audit Entries** to the **Selected Audit Entries** list.

See:

The *Ballot Now Operations Manual* for a list of Ballot Now audit code descriptions.

2. If you want to search using specific text, select the **Enable Text Search** checkbox and enter the text using letters and numbers only.
3. If you want to search for entries over a period of time, select the **Enable Time Limit** checkbox and select time parameters.
4. Click **Generate Report** to search and report based on either the election database or the security database.
5. View and print the filtered report.
6. Close the report and click **Dismiss** to close the window.
 - > In this example, all audit log entry types are being searched.
 - > The text being searched for is the word “English” because the administrator is looking for all instances of audit entries in which ballots were printed in English.



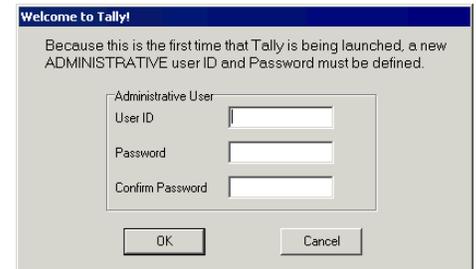
Record	User ID	Date / Time	Code Description	Detail
10	bnwadmn	12/20/2005 12:27:27 PM	13 Print Ballots	Lang:English,Ser.#:1
20	bnwadmn	12/20/2005 3:13:47 PM	13 Print Ballots	Lang:English,Ser.#:11
23	bnwadmn	12/20/2005 3:22:50 PM	13 Print Ballots	Lang:English,Ser.#:21
33	bnwadmn	12/20/2005 3:58:06 PM	13 Print Ballots	Lang:English,Ser.#:31
43	bnwadmn	12/20/2005 4:04:51 PM	13 Print Ballots	Lang:English,Ser.#:41
79	bnwadmn	2/24/2006 3:35:23 PM	13 Print Ballots	Lang:English,Ser.#:42
81	bnwadmn	2/24/2006 3:35:30 PM	13 Print Ballots	Lang:English,Ser.#:52
83	bnwadmn	2/24/2006 3:35:35 PM	13 Print Ballots	Lang:English,Ser.#:62

Tally User Permissions, Certificate, and Audit Trail

First Login After Installation of Tally

The following steps must be completed at the first startup of Tally after installation. If this has already been completed during installation and testing by Hart InterCivic, the customer should create local users and permissions and delete those users added during installation and testing.

1. Start Tally from either the desktop shortcut or the **Start** button on the Windows taskbar.
2. In the **User ID** field, enter a User ID for a user who will have Administrator permissions in Tally. The field limit is 6-12 letters or numbers, case sensitive.
3. In the **Password** and **Confirm Password** fields, enter the password for the administrator-level user. The field limit is 6-12 letters or numbers, case sensitive.
4. Click **OK** and the **Certificate** window appears.
5. Complete the certificate and click **OK**. The certificate is used to verify a trusted connection (as with a Tally-Rally connection). Enter a unique password or an administrator-level User ID in the certificate **Name** field. Log certificate information.



Welcome to Tally!

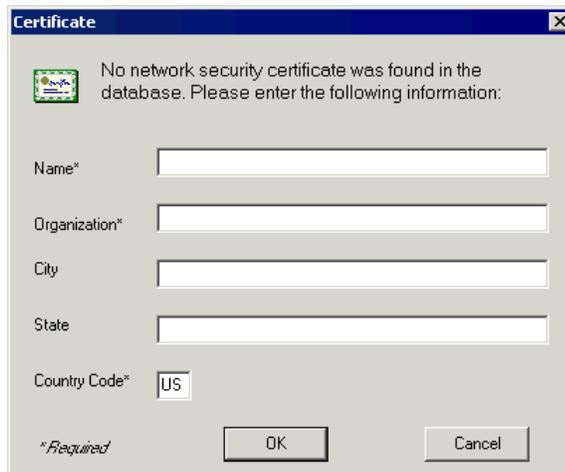
Because this is the first time that Tally is being launched, a new ADMINISTRATIVE user ID and Password must be defined.

Administrative User

User ID

Password

Confirm Password



Certificate

No network security certificate was found in the database. Please enter the following information:

Name*

Organization*

City

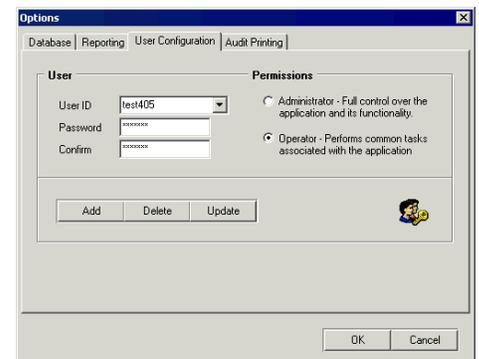
State

Country Code*

* Required

Creating Additional Users

1. Go to the **Options** menu and click **User Configuration**.
2. Enter User ID, password, and password confirmation. Select the user permission setting and click **Add**. The User ID field limit is 6-12 characters. The password field limit is 6-12 characters. Both fields are case sensitive.



Options

Database | Reporting | User Configuration | Audit Printing

User

User ID

Password

Confirm

Permissions

Administrator - Full control over the application and its functionality.

Operator - Performs common tasks associated with the application.

Updating Certificate Information

1. Go to the **Options** menu and click **Transfer Configuration**.
2. On the **Basic Setup** tab of the **Rally Configuration** window, click the **Certificate** button.
3. In the **Certificate** window, update the target fields and click **OK**.



Tally User Permissions

Tally Function:	Administrator:	Operator:	Database State:
Database Management			
Create Database	Yes	No	
Delete Database	Yes	No	New, Open, Finalized
Import Database	Yes	No	
Select Database	Yes	Yes	New, Open, Finalized
Back up Database	Yes	Yes	New, Open, Finalized
Restore Database	Yes	Yes	New, Open, Finalized
Finalize Database	Yes	No	New, Open
MBB Processing			
Read MBB	Yes	Yes	New, Open
Tabulate MBB	Yes	Yes	Open
Rally Station			
Rally Configuration	Yes	Yes	New, Open
Rally Communications	Yes	Yes	New, Open
Reports			
Execute Reports	Yes	Yes	New, Open, Finalized
Create Custom Reports	Yes	No	New, Open, Finalized
Delete Custom Reports	Yes	No	New, Open, Finalized
Write-in Features			
Write-in Resolution	Yes	No	New, Open, Finalized
Write-in Option Configuration	Yes	No	New, Open, Finalized
Other Functions			
Manual Vote Adjustment	Yes	No	Open, Finalized
Provisional Ballot Resolution	Yes	No	Open, Finalized
Tally Import	Yes	Yes	Open, Finalized
Tally Export	Yes	Yes	New, Open, Finalized
User Configuration	Yes	No	New, Open, Finalized
Application Configuration	Yes	No	New, Open, Finalized

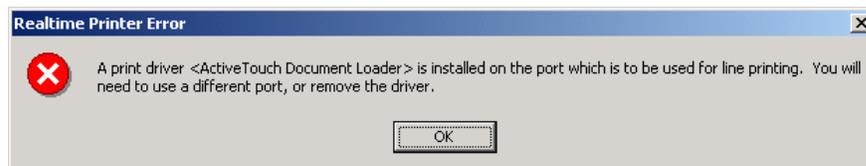
Viewing Tally “Audit Log” Reports

There are two Tally audit log reports. One is the real-time audit trail fed to a line printer, and the other is a Tally report available via the **Reporting** Quick Link. Each of these reports allows a Tally administrator to keep track of Tally election databases, and allows administrator-level users to identify what has been accessed/changed, by whom.

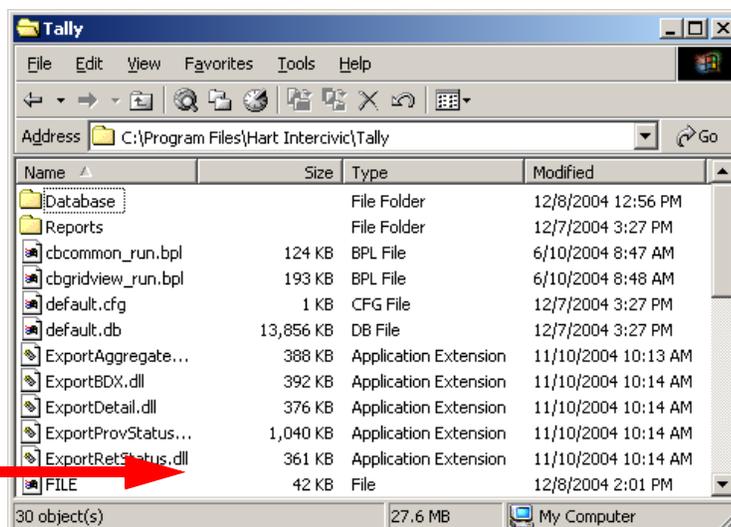
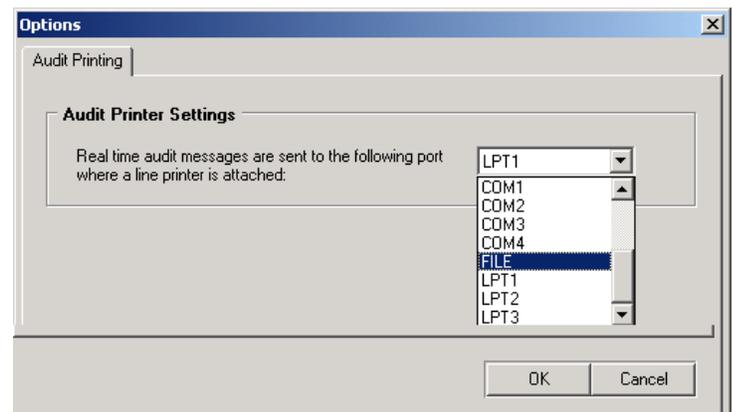
Tally Real-Time Audit Log

The Tally real-time audit log lists all auditable events performed in Tally since the Tally installation. There is no header, title, column heading, or footer information in the real-time audit log. To view the real-time Tally log, go to the **Options** menu and click **Audit Printing** to establish the correct audit printer settings. Real-time audit logs may be viewed in one of two ways:

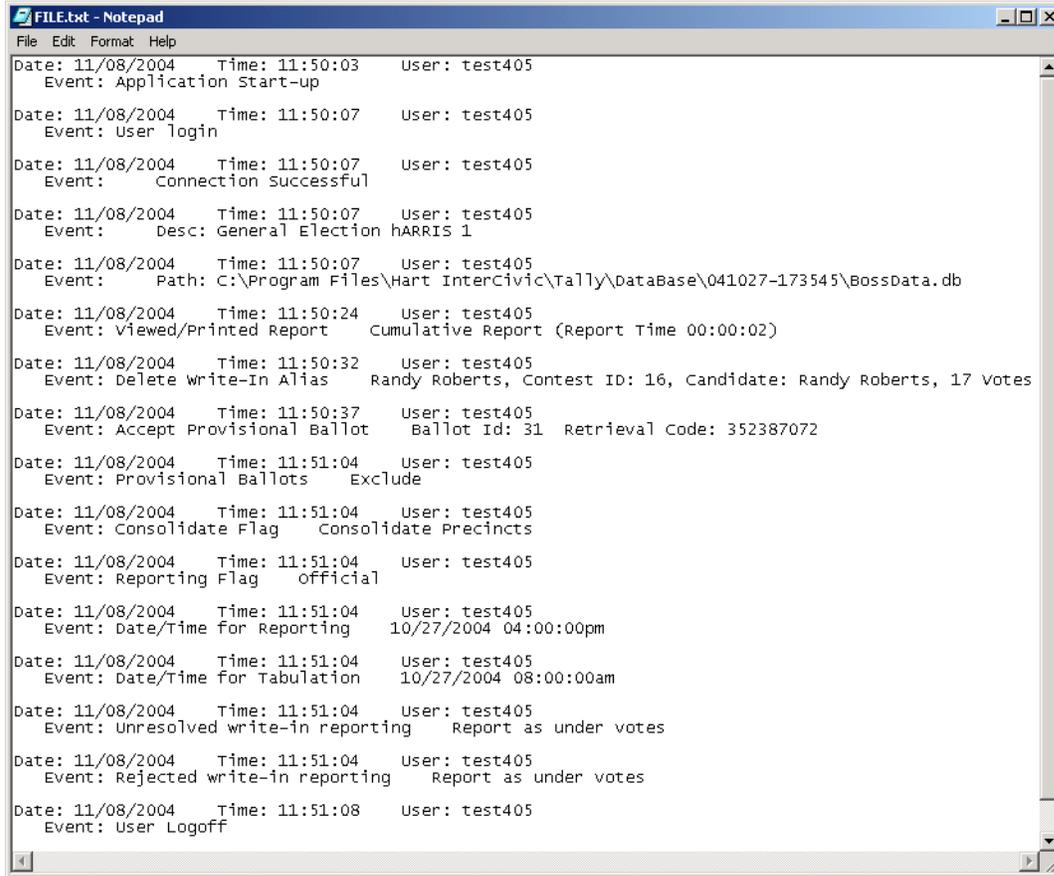
1. Connect a line printer to an LPT port on the PC. Do not install printer drivers. In Tally, go to the **Options** menu and click **Audit Printing**. Click the **Audit Printing** tab and select the LPT port to which the printer is connected. Exit Tally. Log in to Tally. The line printer will print to record each action taken while in the Tally application. Printer errors, or not powering on the printer, will cause an error message to display and ONLY access to the line printer settings will be allowed in Tally.



2. OR In Tally, go to the **Options** menu and click **Audit Printing**. Click the **Audit Printing** tab and select the audit printer setting **FILE**. A real-time audit printer file, named “FILE”, will be saved to the directory C:\Program Files\Hart InterCivic\Tally. To view this file, copy it to an election-specific folder and add the extension “.txt” to it. If using this option, make certain to retain this file as a part of the election records.



The Tally real-time audit log report lists all auditable events performed in Tally since the Tally installation. There is no header, title, column heading, or footer information in the real-time audit log.



```

FILE.txt - Notepad
File Edit Format Help
Date: 11/08/2004 Time: 11:50:03 User: test405
Event: Application Start-up
Date: 11/08/2004 Time: 11:50:07 User: test405
Event: User Login
Date: 11/08/2004 Time: 11:50:07 User: test405
Event: Connection Successful
Date: 11/08/2004 Time: 11:50:07 User: test405
Event: Desc: General Election hARRIS 1
Date: 11/08/2004 Time: 11:50:07 User: test405
Event: Path: C:\Program Files\Hart InterCivic\Tally\DataBase\041027-173545\BossData.db
Date: 11/08/2004 Time: 11:50:24 User: test405
Event: Viewed/Printed Report Cumulative Report (Report Time 00:00:02)
Date: 11/08/2004 Time: 11:50:32 User: test405
Event: Delete write-in Alias Randy Roberts, Contest ID: 16, Candidate: Randy Roberts, 17 Votes
Date: 11/08/2004 Time: 11:50:37 User: test405
Event: Accept Provisional Ballot Ballot Id: 31 Retrieval Code: 352387072
Date: 11/08/2004 Time: 11:51:04 User: test405
Event: Provisional Ballots Exclude
Date: 11/08/2004 Time: 11:51:04 User: test405
Event: Consolidate Flag Consolidate Precincts
Date: 11/08/2004 Time: 11:51:04 User: test405
Event: Reporting Flag Official
Date: 11/08/2004 Time: 11:51:04 User: test405
Event: Date/Time for Reporting 10/27/2004 04:00:00pm
Date: 11/08/2004 Time: 11:51:04 User: test405
Event: Date/Time for Tabulation 10/27/2004 08:00:00am
Date: 11/08/2004 Time: 11:51:04 User: test405
Event: Unresolved write-in reporting Report as under votes
Date: 11/08/2004 Time: 11:51:04 User: test405
Event: Rejected write-in reporting Report as under votes
Date: 11/08/2004 Time: 11:51:08 User: test405
Event: User Logoff

```

Information in the Tally real-time Audit Log

The real-time audit log captures all user actions. In addition to the events captured in the “Audit Log” report, the real-time audit log captures:

- Application start-up
- Application shut down
- Database deleted
- Database selected
- Database description (independent code from that recorded in the “Audit Log” report)
- Database path (independent code from that recorded in the “Audit Log” report).

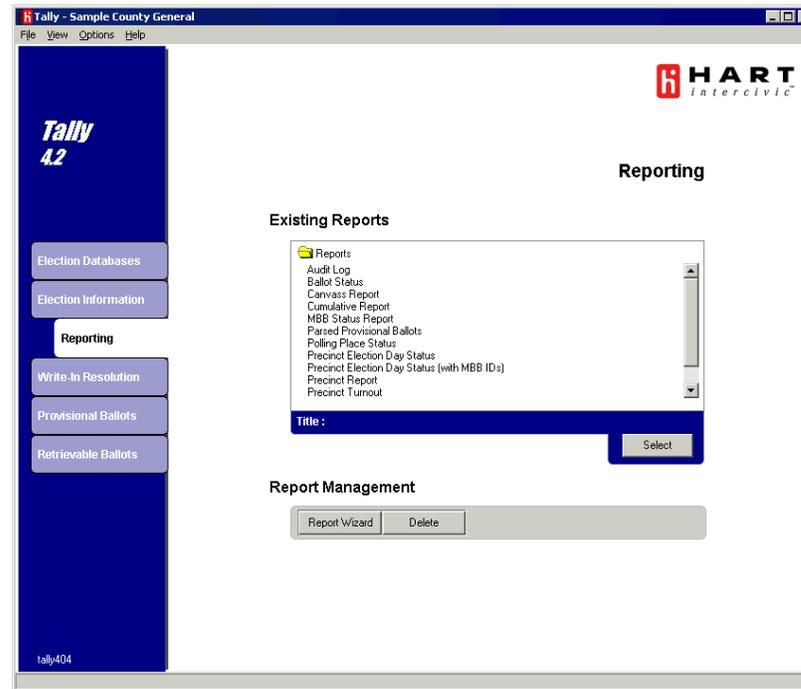
See:

The *Tally Operations Manual* for a complete listing of audit log report codes and descriptions.

“Information in the Tally “Audit Log” Report” on page 80.

Tally “Audit Log” Report

To view the Tally “Audit Log” report, select an election database, go to the **Reporting** tab, and select the “Audit Log” report.



Print, export, search and view pages from the **Audit Log** window, using standard Windows navigation.

Entry	User	Code	Date	Time	Description	Data
1	tally405	100	07/02/2004	3:11:10 pm	Create Election	(Time: 00:00:05)
2	tally405	307	07/02/2004	3:11:10 pm	DB Description	Desc: Sample County General (Time: 00:00:01)
3	tally405	308	07/02/2004	3:11:10 pm	DB Path	Path: C:\Program Files\Hart InterCivic\Tally\DataBase\040702-151100\TallyD;
4	tally405	300	07/02/2004	3:11:10 pm	Provisional Ballots	Exclude
5	tally405	301	07/02/2004	3:11:10 pm	Consolidate Flag	Don't Consolidate Precincts
6	tally405	304	07/02/2004	3:11:10 pm	Reporting Flag	Unofficial
7	tally405	302	07/02/2004	3:11:10 pm	Date/Time for Reporting	07/02/2004 03:10:53pm
8	tally405	303	07/02/2004	3:11:10 pm	Date/Time for Tabulation	07/02/2004 03:10:53pm
9	tally405	305	07/02/2004	3:11:10 pm	Unresolved write-in reporting	Report as under votes
10	tally405	306	07/02/2004	3:11:10 pm	Rejected write-in reporting	Report as under votes
11	tally405	106	07/02/2004	3:11:17 pm	Open Election	
12	tally405	1	07/02/2004	3:11:18 pm	User login	
16	tally405	2	07/02/2004	3:11:47 pm	User Logoff	
17	tally405	1	07/02/2004	3:12:21 pm	User login	
21	tally405	2	07/02/2004	3:12:38 pm	User Logoff	
22	tally405	1	07/02/2004	3:13:22 pm	User login	
26	tally405	1,002	07/02/2004	3:13:28 pm	Valid eCM PIN	
27	tally405	502	07/02/2004	3:13:28 pm	MBB Received	Id:12 CVRs: 749 Poll:Ballot Now, Device:c:\temp\test\Ballot Now.bin
28	tally405	502	07/02/2004	3:13:28 pm	MBB Received	Id:15 CVRs: 90 Poll:Election Office, Device:c:\temp\test\Election Office.bin
29	tally405	608	07/02/2004	3:13:46 pm	MBB Tabulation Successful	Id:12 CVRs: 749 Poll:Ballot Now
30	tally405	608	07/02/2004	3:13:47 pm	MBB Tabulation Successful	Id:15 CVRs: 90 Poll:Election Office
31	tally405	2	07/02/2004	3:14:01 pm	User Logoff	
32	tally405	604	07/02/2004	3:16:52 pm	MBB Already read by Tally	Id:12
33	tally405	1	07/02/2004	3:16:52 pm	User login	
37	tally405	1,002	07/02/2004	3:17:04 pm	Valid eCM PIN	
38	tally405	502	07/02/2004	3:17:04 pm	MBB Received	Id:16 CVRs: 138 Poll:Court House, Device:c:\temp\test\Court House.bin
39	tally405	604	07/02/2004	3:17:04 pm	MBB Already read by Tally	Id:15
40	tally405	608	07/02/2004	3:17:14 pm	MBB Tabulation Successful	Id:16 CVRs: 138 Poll:Court House

Information in the Tally “Audit Log” Report

The following information is captured in the Tally “Audit Log” Report (as well as the real-time audit log). The sequential number of each logged event, User ID, code, date, time, event description, and data associated with the event is included for each event printed in the audit log.

Descriptions of Tally events include the following:

- | | |
|--|--|
| <input type="checkbox"/> User Login | <input type="checkbox"/> Attempt to read MBB after database has been finalized |
| <input type="checkbox"/> User Logoff | <input type="checkbox"/> Digital Signature Failure |
| <input type="checkbox"/> Add User | <input type="checkbox"/> MBB Read Aborted |
| <input type="checkbox"/> Delete User | <input type="checkbox"/> User MBB Action |
| <input type="checkbox"/> Modify User | <input type="checkbox"/> Add Write-in Candidate |
| <input type="checkbox"/> Database Create | <input type="checkbox"/> Delete Write-in Candidate |
| <input type="checkbox"/> Finalize Database | <input type="checkbox"/> Add Write-in Alias |
| <input type="checkbox"/> Back-up Database | <input type="checkbox"/> Delete Write-in Alias |
| <input type="checkbox"/> Set Database Mode to Open | <input type="checkbox"/> Rename Write-in Candidate |
| <input type="checkbox"/> Printer Error | <input type="checkbox"/> Reject Write-in Candidate |
| <input type="checkbox"/> Provisional Ballots | <input type="checkbox"/> Unreject Write-in Candidate |
| <input type="checkbox"/> Consolidate Flag | <input type="checkbox"/> Reject (Provisional) Ballot |
| <input type="checkbox"/> Date/Time for Reporting | <input type="checkbox"/> Accept (Provisional) Ballot |
| <input type="checkbox"/> Date/Time for Tabulation | <input type="checkbox"/> Confirm (Provisional) Ballot |
| <input type="checkbox"/> Reporting Flag | <input type="checkbox"/> Un-confirm (Provisional) Ballot |
| <input type="checkbox"/> Unresolved Write-in Reporting | <input type="checkbox"/> Adjusted (Manual Votes) Precinct/Split |
| <input type="checkbox"/> Rejected Write-in Reporting | <input type="checkbox"/> Adjusted (Manual Votes) Race Name |
| <input type="checkbox"/> Database Description | <input type="checkbox"/> Adjusted (Manual Votes) Option Name |
| <input type="checkbox"/> Database Path | <input type="checkbox"/> Data Imported |
| <input type="checkbox"/> Reports Viewed and Printed | <input type="checkbox"/> Data Exported |
| <input type="checkbox"/> Created Custom Report | <input type="checkbox"/> Valid eCM |
| <input type="checkbox"/> Deleted a Report | <input type="checkbox"/> Missing eCM |
| <input type="checkbox"/> Connection Established | <input type="checkbox"/> Valid eCM PIN |
| <input type="checkbox"/> Connection Terminated | <input type="checkbox"/> Invalid eCM PIN |
| <input type="checkbox"/> MBB Received | <input type="checkbox"/> eCM PIN failure |
| <input type="checkbox"/> Modem Connection Failure | <input type="checkbox"/> Invalid eCM |
| <input type="checkbox"/> Configured Connection | <input type="checkbox"/> Multiple eCMs |
| <input type="checkbox"/> Connection Failure | <input type="checkbox"/> eCM Key Mismatch |
| <input type="checkbox"/> Transmission Successful | |
| <input type="checkbox"/> Transmission Unsuccessful | |
| <input type="checkbox"/> Card Device Error | |
| <input type="checkbox"/> MBB Read | |
| <input type="checkbox"/> MBB Invalid/Corrupt | |
| <input type="checkbox"/> MBB not defined for election | |
| <input type="checkbox"/> MBB Already read | |
| <input type="checkbox"/> Card/MBB Rejected | |
| <input type="checkbox"/> MBB Close Error | |
| <input type="checkbox"/> MBB Duplicate Poll warning | |
| <input type="checkbox"/> MBB Tabulated Successfully | |
| <input type="checkbox"/> MBB Tabulation Failure | |
| <input type="checkbox"/> MBB Removed During Reading | |

See:

The *Tally Operations Manual* for a complete listing of audit log report codes and descriptions.

Rally User Permissions, Certificate, and Audit Trail

First Login After Installation of Rally

The following steps must be completed at the first startup of Rally after installation at each Rally PC. If this has already been completed during installation and testing by Hart InterCivic, the customer should create local users and permissions and delete those users added during installation and testing.

1. Start Rally from either the desktop shortcut or the **Start** button on the Windows taskbar.
2. In the **User ID** field, enter a User ID for a user who will have Administrative (all) permissions in Rally. The field limit is 6-12 letters or numbers.
3. In the **Password** and **Confirm Password** fields, enter the password for the administrator-level user. The field limit is 6-12 letters or numbers.
4. Click **OK** and the **Certificate** window appears.
5. Complete the certificate and click **OK**. The certificate is used to verify a trusted connection (as with a Tally-Rally connection). Enter a unique password or an administrator-level User ID in the certificate **Name** field. Log certificate information.



Welcome to Rally!

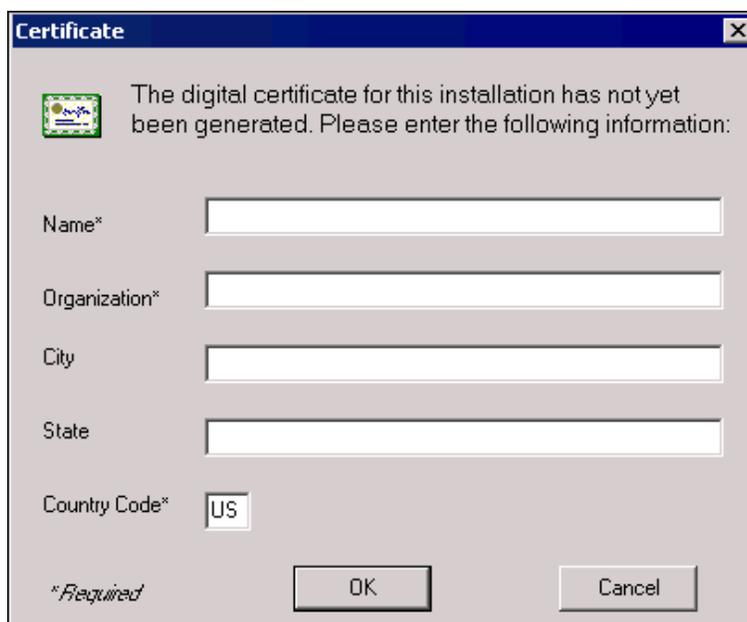
Because this is the first time that Rally is being launched, a new ADMINISTRATIVE user ID and Password must be defined.

Administrative User
User ID

Password

Confirm Password

OK Cancel



Certificate

The digital certificate for this installation has not yet been generated. Please enter the following information:

Name*

Organization*

City

State

Country Code*

*Required

OK Cancel

Creating Additional Users

1. Go to the **Tools** menu and click **User Settings**, OR click the **User Settings** tool icon. 
2. Enter User ID, password, and password confirmation. Select user permission settings and click **OK**. The User ID field limit is 6-12 characters. The password field limit is 6-12 characters. *In Rally, the election event Tally operator must have at least MBB processing/transferring permissions.*

Updating Certificate Information

1. Go to the **Tools** menu and click **Certificate**, OR click the **Certificate** tool icon. 
2. Update the target fields and click **OK** in the **Certificate** window.

Typical Rally User Permissions

It is Recommended that the User Currently Logged In

- Stay at the computer while running the application,
- Exit the application if s/he steps away from the PC.

Typical Rally Station Operator User Settings

Minimum Tally Operator User Settings at each Rally Station

Administrator-level Rally User Settings

Permissions Checkbox:	Functions Available:
User Administration	Add, change, and delete users (User Settings window)
Application configuration	Line printer settings, Dial-In Access settings, Station Name (Options window)
Information archiving	Archive Rally databases
Information restoration	Reset and Restore Rally databases
MBB processing/transferring	Read MBBs and have access to data from reading MBBs
Reporting	View and print reports

Viewing Rally Audit Reports

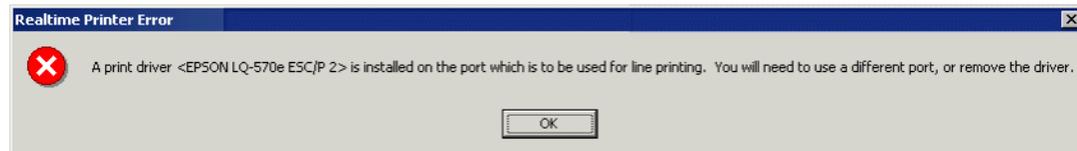
There are two Rally audit log reports. One is the real-time audit trail fed to a line printer, and the other is a “Rally Internal Audit Report” available via the Quick Link. Each of these reports allows a Rally administrator to keep track of Rally election databases, and allows administrator-level users to identify what has been accessed/changed, by whom.

Rally Real-Time Audit Log

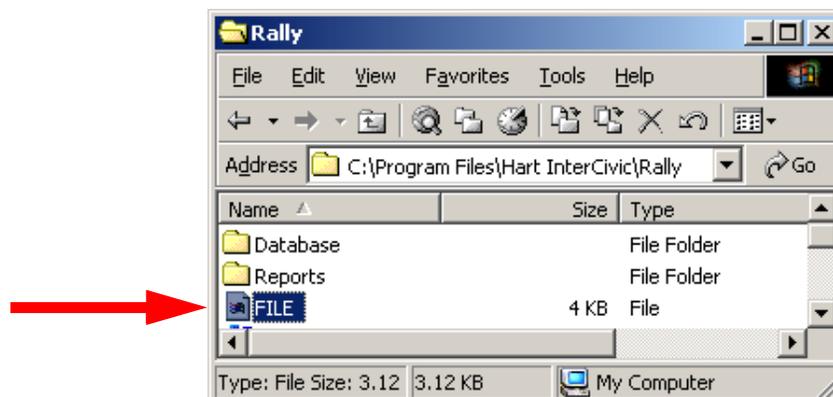
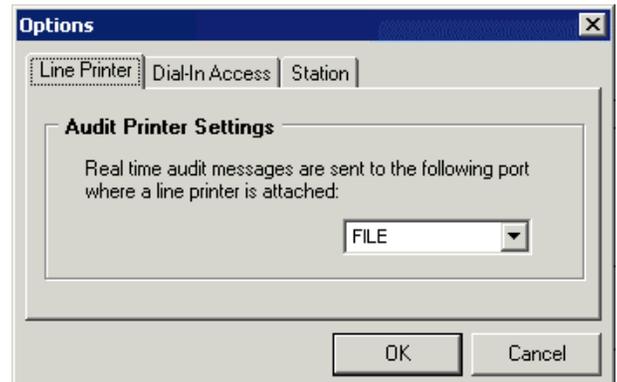
The Rally real-time audit log lists all auditable events performed in Rally since the Rally installation. There is no header, title, column heading, or footer information in the real-time audit log.

To view the real-time audit log in Rally, you must first go to the **Tools** menu and click **Options** to establish the correct audit printer settings. Real-time audit logs may be viewed in one of two ways:

1. Connect a line printer to an LPT port on the PC. Do not install printer drivers. In Rally, go to the **Tools** menu and click **Options**. Click the **Line Printer** tab and select the LPT port to which the printer is connected. Exit Rally. Log in to Rally. The line printer will print to record each action taken while in the Rally application. Printer errors, or not powering on the printer, will cause an error message to display and **ONLY** access to the line printer settings will be allowed in Rally.



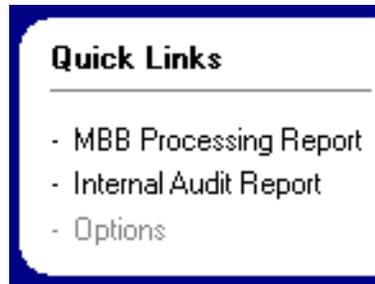
2. *OR* Go to the **Tools** menu and click **Options**. Click the **Line Printer** tab and select the audit printer setting **FILE**. A real-time audit printer file, named “FILE”, will be saved to the directory C:\Program Files\Hart InterCivic\Rally. To view this file, copy it to an election-specific folder and add the extension “.txt” to it. If using this option, make certain to retain this file as a part of the election records.



Rally Internal Audit Report

This report allows a Rally administrator to keep track of Rally databases, and allows “Reporting”-level users to identify what has been accessed/changed, by whom.

- A. To view the “Rally Internal Audit Report”, click the **Internal Audit Report** Quick Link in the **Rally** window



- B. Or go to the **File** menu, click **Reports**, and select “Internal Audit Report”.

Print, export, search, and view pages from the **Internal Audit Report** window, using standard Windows navigation.

User Name	Timestamp	Activity Code	Activity Description	Additional Detail
rally201	7/7/2004 12:01:02PM	1	Application Login	(local login)
judy24	7/7/2004 12:01:57PM	14	User Added	
judy24	7/7/2004 12:02:13PM	1	Application Login	(local login)
rally201	7/7/2004 12:57:15PM	1	Application Login	(local login)
rally201	7/7/2004 12:59:49PM	10,007	Pin OK	\Valid PIN entered
rally201	7/7/2004 12:59:49PM	10,009	Key Data Okay	\Valid Key found
rally201	7/7/2004 12:59:49PM	10,009	Key Data Okay	\Valid Key found
rally201	7/7/2004 12:59:55PM	3	MBB Processed	16 - 263
rally201	7/7/2004 12:59:55PM	2	MBB Read	16
rally201	7/7/2004 1:02:32PM	3	MBB Processed	17 - 123
rally201	7/7/2004 1:02:32PM	2	MBB Read	17
rally201	7/7/2004 1:05:45PM	10	Transfer Reset	
tally405	7/7/2004 1:08:41PM	1	Application Login	(remote access)
tally405	7/7/2004 1:08:41PM	6	Connection Established	
tally405	7/7/2004 1:08:52PM	4	MBB Transferred	16
tally405	7/7/2004 1:08:52PM	4	MBB Transferred	17
tally405	7/7/2004 1:08:52PM	7	Connection Terminated	
tally405	7/7/2004 1:08:52PM	11	Transmission Successful	

Information in the “Rally Internal Audit Report”

The sort order for the “Internal Audit Report” is *activity time and date*. The header for the report includes the name of the Rally station and the current date.

The following information is captured in the “Rally Internal Audit Report” (as well as the real-time audit log). The User ID, date, time, activity code, activity description, and details associated with the activity are included for each activity in the “Rally Internal Audit Report”.

Descriptions of Rally events include the following:

- Application Login
- Election Opened
- MBB Read, Processed, Transmitted, errors
- Tally PC login
- Certificate Created, Modified
- Connection Established, Terminated
- Transmission Successful
- Report Accessed
- Transfer Reset
- User Added, Deleted, or Changed
- eCM PIN OK

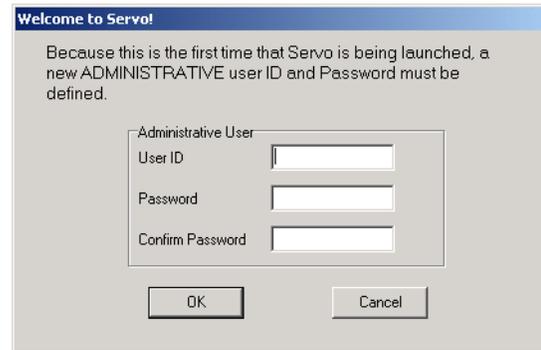
Internal Audit Report Sections:	Description:
Header	Standard Rally report header
User Name	Name of the user logged in to SERVO when the activity occurred
Timestamp	Date and time of the action/log entry
Activity Code	The internal code value
Activity Description	Description of the code – the action logged
Additional Detail	Action detail
Footer	Standard Rally report footer

SERVO User Permissions and Audit Trail

First Login After Installation of SERVO

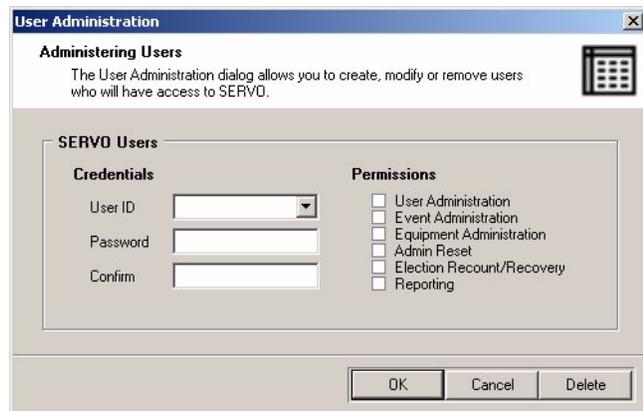
The following steps must be completed at the first startup of SERVO after installation at each SERVO PC. If this has already been completed during installation and testing by Hart InterCivic, the customer should create local users and permissions and delete those users added during installation and testing.

1. Start SERVO from either the desktop shortcut or the **Start** button on the Windows taskbar.
2. In the **User ID** field, enter a User ID for the user who will have Administrative (all) permissions in SERVO. The field limit is 6-9 letters or numbers.
3. In the **Password** and **Confirm Password** fields, enter the password for the administrator-level user. The field limit is 6-9 letters or numbers.



Creating Additional Users

1. Go to the **User** menu and click **User Administration**.
2. Enter the User ID, password, and password confirmation. Select user permission settings and click **OK**. The User ID field limit is 6-9 characters. The password field limit is 6-9 characters.



SERVO Permissions

Permission Checkbox:	Functionality Enabled:
User Administration	Add or modify user IDs, passwords, and permissions
Event Administration	Create Events
Equipment Administration	Add devices, backup device data to an Event, reset devices, import Event data
Admin Reset	Reset MBBs and Devices  Admin Reset permission should be given to a very limited number of users.
Election Recount/Recovery	Create recount and/or recovery MBBs
Reporting	View, print, and export SERVO reports

Viewing SERVO Audit Reports

SERVO includes an internal audit log which details activities conducted in the SERVO application itself, and SERVO captures audit log information from the JBC and eSlate equipment. Additionally, SERVO captures CVR data from each eSlate and JBC backed up. This CVR information may be used in recount or verification situations when paper replications of electronically cast ballots are needed.

See:

The *SERVO Operations Manual* for more information on CVR reporting and the *Tally Software Training Manual* for more information on performing recounts.

“SERVO Internal Audit” Report

The “SERVO Internal Audit” Report lists the audit log entries for the audit log internal to SERVO. It allows a SERVO administrator to keep track of what SERVO functions have been applied and by whom.

- To view the “SERVO Internal Audit”, go to the **Reports** menu and click **SERVO Audit**.
- Print, export, refresh, search, and view pages from the **SERVO Audit Log Report** window using standard Windows navigation.



Record	User	Date/Time	Code	Description	Detail
1	servoadmn	2/23/2005 12:33:29PM	1	First user account created	
2	servoadmn	2/23/2005 12:33:29PM	2	User login succeeded	
3	servoadmn	2/23/2005 12:34:29PM	258	Valid eCm PIN	
4	servoadmn	2/23/2005 12:34:48PM	8	Event added	
5	servoadmn	2/23/2005 12:35:32PM	258	Valid eCm PIN	
6	servoadmn	2/23/2005 12:35:37PM	8	Event added	
7	servoadmn	2/23/2005 12:35:46PM	9	Device added	(C00C24)
8	servoadmn	2/23/2005 12:35:51PM	31	Backup aborted	C00C24 Device election day does not match the event.
9	servoadmn	2/23/2005 12:35:51PM	10	Device backed up	C00C24
10	servoadmn	2/23/2005 12:36:01PM	10	Device backed up	C00C24
11	servoadmn	2/23/2005 12:36:10PM	9	Device added	(A00110)
12	servoadmn	2/23/2005 12:36:11PM	10	Device backed up	A00110
13	servoadmn	2/23/2005 12:37:37PM	2	User login succeeded	
14	servoadmn	2/23/2005 12:37:48PM	11	Device erased	C00C24
15	servoadmn	2/23/2005 12:37:53PM	11	Device erased	A00110
16	servoadmn	2/23/2005 1:01:13PM	2	User login succeeded	
17	servoadmn	2/23/2005 1:01:27PM	11	Device erased	C00C24
18	servoadmn	2/23/2005 1:01:45PM	11	Device erased	A00110
19	servoadmn	2/23/2005 1:01:47PM	11	Device erased	C00C24
20	servoadmn	2/23/2005 1:01:50PM	11	Device erased	C00C24
21	servoadmn	2/23/2005 1:44:01PM	2	User login succeeded	
22	servoadmn	2/23/2005 1:44:52PM	258	Valid eCm PIN	
23	servoadmn	2/23/2005 1:45:05PM	8	Event added	
24	servoadmn	2/23/2005 1:45:15PM	10	Device backed up	C00C24
25	servoadmn	2/23/2005 1:45:26PM	10	Device backed up	A00110
26	servoadmn	2/24/2005 4:30:05PM	2	User login succeeded	
27	servoadmn	2/24/2005 4:32:09PM	16	Device CVR report	1
28	servoadmn	2/24/2005 4:33:14PM	17	Precinct CVR report	
29	servoadmn	2/24/2005 4:34:05PM	17	Precinct CVR report	
30	servoadmn	2/24/2005 4:34:23PM	16	Device CVR report	2
31	servoadmn	2/24/2005 4:34:44PM	17	Precinct CVR report	

Information in the “SERVO Internal Audit” Report

Each major user action in SERVO is saved to an internal audit log. The SERVO audit log specifies the sequential audit log entry number, user logged into SERVO when the activity occurred, date and time stamp of the activity, internal code value of the activity, description of the activity, and details. The internal audit log is not specific to an Event.

Transactions listed in this report:

- Login
- Add Event
- Add device
- Backup device
- Erase a device
- JBC Recount
- eSlate Recount
- Equipment Report
- Device Audit Report
- Device CVR Report
- Precinct CVR Report
- SERVO Audit Report
- Recovery MBB
- Data Import
- Firmware History Report
- Backed-up Devices Report.

<i>Internal Audit Log Report Sections:</i>	<i>Description:</i>
Header	Standard SERVO report header
Record	Sequential log entry number
User	Name of the user logged in to SERVO when the activity occurred
Date/Time	Date and time of the action/log entry
Code	The internal code value
Description	Description of the code – the action logged
Detail	Action detail (e.g., device serial number)
Footer	Standard SERVO report footer

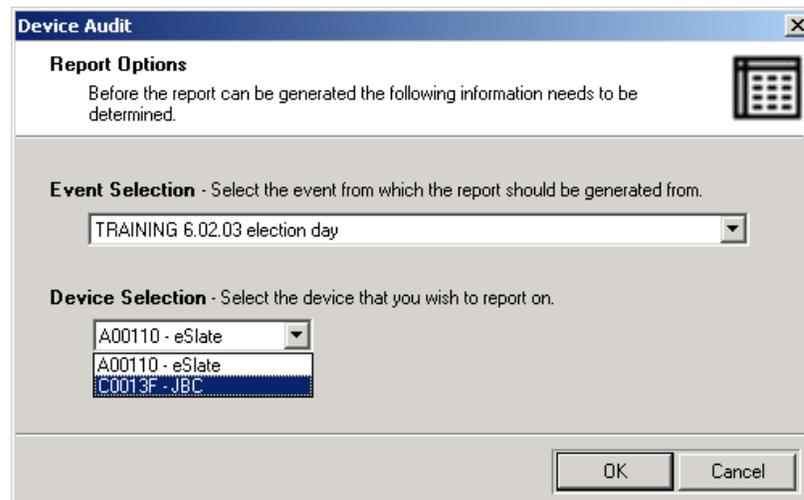
“Device Audit Log” Report

The audit logs backed up from polling place devices contain information that allow election officials to reconstruct an election and verify results and actions without compromising ballot and voter secrecy. It is not necessary to print these reports as standard operating procedure. They are provided for verification in cases where confirmation is needed.

1. To view a “Device Audit Log”, go to the **Reports** menu and click **Device Audit** OR click **Audit Search** to search for a limited number of audit entry types.



2. In the **Device Audit** window, click the **drop-down** menus to choose the target **Event** and **Device**.
3. Click **OK**.



4. Print, export, refresh, search and view pages from the **Device Audit Report** window, using standard Windows navigation.

The screenshot shows a window titled "Device Audit Report" with a toolbar containing icons for print, export, refresh, search, and view pages. The main content area displays the following information:

Device Audit Log - Olympic Names ED Backup
eScan - G77804

Polling Place: county courthouse

Record	Date/Time	Code	Description	Status	Data
0	Tue Dec 20 14:47:22 2005	0x0100	Device power-up status	0x00000001	0x00000000
1	Tue Dec 20 14:47:22 2005	0x0101	Private serial number	0x00000000	0xB8F887FB
2	Tue Dec 20 14:47:22 2005	0x0102	Software version	0x00000001	0x80010106
3	Tue Dec 20 14:47:22 2005	0x0300	Report printed	0x00000001	0x00000000
4	Tue Dec 20 14:47:29 2005	0x0131	Ballot Data okay	0x00000001	0x00000000
5	Tue Dec 20 14:51:53 2005	0x010D	Device password	0x00000001	0x00000001
6	Tue Dec 20 15:00:54 2005	0x0100	Device power-up status	0x00000001	0x00000000
7	Tue Dec 20 15:00:54 2005	0x0101	Private serial number	0x00000000	0xB8F887FB
8	Tue Dec 20 15:00:54 2005	0x0102	Software version	0x00000001	0x80010106
9	Tue Dec 20 15:00:54 2005	0x0300	Report printed	0x00000001	0x00000000
10	Tue Dec 20 15:01:01 2005	0x0131	Ballot Data okay	0x00000001	0x00000000
11	Tue Dec 20 15:08:32 2005	0x010D	Device password	0x00000001	0x00000001
12	Tue Dec 20 15:08:41 2005	0x0101	Private serial number	0x00000000	0xB8F887FB
13	Tue Dec 20 15:08:41 2005	0x0102	Software version	0x00000001	0x80010106
14	Tue Dec 20 15:08:41 2005	0x0129	Polling place identification	0x00000000	0x00000001
15	Tue Dec 20 15:08:41 2005	0x012B	Short MBB Card identification	0x00000003	0x00000000
16	Tue Dec 20 15:08:41 2005	0x012C	Long MBB Card identification	0x58545241	0x00060021
17	Tue Dec 20 15:08:41 2005	0x012D	Long MBB Card identification-Extra	0x01363538	0x41414531
18	Tue Dec 20 15:08:41 2005	0x012D	Long MBB Card identification-Extra	0x02354146	0x45303234
19	Tue Dec 20 15:08:41 2005	0x012D	Long MBB Card identification-Extra	0x03373532	0x35433637
20	Tue Dec 20 15:08:41 2005	0x012D	Long MBB Card identification-Extra	0x04324338	0x34393236
21	Tue Dec 20 15:08:41 2005	0x012D	Long MBB Card identification-Extra	0x05394131	0x44000000
22	Tue Dec 20 15:08:41 2005	0x012F	Election Mode	0x00000000	0x00000000
23	Tue Dec 20 15:08:41 2005	0x012E	Short election identification	0x00000000	0x00000419
24	Tue Dec 20 15:08:41 2005	0x1003	Long Election identification	0x58545241	0x00060021

Information in the "Device Audit Log" Report

Device Audit Log Report Sections:	Description:
Header	Standard SERVO report header
Event Name	The name of the Event used in the report
Device Type	JBC, eSlate, or eScan
Device Serial Number	The device's serial number (also printed on outside of device)
Polling Place	The name of the polling place where the device was used
Record	The sequential log record number
Time	The date and time stamp of the activity
Code	The internal code value
Description	Description of the code – the action logged
Status	The internal status value
Data	The internal data value
Footer	Standard SERVO report footer

Notes:

Notes:

Appendix A: Glossary

Term:	Definition:
Abandoned Ballot	A ballot that the voter did not cast into the ballot box before leaving the polling place. On an eSlate, this is a ballot that the voter did not cast by pressing the CAST BALLOT button and the voter is not present. Local election rules dictate dispensation of an abandoned ballot.
Absentee Ballot	An official ballot issued to a voter who will be "absent" from the polling place on Election Day.
Absentee Voting	A voting method by which people can cast their ballots without going to the polling place on Election Day. Early Voting is sometimes referred to as "Absentee-in-person," and by-mail voting is sometimes referred to as "Absentee-by-mail."
Access Code	The four-digit number given to each voter that indicates to the eSlate system which precinct and ballot style to display to the voter on the eSlate voting unit. The Access Code is printed on a slip of paper printed on the JBC.
Access Code Status Report	A JBC report that is printed on-demand. It lists the number of Access Codes issued, voted, expired, canceled, and active.
Access Code Summary	A JBC report that is printed with the "Tally" report when polls are closed on Election Day. It lists the number of Access Codes issued, voted, expired, and canceled.
Americans with Disabilities Act (ADA)	A 1990 federal act (Public Law 101-336) that established comprehensive standards for the treatment of persons with disabilities in employment, public accommodations, and other programs, including those operated by state and local governments.
ATA	Advanced Technology Attachment; a disk drive implementation that integrates the controller on the disk drive itself.
Audio Card	Used in a DAU eSlate, the PC card that contains the audio prompt recordings for an election. Formerly also called a "DAU Card".
Audit Log, Audit Trail, Audit Report	Recorded information that allows elections officials to view the steps that occurred on the equipment included in an election to verify or reconstruct the steps followed without compromising ballot or voter secrecy.
Authentication	The verification of the identity of a person or process. In a communication system, authentication verifies that messages really come from their stated source, like the signature on a (paper) letter.
Ballot Box, eScan	A secure receptacle for the eScan that collects scanned paper ballots and that has an emergency compartment for temporary storage of voted ballots in case the eScan is disabled.

Term:	Definition:
Ballot Box Security Seal	The seal attached to the MBB door on a JBC or eScan to secure the installed MBB. Also, the seal attached to the lid/receptacle junction of the eScan ballot box.
Ballot Code	A unique number assigned to either a provisional ballot or an Early Voting retrievable ballot to enable swift retrieval of that ballot from the Hart Voting System Tally application by election officials.
Ballot Format	The arrangement of the ballot created in BOSS. Ballots may be formatted for the eSlate or for Ballot Now.
Ballot Instructions	Instructional text that appears at the top of the ballot. There are two separate types of Ballot Instruction text: (1) eSlate and (2) Ballot Now. There is also separate audio instruction associated with the eSlate ballot instruction.
Ballot Key	The unique alphanumeric identifier associated with each VBO cast vote record. This identifier aids in reconciling votes in case of a manual recount.
Ballot Now™	The Hart Voting System software application that prints paper ballots on demand and then digitally images the voted ballots to save for delivery to Tally.
Ballot Now Image Processor	Ballot Now Image Processor (BNIP) is an application that runs in parallel with Ballot Now. After scanning ballots, BNIP processes ballot images.
Ballot Origination Software System™ (BOSS)	The software application used to build an election database and create ballot styles. BOSS is used to write the MBB, Audio, Solo, and Demo cards used in Hart Voting System equipment.
Ballot Style	<p>One of any number of specific ballot configurations issued to the appropriate precinct. At minimum, ballot styles differ from one another in content. They may also differ in size of type, in language used, or in method of presentation (e.g., visual or audio).</p> <p>A ballot with a unique collection of contests to be used in the election. Every precinct's (or split precinct's) ballot is linked to one ballot style and there may be several precincts with the same ballot style. The ballot style information is carried on the MBB. A ballot style barcode is printed on the ballot.</p>
Ballot Text	Instructional text embedded in the ballot. Ballot Text is often used to identify a section of the ballot.
Bar Code	A printed horizontal strip of vertical bars of varying widths, groups of which represent decimal digits. In the Hart Voting System, bar codes are required in order for paper ballots to be correctly scanned. Ballot Now uses bar codes to represent a ballot page's election identifier (ID), party ID, language ID, precinct ID, sheet ID, serial number (if applied), page number, ballot type, and duplex code.
Card Device	The PC-card drive for reading and writing Hart Voting System data and audio cards.
Cast Vote Record (CVR)	An anonymous record of the contest options that a voter selected on his/her cast ballot. In the Hart Voting System, Cast Vote Records are stored in electronic format. One Cast Vote Record is equivalent to one ballot.

Term:	Definition:
Challenged Ballot	Terminology and rules for “challenged ballots” or “challenged voters” vary by state. In general, a challenged ballot results when a voter’s right to cast a ballot in a certain jurisdiction is challenged for various procedural reasons. If the challenge stands, the voter may, in most cases, vote provisionally.
Contest	A choice to be made on the ballot; a race. Contest types include offices, issues, referendums, propositions and questions.
Credentials	Authentication information that enables access to operations in the system or associated databases. Credentials typically include user IDs and passwords.
Cumulative (Access Code) Summary	A summary on the JBC “Suspend Report” or “Daily Detail Report” that lists the Access Codes issued, voted, expired, and canceled for the entire session of Early Voting.
Cumulative Voting	The votes for each candidate in an office contest are replicated as many times as the number of valid choices.
Cyclic Redundancy Check	A continuous test of each transfer of data within a system to ensure that the data received at the end of the transfer is the same as the data originated by the source.
(Daily) Detail Report	A report that the JBC or eScan prints when the polls at an Early Voting site are suspended. This report identifies the number of ballots cast per precinct.
Daily (Access Code) Summary	A summary on the JBC “Suspend Report” and “Daily Detail Report” that lists the Access Codes issued, voted, expired, and canceled for only the current day of Early Voting.
Daisy Chain	Items connected in a series. The eSlates are daisy chained, one to another, with one plugging into the JBC.
Damaged Contest	In Ballot Now, a mark requiring resolution because the option box has been erased or partially erased (damaged). A damaged contest may be resolved for voter intent or confirmed. If confirmed, a damaged contest will register as no choice for that selection. This may result in fewer selections than allowed for that contest; i.e., an undervote.
Database	A storage point for information (data).
Demo Card	An ATA memory card that contains both ballot and audio data for use in a Demonstration eSlate.
Demonstration eSlate (Demo)	An eSlate set up for voter education purposes, to allow voters to practice using the eSlate buttons and interface (including headphones and adaptive devices, if desired) on a functioning unit that cannot record votes. A Demonstration eSlate does not require a JBC in order to display ballots because it uses a special ATA memory card that contains both ballot and audio data. Demonstration eSlates are also known as “demo units.”
Digital Signature	An encrypted digital code appended to data, making it possible to require authentication before allowing access to that data.
Direct Record Electronic (DRE)	The election industry term for an electronic machine at which a voter can view, vote, and cast a ballot.

Term:	Definition:
Disabled Access Unit™ (DAU)	An eSlate that includes accessory components so that disabled persons can vote independently and privately. DAU eSlates include a module that accepts audio cards so that voters can listen to the ballot with headphones. DAU eSlates also have jacks for tactile input switches or “sip and puff” devices so that voters with limited mobility have alternatives to the SELECT wheel.
District	A selection of precincts and/or split precincts that determine a voting group.
Duplicate Ballot	During scanning, if serial numbers were printed on ballots, Ballot Now will search the database for an identical ballot serial number every time a ballot is scanned, and disallow the ballot if it is a duplicate.
Duplex	Two-sided. In Ballot Now ballots are printed and scanned on both sides of the ballot sheet. The eScan scans both sides of the ballot sheet.
Early Voting	In the Hart Voting System, the term for votes cast in-person prior to Election Day. Nomenclature for “Early Voting” varies from state to state in the U.S.A. (Absentee In-Person, Absentee Walk-In, etc.). Totals are not available from the polling place during the Early Voting period (i.e., no “Tally” report available).
Early Voting Retrievable Ballot	Ballots cast on the eSlate at Early Voting polling places that can be retrieved by Ballot Code from the Tally tabulation application by election officials. The Ballot Code is printed on the Retrieval Stub for an Early Voting retrievable ballot. A checkbox in BOSS must be selected in order to identify eSlate ballots cast during Early Voting as retrievable.
eCM	eSlate Cryptographic Module; a highly secure peripheral USB device provided by Hart InterCivic. The eCM contains the signing key, the key ID, and the eCM PIN required to perform certain functions in the Hart Voting System applications.
eCM Manager	The Hart InterCivic software application that manages approved security functions for use in the Hart Voting System. eCM Manager is used to create a signing key, and then write the signing key, key ID and eCM PIN to the eSlate Cryptographic Module (eCM).
eCM PIN	eSlate Cryptographic Module Personal Identification Number; a password selected by the jurisdiction system administrator before any signing keys are written. This PIN is used to access functions requiring the eCM.
EDX	Election Definition XML (eXtensible markup language); a format for election information data exchange.
Election Assistance Commission (EAC)	An independent federal commission that serves as a national clearinghouse and resource for the compilation of information and review of procedures with respect to the administration of federal elections.
Election ID	An election identification code that is unique for every election. The election ID is used internally by the software applications.

Term:	Definition:
Election Identification Report	A report that the JBC or eScan prints when the polling place ID is selected. The report contains the current date and time, jurisdiction name, election name, election date, polling place, and number of precincts enabled for the polling place. For Election Day, shows the name of all precincts enabled for the polling place.
Election Management System (EMS)	A set of processing functions and databases within a Voting System that define, develop and maintain election databases; perform election definition and setup functions; format ballots; count votes; consolidate and report results; and maintain audit trails.
Encryption	Any procedure used in cryptography to convert plaintext into ciphertext (encrypted message) in order to prevent any but the intended recipient from reading that data.
eScan™	Hart InterCivic's precinct paper ballot scanning device. A paper ballot printed from Ballot Now can be scanned and recorded on this device.
eSlate®	Hart InterCivic's direct record electronic (DRE) voting device. An electronic ballot can be viewed, voted, and recorded on this device.
Event	In SERVO, a specific backup of a set of devices in SERVO. An Election MBB is required to create an Event. Each Event relates directly to either an Election or a Test Election.
FEC	Federal Election Commission, an independent federal regulatory agency. Voting systems regulation formerly assigned to this body have been transferred to the Elections Assistance Commission (EAC).
Finalized	In BOSS, the database status that prevents further data modification and writing of MBBs to make it available to Tally. In Tally, the database status that prevents further reading of votes from MBBs into Tally.
FireWire	A personal computer and digital video serial bus interface standard offering high-speed communications and isochronous real-time data services. FireWire (also known as i.Link or IEEE 1394) can be considered a successor technology to the SCSI Parallel Interface. FireWire is capable of transfer speeds of up to 400 megabits per second.
Firmware	Computer programs (software) stored in read-only memory (ROM) devices embedded in the system and not capable of being altered during system operation. For purposes of applying the Standards, firmware is considered a form of software.
Flash Memory	Reprogrammable, read only memory that is used in PC cards or MBBs. Flash Memory does not require continuous electric power to operate. It is a system that can store more data and work faster than a traditional floppy disk.
Fractional Cumulative Voting	A voter selects at least one candidate in a contest that allows votes for multiple options, but selects fewer than the number of options allowed. The unvoted options that were allowable are distributed equally to the voted options.
Functionality Test	Testing of hardware functionality (e.g., testing to see that an eSlate button responds when pressed).

Term:	Definition:
Fusion™	A supplemental Hart Voting System software application used to integrate data, as from Tally and another voting system, and/or to provide custom reporting.
Hart Voting System	The full suite of Hart InterCivic's election software and hardware products, covering everything from ballot creation to tabulation. Includes: BOSS, Ballot Now, eScan, JBC, eSlate, Rally, Tally, utility products, and SERVO. Previously referred to as the 'eSlate Electronic Voting System.'
Hash	Algorithm that maps a bit string of arbitrary length to a fixed-length bit string. Approved hash functions satisfy the following properties: (a) it is computationally infeasible to find any input that maps to any prespecified output, and (b) it is computationally infeasible to find any two distinct inputs that map to the same output.
HAVA	The Help America Vote Act, signed into law October, 2002. HAVA intends to assist states in the administration of federal elections and establishes "minimum standards for states and units of local governments with the responsibility for the administration of federal elections."
Incomplete Ballot	A multi-sheet ballot being scanned in a scan batch that has its first sheet, but is missing following sheets.
Infusion™	A supplemental Hart Voting System software utility used to extract data, as from another voting system or voter registration system, and/or to provide ballot data formatted for import into BOSS.
Initialized Report	A report printed from the JBC and eScan any time the device is powered on. This report shows a timestamp, firmware version, and diagnostic test result. A self-diagnostic test is run on the system, and the result is indicated as "***PASS***" on the report.
Judge's Booth Controller™ (JBC)	The control unit of the eSlate system, through which a poll worker distributes electronic ballots to the eSlate and DAU eSlate.
Jurisdiction	A precinct or group of precincts managed by a single organization.
Key GUID	Key Globally Unique Identifier. A unique, system-generated value assigned to each signing key in the eCM Manager.
Key ID	A user-selected identification number that prompts the eCM Manager application to generate a new 128-bit encrypted signing key. Allowed values are from 1 to 99.
Locked Ballot	In Ballot Now, a ballot that is currently checked out in the resolve process for editing by a user.
Logic and Accuracy Test (L & A or LAT)	In the context of an election, a test to check the accuracy of a piece of voting equipment. An LAT is accomplished by feeding test ballots for which the results are already known (i.e., a "test deck") through the ballot counting system and comparing the results with the expected results. If an error occurs (i.e., the actual test deck count does not match the expected count), then the problem is investigated and corrected, and the test is repeated.

Term:	Definition:
MBB, Election	An MBB used to collect votes for an election. The Election MBB can only contain information from Election ballots.
MBB, Test	An MBB used for test purposes when validating the eSlate system before an election. The Test MBB can only contain information from Test ballots.
Mobile Ballot Box™ (MBB)	A PC card that holds all of the ballot information for the Hart Voting System. An MBB is placed in the JBC unit, the eScan device, and/or in the Ballot Now computer. Cast Vote Records are also stored on MBBs, which are read into Tally. Audio is not stored on an MBB.
Network Configuration Report	A report printed on the JBC after booths are assigned. The report contains the serial number, software version, PUB count, and PVT count for the JBC and each eSlate unit.
Non-partisan Office	An elected office for which candidates run independent of political party affiliation.
Orphan Ballot	A multi-sheet ballot being scanned in a scan batch that has missing leading sheets.
Overvote	The generally prohibited practice of voting for more than the allotted number of options for a given contest. On the eSlate it is not possible to overvote.
Party	A political party, for example Democratic or Republican.
PC Card	An information storage device that is about the size of a credit card. Similar to a USB memory stick. It is also called a “PCMCIA” card. In the Hart Voting System it is called a Mobile Ballot Box (MBB), an audio card, or a demo card.
Persistence	A property of a programming language where created objects and variables continue to exist and retain their values between runs of the program.
Polling Place	The area within the polling location where voters cast ballots. Often a single polling place supports several precincts.
Polls Closed Report	Report printed by the JBC, VBO and/or eScan when the polls are closed. This report includes a timestamp indicating the date and time printed.
Polls Open Report	Report printed by the JBC, VBO and/or eScan when the polls are opened. This report includes a timestamp indicating the date and time printed.
Poll Worker Button	A button, located on the back panel of the eScan device, used to access poll worker and administrator functions.
Precinct	A jurisdiction subdivision for election purposes.
Precinct Voting System (PVS)	A legacy term for those components of the Hart Voting System that are used for election activities at individual polling places.
Provisional Ballot	A ballot provided to individuals who claim they are eligible to vote but whose eligibility cannot be confirmed when they present themselves to vote. Once voted, such ballots are not included in the tabulation until after the voter’s eligibility is confirmed.

Term:	Definition:
Provisional Ballot Stub	A report that prints below the Access Code when a provisional ballot is requested during the “Add Voter” procedure on the JBC. This stub includes the Ballot Code used for ballot retrieval during the tabulation process. The stub must be separated from the Access Code and kept for ballot tracking purposes for this unique type of ballot.
Provisional Parsing	The process of selectively reporting on a provisional ballot only those contests in which a provisional voter is eligible to vote, based on his/her precinct of residence. Provisional parsing becomes necessary when the provisional voter has cast a ballot outside of his/her correct precinct, and the voted ballot style includes contests for which the voter is not eligible to vote. When the Tally software application is installed, users have the option to enable a provisional parsing interface. If enabled, once the Tally application has selectively identified (i.e., “parsed”) those contests on a provisional ballot for which voted options shall be reported, election officials can choose <i>how</i> to report results: cast votes may be associated with the original precinct in which the provisional ballot was actually cast, or they may be reassigned to the voter’s correct precinct.
Provisional Voter	A voter whose eligibility is yet to be determined at a given polling place. A provisional voter is allowed to vote on a “provisional ballot” under conditions set by state election law. Because the voter is “provisional”, his/her ballot must be retrievable by election officials under certain conditions that vary from state to state.
PUB (Public) Count	Also called the “ballot counter”. A six-digit number, shown on the JBC and eScan configuration reports and Polls Open screen, and in the Ballot Now window, that indicates how many votes have been counted, and CVRs recorded, on that machine for the current election. The public count of a device is reset to “zero” during warehouse operations between elections.
PVT (Private) Count	A six-digit number, shown on the JBC and eScan configuration reports and Polls Open screen, and in the Ballot Now window, that indicates how many ballots have been cast on that machine in its lifetime. CVRs are not associated with the private counter. The private counter cannot be zeroed.
Rally™	The Hart Voting System application that reads, stores, and transfers CVRs via local area network or modem connection to a PC running the Tally application.
Replacement Ballot	A ballot that is designated by the election authority to be a replacement for a spoiled ballot.
Resolution	The Ballot Now task of assigning the voter’s intent to votes on ballots that contain an undervoted contest, an overvoted contest, or a contest with a selected write-in. Resolution may also exclude a completely blank ballot or a damaged ballot.
Sample Ballot	A ballot printed as a sample of the real election ballot. Sample ballots contain a special barcode which prevents them from being included as a CVR in an MBB.
Scan Batch	A group of ballot sheets to be scanned. Each scan batch has certain number of sheets. Ballot Now assigns and prints a sequence number when the ballots are printed. The user can assign comments to a scan batch in the Scan Ballots window prior to scanning the batch of ballots.

Term:	Definition:
Select Wheel	The rotary wheel on the eSlate and DAU eSlate that allows a voter to navigate the ballot and highlight choices by turning the wheel.
Serial Number	A barcode and/or human-readable number placed on the ballot stub and/or the sheets of a ballot that uniquely identifies the ballot in order to prevent duplicate scanning of paper ballots.
SERVO™	The eSlate application used as a System for Election Record Verification and Operations. This application is used for polling place equipment cast vote record backup, recovery, recount, and resetting.
Sheet	In reference to Ballot Now paper ballots, one piece of paper printed on both sides, i.e., duplex. Ballot Now ballots can consist of no more than 9 sheets.
Signing Key	A true 128-bit random number used to cryptographically protect data, making it possible to require authentication before allowing access to the data. In the Hart Voting System, the signing key is written to the eCM, JBCs, eScans, and MBBs.
Sip-and-Puff	A voter's personal input device that connects to the DAU eSlate in the disabled access jack. This enables disabled voters with extremely limited mobility to vote with a mouth-controlled device.
Split Precinct	The smallest division of a precinct for election purposes.
Spoiled Ballot	A ballot that has been rendered invalid by a voter who is still present at the polling place, making it necessary to give the voter a new ballot. With the eSlate, a ballot is spoiled if the voter gets the wrong ballot style, the wrong language, or is not on the DAU eSlate but needs to be.
SSL	Secure Sockets Layer; a protocol developed by Netscape for transmitting private documents via the Internet. SSL works by using a private key to encrypt data that is transferred over the SSL connection.
Straight Party Voting	A voting method that presents a contest that allows selection of a single political party in order to automatically select candidates of that party in contests that allow straight party voting.
Suspend Report	A JBC or eScan report that automatically prints when polls are suspended in Early Voting. For the JBC, the report lists the PUB count and PVT count of the JBC and eSlate units, a Daily (Access Code) Summary, and a Cumulative (Access Code) Summary, as well as a timestamp.
Tactile Input Switches	Also called "dual mode switches," "jelly switches," or "buddy buttons," these red and green "paddles" enable voters with disabilities to vote without using the SELECT wheel and ENTER button on the eSlate. Voters without fine motor control may use these. The red tactile input switch allows voters to navigate through the ballot, similar to turning the SELECT wheel in a clockwise direction. The green switch is similar to pressing the ENTER button.
Tally™	The Hart Voting System tabulation software. After an election, the Tally software counts the votes on the MBB(s) and produces reports on those cast votes.

Term:	Definition:
Tally Report Tape	An Election Day report that may be printed on a JBC or eScan after polls are closed. It includes the date, time, precinct, a tally of votes for each contest, and an Access Code or ballot summary. BOSS includes a setting for allowing, or disallowing, this report to be printed from the JBC or eScan after close of polls on Election Day.
TRANS	Translation, Recording, and Audio Normalization System; an eSlate application for translating multi-language ballot text and for recording all audio (including English) to be imported into the BOSS database.
Undervote	The practice of voting for less than the total number of election contests listed on the ballot, or of voting for less than the number of options allotted for a given contest.
UPS	Uninterruptible Power Supply.
USB	Universal Serial Bus; an external peripheral interface standard for communication between a computer and other devices. In the Hart Voting System, an eCM connects to a USB port.
VBO	Verifiable Ballot Option; the Hart Voting System VVPAT (Voter-Verified Paper Audit Trail) device that can be connected to the eSlate or Demonstration eSlate inside the voting booth in order to print a paper record of each ballot cast.
Voter Registration Computer	An electronic poll book sometimes known as a “thin client” or “VR Computer.”
VVPAT	Voter-Verified Paper Audit Trail; Implemented in the Hart Voting System by the VBO (Verifiable Ballot Option) device.
WAV file	A file format (.wav) used for storing digital audio. TRANS audio is stored in .wav file format.
Write-in	A name of a candidate entered by the voter in order to vote for a candidate that is not listed on the ballot.
Write-in, certified	A candidate that has been certified by the election authority as being a valid write-in candidate for the election.
Write-in Voting	A means to cast a vote for an individual not listed on the ballot.
XLIFF	XML Localization Interchange File Format. A file type (.xlf) used by BOSS and TRANS for language text translation.
XML	eXtensible Markup Language. A structured, extensible, text-based data definition and data exchange format. TRANS uses an .xml file as a manifest, or index, to associated audio .wav files.
Zero Tape Report	A JBC or eScan report that prints out when polls are opened on the first day of Early Voting and on Election Day. This report lists the timestamp, the number of precincts at the polling place, the contests and candidates on the ballot, and verifies that the number of votes for each candidate or option is zero.

Appendix B: Hart InterCivic Support

How Do Customers Contact Hart InterCivic for Help?

Customers may contact the Hart InterCivic Help Desk in several ways:

- A. Phone at the Help Desk number: 1.866.275.4278 (1.866.ASK.HART)
- B. Email to eSlatesupport@hartic.com
- C. Submit a TeamTrack ticket at the URL: hartsupport.hartic.com or via the link at www.hartintercivic.com
- D. Fax hard copy to 1.866.391.1834.

What are the Hours of Operation for Help Services?

Help Desk hours of operation are 8:00 a.m. - 5:00 p.m. Central Time, Monday through Friday. Help Desk operators will be available during these hours. Your Account Manager will inform you of extended Help Desk hours during election events. TeamTrack “tickets” may be submitted at any time.

What Is TeamTrack?

TeamTrack is a web-based tracking system for managing system issues, service requests and enhancement requests. TeamTrack keeps a database of all logged tickets submitted. Customers may view all of their organization’s submitted issues, service and enhancement requests. Customers may also view items published to the “Knowledge Base”. The “Knowledge Base” will build with our use of TeamTrack. It is a storehouse of common solutions and best practices.

With TeamTrack, each ticket submitted has an “owner”. The owner is the Hart resource responsible for the ticket during that stage. The person who submitted the ticket will be notified by email each time the ticket has changed owners. The person who submitted the ticket will also be notified by his or her Account Manager when a ticket is resolved.

Access to the TeamTrack site will be set up during software installation. Contact your Account Manager or the Hart InterCivic Help Desk in order to obtain your username and password. Hart InterCivic TeamTrack documentation is included.

What Other Types of Support are Offered?

Refer to your service contract for specific services included in your contract. Hart InterCivic also offers, to all customers:

- A. Web-based training and support.
 - > Contact your Account Manager or Training Specialist to set this up, or make a request via the Help Desk or TeamTrack.
- B. A secure FTP site for file transfer and document sharing.
 - > Access to this site will be set up during software installation. Contact your Account Manager or the Hart InterCivic Help Desk when you need to make use of this service.

Notes:

Appendix C: Voting System Standards Personnel and Training Requirements

The following table outlines the minimum personnel deployment and training requirements for the Hart Voting System, as required by federal Voting System Standards. Actual personnel deployed and trained will vary, depending on other state and local guidelines and the many variables involved in system implementation. The Hart Voting System is a scalable solution, and personnel and training should be scaled as appropriate in order to meet local needs.

Voting System Standards Personnel and Training Requirements		
Function	Minimum Personnel Required	Minimum Training Required
Ballot Preparation	1 ^a	BOSS Operator Training Course
Polling Place Operations	1 ^b per polling place	Polling Place Operations Course
Paper Ballot Processing	1 per Ballot Now set up	Ballot Now Operator Training Course
Tabulation	1	Tally Operator Training Course
Tabulation with Remote Transfer of Data	1 per satellite station	Rally Operator Training Course
Preventive Maintenance	1	Hart Voting System Support Procedures Course
Diagnosis of Faulty Hardware or Software	1	Hart Voting System Support Procedures Course
Corrective Maintenance	1	Hart Voting System Support Procedures Course
Functionality Testing	1 ^c	Hart Voting System Support Procedures Course
Poll Worker Training	1 local trainer	Train-the-Trainer
Software System Support	0	Software system support is provided by Hart InterCivic. Contact the Hart InterCivic Help Desk for support. ^d
System Maintenance	1	Hart Voting System Support Procedures Course
Network Administration	Not applicable	Not applicable
Data Personnel	Not applicable	Not applicable

Voting System Standards Personnel and Training Requirements		
Function	Minimum Personnel Required	Minimum Training Required
Vendor Personnel	Not Applicable	Hart InterCivic personnel attend training appropriate to their assignments. All Hart InterCivic site support personnel attend Polling Place Operations and Hart Voting System Support Procedures courses applicable to the implementation. Hart InterCivic Professional Services and Training Personnel are trained in all Hart Voting System courses.

- a. Personnel requirements may be met by resources performing multiple roles (i.e., one person may operate BOSS and Tally for an implementation.)
- b. Hart InterCivic recommends that at least two poll workers per polling place attend the eSlate Polling Place Operations course.
- c. Hart InterCivic recommends that all equipment go through functionality testing upon initial acceptance and per election cycle. Personnel requirements for efficiently testing all functionality of equipment will vary based on the amount of equipment to be tested. Recommendations are listed in the *Support Procedures Training Manual*.
- d. Hart InterCivic Help Desk contact information is listed on the inside front cover of this manual.

See:

“Hart Voting System Course Descriptions” on page 30.

Appendix D: Backing Up Election Databases

Data to Back Up

The Following Database FOLDERS Should be Backed Up to CD¹

- eCM Manager; *.eCM file created with the **Save File** function
- BOSS; Numbered folder with BossData.db and BossData.cfg files
- Ballot Now Test; Numbered folder with the election I.D. followed by a “T” (e.g., 023T), in addition to the BNsecurity.db and BNsecurity.cfg files in the “Ballot Now” folder
- Ballot Now Election; Numbered folder with the election I.D. (e.g., 023), in addition to the BNsecurity.db and BNsecurity.cfg files in the “Ballot Now” folder
- Rally; “Database” folder with the Mbbtrans.db and Mbbtrans.cfg files
- Tally Test; Numbered folder with the TallyData.db and TallyData.cfg files
- Tally Election; Numbered folder with the TallyData.db and TallyData.cfg files
- SERVO; “Database” folder with the ServoData.db and ServoData.cfg files.

Locations of Election Database FOLDERS for Backup

- eCM Manager; after selecting **Save File**, use standard Windows navigation to navigate to a folder named for the election and to name the .eCM file.
- BOSS; C:\boss\Database\YearMonthDay-HourMinuteSecond (12 digits)
- Ballot Now; C:\Program Files\Hart Intercivic\Ballot Now\### (three-digit Election I.D.)
 - C:\Program Files\Hart Intercivic\Ballot Now\BNsecurity.db
 - C:\Program Files\Hart Intercivic\Ballot Now\BNsecurity.cfg
- Rally; C:\Program Files\Hart InterCivic\Rally\Database
- Tally; C:\Program Files\Hart InterCivic\Tally\Database\YearMonthDay-HourMinuteSecond (12 digits)
- SERVO; C:\Program Files\Hart InterCivic\SERVO\Database

Naming Conventions for FOLDERS and CD Files

- Name each application’s backup folder with the application, election, type of election, and date of election. (Example: BOSSgeneral_11.02.04)
- Name the CD within the character limits for the CD creator application. The jurisdiction, election, and election date should be included. (Example: Smith_gen11.2.04)

How and When to Back Up Data

All application databases can be backed up by saving the folders indicated in the “Locations of Election Database FOLDERS for Backup” section to a user-defined directory on the PC and/or directly to CD. These folders should always be saved to a directory (folder) named for the election, the time and date, and the status of the database. THIS, RATHER THAN USING THE “Backup” or “Archive” FUNCTION IN THE APPLICATION, IS THE RECOMMENDED PROCEDURE.

BOSS, Tally, and Rally include backup or archive functions within the user interface. An administrator-level user may use this function to back up the database and configuration files to a user-defined directory on the PC. Database and configuration files should always be saved to folders named for the election, the time and date, and the status of the database.

1. If a database is too large for backup to CD, another medium will be required.

- Back up the .eCM file:
 - Immediately after creating eCMs for the election.
- Back up the numbered BOSS database folder (or use the **Archive** function in BOSS):
 - Immediately before exporting text for translation
 - After importing translated text and audio
 - After completing all proofreading and before generating the ballot
 - After generating the ballot and writing media, but before finalizing the database
 - After finalizing the database.
- Back up the numbered Ballot Now database folder and BNsecurity.db and BNsecurity.cfg files:
 - After closing the election in Ballot Now, at minimum.
- Back up the numbered Tally database folder (or use the **Backup** function in Tally):
 - After each instance of creating printed and exported reports for public use (e.g., media outlets)
 - After processing absentee by-mail MBBs on Election Day
 - After processing Early Voting MBBs
 - After each instance of creating printed and exported reports for public use (e.g., media outlets) on Election Day
 - After processing absentee by-mail late mail MBBs after Election Day
 - Before resolving write-in votes
 - Before resolving provisional ballots
 - Before finalizing
 - After finalizing
 - Immediately after Canvassing.
- Back up each Rally station “Database” folder (or use the **Archive** function in Rally):
 - After processing all MBBs and printing and exporting final reports and before resetting the Rally database (including before resetting the Rally database as an emergency procedure).
- Back up the SERVO “Database” folder:
 - After inventorying equipment with SERVO pre-election
 - After backing up equipment post-election
 - On the “master” SERVO PC after combining events into one “master” event for an election, if applicable.

Backing up to CD

In order to back up to a CD, use the CD creator application supplied with the Hart InterCivic PCs. Refer to the online help for the specific steps for creating a CD.

Hart InterCivic suggests using a CD-R rather than a CD-RW. A CD-R is a one-time use—you can only write to it once, and then you can only read off of it. A CD-RW is readable/writable, and can be used multiple times like a floppy disk—you can read and write to it as often as you want. CD-Rs are inexpensive, and the data on the CD itself cannot be changed. This makes the CD-R option a good media for backing up data.

- After creating a CD, always navigate to the CD drive and verify that the CD contains all of the data intended for backup.
- Label the CD with the Jurisdiction, Election Title, Date, and eSlate application.
- File the CD in a secure location.

Appendix E: Paper Weights and Scanner Throughput

Use this conversion chart when planning Ballot Now paper ballot printing.

<i>Equivalent Weights in Paper^a</i>	
<i>Bond:</i>	<i>Offset/Book:</i>
20	50
24 ^b	60
28	70 ^c
30	75
31	80

a. Source: Georgia-Pacific/Unisource

b. Recommended weights are 24#-31# bond, 60#-80# offset

c. Commonly used stock is 70# offset Cougar Opaque, or Hart Secure Stock, with lower left corner cut 3/8" (upper left corner for ballots with stubs)

The chart below shows the throughput for select scanners, as of the time of publication. Numbers reflect duplex images (all ballots are duplex) and letter-size (8.5 X 11) pages.

<i>Scanner Throughput^a</i>	
<i>Scanner:</i>	<i>Estimated Throughput:</i>
Fujitsu M4097D	50 ppm ^b
Fujitsu M4099D	90 ppm
Kodak i80	35 ppm
Kodak 1500	40 ppm
Kodak i260	50 ppm
Kodak 3520	85 ppm
Kodak i660 (600 series)	120 ppm
Kodak i830	130 ppm
Kodak 9520	160 ppm
Hart eScan	15 ppm ^c

a. Source: various scanner vendors, numbers will vary by source

b. PPM = Pages Per Minute

c. With no resolution issues, includes ballot processing time

Notes:

Appendix F: Training Mock Election

Estimated Time: 3 days; time will vary, depending on customer

Audience: elections officials, elections specialists

Objectives: Following initial Hart Voting System training (management, software, and support procedures), the customer and a Hart InterCivic representative will conduct a complete intra-office election using the Hart Voting System. This mock election serves as a simulation for performance assessment of elections tasks with the Hart Voting System. The following are key elements in this mock election:

- Writing eSlate Cryptographic Modules (eCMs)
- Setting up the election in the voter registration system, if applicable
- Exporting of data from the voter registration system, if applicable
- Importing data into BOSS, if applicable
- Completing BOSS ballot data
- Exporting necessary files and import of multiple language text and audio, if applicable
- Proofreading ballot from BOSS reports and ballot preview
- Generating ballots and creating media
- Logic and Accuracy Testing
- eSlate precinct voting in Early Voting and Election Day events, as applicable
- Printing and voting Ballot Now and eScan paper ballots, as applicable
- Ballot Now ballot scanning and reconciliation
- Saving CVRs to MBB in Ballot Now
- eScan ballot scanning, report printing, and MBB consolidation, as applicable
- Tally tabulation and reporting of Early Voting and Absentee data
- Rally station transfer of elections results, if applicable
- Tally tabulation and reporting of Election Day data
- Exporting to the local and/or statewide reporting system, if applicable
- System data backup via SERVO
- Simulation of recount process(es)
- Audit reporting

Prerequisite: Completion of all Hart Voting System management, administrative-level polling place, software, and Support Procedures training courses.

- Resources:
 - Workflow from the *Hart Voting System Management and Tasks Training Manual*
 - Election-Related Tasks Checklist from the *Hart Voting System Management and Tasks Training Manual*
 - Training Election Outline
 - Checklists from the *BOSS, Ballot Now, Tally, and Hart Voting System Support Procedures Training Manuals*
 - PC equipment, peripherals, and Hart Voting System software applications
 - Polling place hardware (JBC, eSlate, DAU, eScan) and peripherals

Outline and Resources Needed: This process will simulate a complete election cycle.

1. Create signing key, write eCM tokens, and back up .eCM file
 - > Resources:
 - __ *eCM Manager Operations Manual*
 - __ *Hart Voting System Management and Tasks Training Manual*
 - __ eCM Manager software, PC, and peripherals
 - __ At least two eCM tokens
2. Import election data from the voter registration system export files, if applicable
 - > Resources:
 - __ Infusion application and supporting documentation, if applicable
 - __ Voter registration system export files
 - __ *BOSS Operations Manual*
 - __ *BOSS Training Manual*
 - __ BOSS, PC, and peripherals
3. Create local BOSS users with passwords and complete BOSS ballot election data
 - > Resources:
 - __ *BOSS Operations Manual*
 - __ Checklist from the *BOSS Training Manual*
 - __ BOSS, PC, and peripherals
4. Export necessary files and import multiple language text and audio, if applicable
 - > Resources:
 - __ *BOSS Operations Manual*
 - __ Checklist from the *BOSS Training Manual*
 - __ BOSS, PC, and peripherals
 - __ *TRANS User Guide*
 - __ TRANS application, PC(s), and peripherals
 - __ Language text and audio export/import files
5. Proofread ballot from the BOSS reports and ballot preview
 - > Resources:
 - __ *BOSS Operations Manual*
 - __ Checklist from the *BOSS Training Manual*
 - __ BOSS, PC, and peripherals
 - __ BOSS reports
 - __ BOSS ballot preview
6. Generate ballot and create media
 - > Resources:
 - __ *BOSS Operations Manual*
 - __ Checklist from the *BOSS Training Manual*
 - __ "Media to Create" guidelines from the *BOSS Training Manual*
 - __ BOSS, PC, and peripherals
 - __ An eCM
 - __ ATA cards (MBBs)
7. Perform Logic and Accuracy Testing
 - > Resources:
 - __ System Logic and Accuracy testing procedures from the *Hart Voting System Support Procedures Training Manual*
 - __ Polling place equipment and applicable desk references
 - __ *Ballot Now, Ballot Now Operations Manual, Ballot Now Training Manual*
 - __ Ballot Now and/or eScan ballots
 - __ SERVO (with local users and passwords) and polling place equipment
 - __ *BOSS, BOSS Operations Manual, BOSS Training Manual*
 - __ *Tally, Tally Operations Manual, Tally Software Training Manual*

- __eCM(s)
- __Test mode MBB(s)
- 8. Create local Ballot Now users with passwords, and then print and vote paper ballots for Ballot Now and/or eScan
 - > Resources:
 - __*Ballot Now Operations Manual*
 - __Checklist from the *Ballot Now Software Training Manual*
 - __Ballot Now, PC, and peripherals
 - __Paper stock
 - __An eCM
- 9. Conduct Ballot Now ballot scanning and reconciliation
 - > Resources:
 - __*Ballot Now Operations Manual*
 - __Checklist from the *Ballot Now Software Training Manual*
 - __Ballot Now, PC, and peripherals
 - __Customer reconciliation guidelines
 - __An eCM
 - __MBB
- 10. Save CVRs to MBB in Ballot Now
 - > Resources:
 - __*Ballot Now Operations Manual*
 - __Checklist from the *Ballot Now Software Training Manual*
 - __Ballot Now, PC, and peripherals
 - __An eCM
 - __MBB
- 11. Conduct polling place voting in Early Voting and Election Day events, as applicable
 - > Resources:
 - __Polling place system desk references
 - __Polling place equipment (eScan and/or JBCs and eSlates)
 - __MBB and Audio card(s)
- 12. Create local Tally users with passwords, and then tabulate and report Early Voting and Absentee data
 - > Resources:
 - __*Tally Operations Manual*
 - __Checklist from the *Tally Software Training Manual*
 - __Tally, PC, and peripherals
 - __An eCM
- 13. Create local Rally station users with passwords, and then transfer of election results, if applicable
 - > Resources:
 - __*Tally Operations Manual*
 - __Checklist from the *Tally Software Training Manual*
 - __Tally, PC, and peripherals
 - __*Rally Operations Manual*
 - __Checklist from the *Rally Software Training Manual*
 - __Rally, PC, and peripherals
 - __LAN and/or modem connections
 - __eCMs for Tally and Rally
- 14. Tabulate and report Election Day data
 - > Resources:
 - __*Tally Operations Manual*
 - __Checklist from the *Tally Software Training Manual*
 - __Tally, PC, and peripherals

- An eCM
 - Fusion application and supporting documentation, if applicable
 - Voted MBB(s)
15. Export to the local and/or statewide reporting system, if applicable
- > Resources:
 - Tally Operations Manual*
 - Tally Software Training Manual*
 - Tally, PC, and peripherals
 - Tally export files
 - Fusion application and supporting documentation, if applicable
 - Local and/or state reporting system
16. Back up equipment and perform recount, as applicable
- > Resources:
 - SERVO Operations Manual*
 - "Appendix G: Hart Voting System Recount Procedures" in the *Tally Software Training Manual*
 - SERVO hard copy generation of < type > manual recount printouts, if required
 - SERVO, PC, and peripherals
 - Tally, PC, and peripherals
 - Tally hard copy generation of < type > vote counts for recount, if required
 - VBO hard copy generation of < type > manual recount printouts, if required
 - An eCM
 - An unvoted MBB written for this election
 - A non-election-related MBB ("blank"), if a recovery MBB is to be created
17. View Audit reports, verify polling place equipment firmware, and archive data
- > Resources:
 - Hart Voting System Management and Tasks Training Manual*
 - All Hart Voting System software operations manuals
 - Hart Voting System software, PCs, and peripherals
 - SERVO
 - Firmware .xml import files
 - CD-R media and printer paper
18. Debrief: Following the Hart Voting System Training Mock Election, the customer and Hart InterCivic representatives will meet to debrief.

Key items to consider in this debrief:

- What were the successes accomplished in this process?
- What did not work as planned?
- What processes need to be developed in order to make the above items work as planned?
- Who has the necessary skills?
- Are all users created in applications with appropriate permissions?
- Are unnecessary users deleted from applications?
- Who needs further review/practice/training?
- How, when, and where will individuals engage in review, practice, and/or training?

Appendix G: Election Logs

This appendix lists and describes the election logs in the Hart Voting System.

- Device and Booth Functionality Logs
 - Completed when equipment Acceptance Tests are performed and during Functionality Tests between election cycles
 - Document functionality of equipment
- MBB Labels
 - One label per MBB, Audio, or Demo card
 - Label PC cards as MBB, Audio, or Demo cards after they are written in BOSS
 - Identify Test or Election Mode
 - Indicate device type and polling place, if applicable
 - Check Rally or Tally, if applicable
- Logic and Accuracy Test (LAT) Log
 - One log per LAT
 - Filled in when LAT is performed
 - Helps organize and certify LAT process
- Equipment Preparation Checklists
 - Completed during election equipment preparation
 - Helps organize election equipment preparation process
- Device and MBB Tracking Log
 - One log per election
 - Started when MBBs are written in BOSS
 - Continued as MBBs are installed into voting devices
 - Tracks MBBs from creation to installation into voting devices
- Ballot and Seal Certificate
 - Started as MBBs are installed in JBCs or eScans
 - Copy of certificate follows MBB
 - Completed as MBBs are removed
 - Certifies voting device seal number and final access code or ballot count
- Device Serial Number Log
 - One log per JBC “string” of eSlates
 - One log for eScans
 - Completed as MBBs are inserted in JBCs and/or eScans, as MBBs are removed, and as equipment is backed up and later reset
 - Helps organize voting devices being backed up and reset
- Reconciliation Logs
 - One log per JBC or eScan
 - One full entry per day of voting
 - Completed at the polling place to verify that the number of voters checked in equals the number of access codes/ballots voted
 - Log is designed for mounting on one side of the main envelope (9 x 12 or larger)

- ❑ Canceled Booth/Spoiled Ballot Log
 - One log per JBC or eScan
 - Provides record of date, time, and reason for canceling booths/spoiling ballots
 - Spoiled paper ballots go into the envelope
 - Log is designed for mounting on one side of the main envelope (9 x 12 or larger)

- ❑ Daily Reports Envelopes
 - One letter-size envelope per day, per voting device for all device reports and for expired access codes
 - Voting device tapes are filed in letter-size Daily Envelopes and transferred within the larger (9 x 12) Main Envelope

- ❑ Help Desk Call Log
 - One entry per call
 - Completed as poll workers and election officials call the Help Desk
 - Documents number and types of calls, as well as resolution of issues

- ❑ Troubleshooting Call Log
 - One entry per call
 - Completed as poll workers and election officials call the field technicians
 - Documents number and types of calls, as well as resolution of issues
 - Coordinate with Help Desk Call Log
 - Coordinate with Out-of-Service Equipment tag

- ❑ Replacement Paper Ballot Log and Envelope
 - One form from each paper ballot processing location (Ballot Now or eScan)
 - Completed if ballots are replaced
 - Logs ballot serial numbers and reason for replacement
 - Stores original ballot

- ❑ MBB Transfer Envelope
 - One envelope per MBB or per polling place
 - Organized and labeled container for MBB, voting device seal, and ballot seal certificate after the MBB is removed from the voting device and transferred to Tally

Battery Level:

Date Tested:

MBB Transfer Envelope
JBC eScan

Device Seal # : _____

Device Serial #: _____

Polling
Place: _____

Ballots/Access Codes Voted: _____

Comments:

Check here if MBB has been tallied.

MBB Transfer Envelope
JBC eScan

Device Seal # : _____

Device Serial #: _____

Polling
Place: _____

Ballots/Access Codes Voted: _____

Comments:

Check here if MBB has been tallied.

MBB Transfer Envelope
JBC eScan

Device Seal # : _____

Device Serial #: _____

Polling
Place: _____

Ballots/Access Codes Voted: _____

Comments:

Check here if MBB has been tallied.

MBB Transfer Envelope
JBC eScan

Device Seal # : _____

Device Serial #: _____

Polling
Place: _____

Ballots/Access Codes Voted: _____

Comments:

Check here if MBB has been tallied.

MBB Transfer Envelope
JBC eScan

Device Seal # : _____

Device Serial #: _____

Polling
Place: _____

Ballots/Access Codes Voted: _____

Comments:

Check here if MBB has been tallied.

MBB Transfer Envelope
JBC eScan

Device Seal # : _____

Device Serial #: _____

Polling
Place: _____

Ballots/Access Codes Voted: _____

Comments:

Check here if MBB has been tallied.

DAILY JBC REPORTS ENVELOPE

Includes:

- All JBC Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily JBC Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

SIGNED: _____

DAILY JBC REPORTS ENVELOPE

Includes:

- All JBC Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily JBC Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

SIGNED: _____

DAILY JBC REPORTS ENVELOPE

Includes:

- All JBC Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily JBC Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

SIGNED: _____

DAILY JBC REPORTS ENVELOPE

Includes:

- All JBC Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily JBC Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

SIGNED: _____

DAILY JBC REPORTS ENVELOPE

Includes:

- All JBC Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily JBC Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

SIGNED: _____

DAILY JBC REPORTS ENVELOPE

Includes:

- All JBC Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily JBC Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

SIGNED: _____

DAILY REPORTS ENVELOPE

Includes:

- All Device Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

eScan Serial Number: _____

SIGNED: _____

DAILY REPORTS ENVELOPE

Includes:

- All Device Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

eScan Serial Number: _____

SIGNED: _____

DAILY REPORTS ENVELOPE

Includes:

- All Device Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

eScan Serial Number: _____

SIGNED: _____

DAILY REPORTS ENVELOPE

Includes:

- All Device Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

eScan Serial Number: _____

SIGNED: _____

DAILY REPORTS ENVELOPE

Includes:

- All Device Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

eScan Serial Number: _____

SIGNED: _____

DAILY REPORTS ENVELOPE

Includes:

- All Device Reports
- Expired Access Codes

If an Access Code is printed but not used keep the Access Code slip, write a note on it explaining what happened, and file it in the Daily Reports Envelope.

POLLING PLACE: _____

DATE: _____

JBC Serial Number: _____

eScan Serial Number: _____

SIGNED: _____

Voted Emergency Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

Voted Emergency Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

Voted Emergency Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

Voted Emergency Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

Voted Emergency Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

Voted Emergency Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

Spoiled Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

Spoiled Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

Spoiled Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

Spoiled Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

Spoiled Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

Spoiled Ballot Envelope

Date: _____

Polling Place: _____

No. of Ballots: _____

OUT OF SERVICE EQUIPMENT TAG

Polling Place:

Troubleshooting Log #: _____

Equipment S/N: _____

Technician: _____

Description of Problem:

OUT OF SERVICE EQUIPMENT TAG

Polling Place:

Troubleshooting Log #: _____

Equipment S/N: _____

Technician: _____

Description of Problem:

OUT OF SERVICE EQUIPMENT TAG

Polling Place:

Troubleshooting Log #: _____

Equipment S/N: _____

Technician: _____

Description of Problem:

OUT OF SERVICE EQUIPMENT TAG

Polling Place:

Troubleshooting Log #: _____

Equipment S/N: _____

Technician: _____

Description of Problem:

Logic and Accuracy Test Envelope

Election Title: _____

Election Date: _____

LAT Date: _____

Comments:

LAT Manager Signature:

Logic and Accuracy Test Envelope

Election Title: _____

Election Date: _____

LAT Date: _____

Comments:

LAT Manager Signature:

Logic and Accuracy Test Envelope

Election Title: _____

Election Date: _____

LAT Date: _____

Comments:

LAT Manager Signature:

Logic and Accuracy Test Envelope

Election Title: _____

Election Date: _____

LAT Date: _____

Comments:

LAT Manager Signature:

Logic and Accuracy Test Envelope

Election Title: _____

Election Date: _____

LAT Date: _____

Comments:

LAT Manager Signature:

Logic and Accuracy Test Envelope

Election Title: _____

Election Date: _____

LAT Date: _____

Comments:

LAT Manager Signature:

Logic and Accuracy Test Documentation

Follow Hart Voting System LAT procedures. Complete and sign the following form as documentation of the LAT.

<input type="checkbox"/> Tally Zero Report <input type="checkbox"/> JBC Open Polls diagnostic <input type="checkbox"/> JBC Zero Report <input type="checkbox"/> JBC Summary Report from suspending polls <input type="checkbox"/> Full Verifiable Ballot Option printout <input type="checkbox"/> eScan Open Polls diagnostic <input type="checkbox"/> eScan Zero Report	<input type="checkbox"/> eScan Summary Report from suspending polls <input type="checkbox"/> Ballot Now Printed Ballots, Scanned Ballots, Election and Audit Trail reports <input type="checkbox"/> Official reports from Tally <input type="checkbox"/> Test MBBs <input type="checkbox"/> Tally Audit Log printout
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Election Title:		
BOSS folder (file path):	MBB ID Number:	LAT Date:

Testing group agrees: Logic and Accuracy Test is complete and accurate.

Title	Printed Name and Initials
LAT Manager	
Team 1 member	
Team 1 member	
Team 2 member	
Team 2 member	
Team 3 member	
Team 3 member	
Team 4 member	
Team 4 member	
Team 5 member	
Team 5 member	
Team 6 member	
Team 6 member	
Team 7 member	
Team 7 member	
Team 8 member	
Team 8 member	
Team 9 member	
Team 9 member	
Team 10 member	
Team 10 member	
Team 11 member	
Team 11 member	
Team 12 member	
Team 12 member	

Ballot & Seal Certificate – JBC Only

A copy of the Ballot & Seal Certificate accompanies the Mobile Ballot Box (MBB) and the JBC from the warehouse to the polling place and then to the Counting Station.

Polling Place I.D.:
Polling Place Name:
JBC Serial Number:

Seal Information

The MBB door of the Judge’s Booth Controller (JBC) was secured with a numbered seal. The door seal number, and initials of the technician who placed the seal on the door, are recorded on this form. A record of the seal numbers assigned to each location is kept by the Administrative Offices. The seal on the MBB door remains on the JBC until removed by the MBB processors.

The seal number placed on the JBC prior to the election to detect unauthorized opening of MBB slot was:

Seal Number:	Installer’s Initials:
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Ballot Information

We, the undersigned election officials, do hereby certify that the JBC was transferred to the counting station, or the MBB was placed in the transfer envelope to be transferred to the counting station, and the above is a true and correct list of the seals used. The number of Access Codes on the JBC, read from the tape still attached to the JBC, was as follows:

Issued:	Voted:
Canceled:	Expired:

On completing this certificate, the presiding official shall place the original in the envelope/container used to store the MBB(s). The presiding official shall retain a copy of the certificate and preserve it for the state-mandated period for preserving the precinct election records.

<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> <i>Signature of Presiding Official</i>	<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> <i>Signature of Poll Watcher (if present)</i>
<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> <i>Signature of 2nd Official</i>	<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> <i>Signature of Poll Watcher (if present)</i>

Ballot & Seal Certificate – eScan and JBC

A copy of the Ballot & Seal Certificate accompanies the Mobile Ballot Box (MBB) and the voting device from the warehouse to the polling place and then to the Counting Station.

Polling Place I.D.:
Polling Place Name:
eScan Serial Number:
JBC Serial Number:

Seal Information

The MBB door of the voting device was secured with a numbered seal. The door seal number, and initials of the technician who placed the seal on the door, are recorded on this form. A record of the seal numbers assigned to each location is kept by the Administrative Offices. The seal on the MBB door remains on the VOTING DEVICE until removed by the MBB processors.

The seal number placed on the eScan prior to the election to detect unauthorized opening of MBB slot was:

Seal Number:	Installer's Initials:
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The seal number placed on the JBC prior to the election to detect unauthorized opening of MBB slot was:

Seal Number:	Installer's Initials:
---------------------	------------------------------

Ballot Information

We, the undersigned election officials, do hereby certify that the voting device was transferred to the counting station, or the MBB was placed in the transfer envelope to be transferred to the counting station, and the above is a true and correct list of the seals used. The number of Ballots Voted on the eScan only, read from the eScan tape and/or public count, was as follows:

Number of Paper Ballots Voted:

The number of Access Codes on the JBC, read from the tape still attached to the JBC, was as follows:

Issued:	Voted:
Canceled:	Expired:

On completing this certificate, the presiding official shall place the original in the envelope/container used to store the MBB(s). The presiding official shall retain a copy of the certificate and preserve it for the state-mandated period for preserving the precinct election records.

<hr/> <i>Signature of Presiding Official</i>	<hr/> <i>Signature of Poll Watcher (if present)</i>
<hr/> <i>Signature of 2nd Official</i>	<hr/> <i>Signature of Poll Watcher (if present)</i>

JBC & eSlate Serial Numbers Log

Election:		Polling Place:	
Date/Time Out:		Date/Time In:	
Sign or Initial:		Sign or Initial:	

JBC Serial #	JBC Seal #	eSlate Serial #s	Backup Date & Time	Reset Date & Time
		1		
		2		
		3		
		4		
		5		
		6		
		7		
		8		
		9		
		10		
		11		
		12		
		1		
		2		
		3		
		4		
		5		
		6		
		7		
		8		
		9		
		10		
		11		
		12		

JBC, eSlate, and VBO Serial Numbers Log

Election:		Polling Place:	
Date/Time Out:		Date/Time In:	
Sign or Initial:		Sign or Initial:	

JBC Serial #	JBC Seal #	eSlate Serial #s	Reset Date & Time	Backup Date & Time
		1		
VBO Serial #	VBO Seal #			
		2		
MBB ID #				
		3		
		4		

JBC Serial #	JBC Seal #	eSlate Serial #s	Reset Date & Time	Backup Date & Time
		1		
VBO Serial #	VBO Seal #			
		2		
MBB ID #				
		3		
		4		

eSlate Early Voting Reconciliation Log Explanation

Time	Field	More Information
First Day of Early Voting	Election	Enter information regarding the Election (e.g., November General Election 2002).
	Polling Place	Enter the polling place name (e.g., Dulles High School).
Fields to fill out when opening and reopening polls.	Date	Current date
	Initials	Enter the Lead Poll Worker's initials for <u>each day</u> of Early Voting
	Start of Day Public Count	According to the JBC screen and JBC Network Configuration Report , record the Public Count (PUB COUNT) before adding any voters for the day. Complete this field <u>right after</u> printing the Network Configuration Report .
	End of Day Public Count	According to the JBC screen (PUB COUNT), how many voters voted? Complete this field after suspending the polls.
Fields to fill out when suspending polls.	Total # Voters Checked In	According to a combination of the poll book and provisional voter envelopes, the number of voters checked in for the day.
	# of Access Codes Issued, Voted, Expired, and Canceled	Copy these numbers from the Daily Summary Report . This explains any differences between the number of access codes issued and the number of voters checked in.
	Comments	The Total # Voters Checked In and the # of Access Codes Voted should match. If not, explain in the Comments section. Note: This reconciliation assumes that provisional ballots are cast on the eSlate system, and NOT on paper ballots.

eSlate Reconciliation Log – Election Day

Attach this log to the eSlate Main Envelope. Complete one form per JBC.

Election _____ Polling Place _____ Date _____

OPEN POLLS

Initial the form, and enter the **Start of Day Public Count** from the PUB COUNT on the JBC screen (bottom right hand corner, after PUB).

Lead Pollworker Initials	
Start of Day Public Count (from JBC) (lower right corner of JBC screen)	

CLOSE POLLS

Enter the **End of Day Public Count** from the PUB COUNT on the JBC screen (bottom right hand corner, after PUB). Using county records, enter the **Number of Voters Checked In**.

1. End of Day Public Count (from JBC) (lower right corner of JBC screen)	
2. Number of Voters Checked In (including provisionals)	

FROM ACCESS CODE REPORT/SUMMARY

Enter the **Number of Access Codes Issued, Voted, Expired, and Canceled** from the **Access Code (Summary) Report.**

3. Number of Access Codes Issued	
4. Number of Access Codes Voted (same as line 1)	
5. Number of Access Codes Expired	
6. Number of Access Codes Canceled	

The **Number of Voters Checked In** and the **Number of Access Codes Voted** should match (lines 2 and 4). If they do not, please explain below in **Comments**.

Comments:

Signature _____ Date _____

eSlate Reconciliation Log – Election Day

Attach this log to the eSlate Main Envelope. Complete one form per JBC.

Election _____ **Polling Place** _____ **Date** _____

OPEN POLLS

Initial the form, and enter the **Start of Day Public Count** from the PUB COUNT on the JBC screen (bottom right hand corner, after PUB).

Lead Pollworker Initials	
Start of Day Public Count (from JBC) <small>(lower right corner of JBC screen)</small>	

JBC #1	JBC #2	JBC #3	Total
<input style="width: 50px; height: 30px;" type="text"/>	+	<input style="width: 50px; height: 30px;" type="text"/>	+
<input style="width: 50px; height: 30px;" type="text"/>	+	<input style="width: 50px; height: 30px;" type="text"/>	=
<input style="width: 50px; height: 30px;" type="text"/>		<input style="width: 50px; height: 30px;" type="text"/>	<input style="width: 50px; height: 30px;" type="text"/>

CLOSE POLLS

Enter the **End of Day Public Count** from the PUB COUNT on the JBC screen (bottom right-hand corner, after PUB). Using county records, enter the **Number of Voters Checked In**.

1. End of Day Public Count (from JBC) <small>(lower right corner of JBC screen)</small>	
2. Number of Voters Checked In <small>(including provisionals)</small>	

JBC #1	JBC #2	JBC #3	Total
<input style="width: 50px; height: 30px;" type="text"/>	+	<input style="width: 50px; height: 30px;" type="text"/>	+
<input style="width: 50px; height: 30px;" type="text"/>	+	<input style="width: 50px; height: 30px;" type="text"/>	=
<input style="width: 50px; height: 30px;" type="text"/>		<input style="width: 50px; height: 30px;" type="text"/>	<input style="width: 50px; height: 30px;" type="text"/>

FROM ACCESS CODE REPORT/SUMMARY

Enter the **Number of Access Codes Issued, Voted, Expired, and Canceled** from the **Access Code (Summary) Report.**

3. Number of Access Codes Issued	
4. Number of Access Codes Voted <small>(same as line 1)</small>	
5. Number of Access Codes Expired	
6. Number of Access Codes Canceled	

JBC #1	JBC #2	JBC #3	Total
<input style="width: 50px; height: 30px;" type="text"/>	+	<input style="width: 50px; height: 30px;" type="text"/>	+
<input style="width: 50px; height: 30px;" type="text"/>	+	<input style="width: 50px; height: 30px;" type="text"/>	=
<input style="width: 50px; height: 30px;" type="text"/>		<input style="width: 50px; height: 30px;" type="text"/>	<input style="width: 50px; height: 30px;" type="text"/>

The **Number of Voters Checked In** and the **Number of Access Codes Voted** should match (lines 2 and 4). If they do not, please explain below in **Comments**.

Comments:

Signature _____

Date _____

eSlate Reconciliation Log – Election Day Explanation

<i>Field</i>	<i>More Information</i>
START OF DAY	
Election	Enter information regarding the Election (e.g., November General Election 2006).
Polling Place	What polling place does this log pertain to (e.g., Dulles High School).
Date	Enter the date.
Lead Poll Worker Initials	Initial here.
Start of Day Public Count	Enter the PUB COUNT before the first voter votes. The PUB COUNT can be found in the bottom right-hand corner of the JBC Polls Open Menu Screen.
END OF DAY	
1. End of Day Public Count	After closing the polls, what is the PUB COUNT? The PUB COUNT can be found at the bottom right-hand corner of the JBC screen.
2. Number of Voters Checked In	What is the number of registered voters who signed in? This includes provisional voters.
3. Number of Access Codes Issued	How many Access Codes were issued? You can find this information on the "Access Code (Summary) Report."
4. Number of Access Codes Voted	How many Access Codes were voted? This matches the JBC Public Count. You can find this information on the "Access Code (Summary) Report."
5. Number of Access Codes Expired	How many Access Codes expired? You can find this information on the "Access Code (Summary) Report."
6. Number of Access Codes Canceled	How many Access Codes were canceled? You can find this information on the "Access Code (Summary) Report."
Comments	The Number of Voters Checked In and the Number of Access Codes Voted should match (lines 2 and 4). If they do not, please explain. Note: This reconciliation assumes that provisional ballots are cast on the eSlate system, and NOT on paper ballots.
Signature	Sign and date the document at the end of the day.

Hart Voting System Reconciliation Log – Early Voting

Attach this log to the Main Envelope. Complete one form per polling place.

Election _____ Polling Place _____ Date _____

OPEN POLLS

Initial the form, and enter the device **Start of Day Public Count**.

Lead Pollworker Initials	
eScan Start of Day Public Count (from the eScan "Election Identification Report")	
JBC Start of Day Public Count (lower right corner of JBC screen)	

SUSPEND POLLS

Enter the **End of Day Public Count**. Using polling place records, enter the **Number of Voters Checked In**.

1. eScan End of Day Public Count (from the eScan "Polls Suspended Report")	
2. JBC End of Day Public Count (lower right corner of JBC screen)	
3. Number of Voters Checked In (includes provisionals)	

FROM DEVICE REPORTS

Enter the **Number of Ballots Voted** from the eScan **Detail Report** and the **Number of Access Codes Voted** from the **JBC Daily Summary Report**.

4. Number of Ballots Voted (eScan) (from eScan "Detail Report" Daily Total)	
5. Number of Access Codes Voted (JBC) (from JBC "Daily Summary Report")	
6. Number of Paper Provisional Ballots (count paper provisional ballots or envelopes, if applicable)	
7. Total Number of Ballots Voted (add lines 4, 5, and 6)	

Lines 3 and 7 (shaded Boxes) should match each other. If they do not, please explain below in **Comments**.

Number of Unscanned Voted Ballots in the Emergency Ballot Box (If applicable, explain in "Comments")	
Comments:	

Signature _____ Date _____

Hart Voting System Reconciliation Log – Early Voting Explanation

Field	More Information
START OF DAY	
Election	Enter information regarding the Election (e.g., November General Election 2002).
Polling Place	What polling place does this log pertain to (e.g., Dulles High School).
Date	Enter the date.
Lead Poll Worker Initials	Initial here.
Start of Day Public Count	Enter the PUB COUNT before the first voter votes. The PUB COUNT can be found on printed device reports.
END OF DAY	
1. End of Day Public Count - eScan	After closing the polls, what is the PUB COUNT? The PUB COUNT can be found on printed device reports.
2. End of Day Public Count - JBC	After closing the polls, what is the PUB COUNT? The PUB COUNT can be found on printed device reports.
3. Number of Voters Checked In	What is the number of voters who signed in? This includes provisionals.
4. Number of Ballots Voted - eScan	How many eScan Ballots were voted? You can find this information on the eScan "Detail Report" in the "Daily Total" field.
5. Number of Ballots Voted - JBC	How many JBC Ballots were voted? You can find this information on the JBC "Daily Summary Report" in the "Access Codes Voted" field.
6. Number of Paper Provisional Ballots	Count paper provisional ballots or provisional ballot envelopes for paper ballots only, if applicable. Do not include provisional ballots voted on the eSlate Voting System. eSlate provisional ballots are part of the Access Codes Voted number.
7. Total Number of Ballots Voted	How many Ballots were voted, in all? Add lines 4, 5, and 6. Line 7 should match line 3.
Number of Unscanned Voted Ballots in Emergency Ballot Box	If the Emergency Ballot Box was used, and those ballots were not later scanned into the system, log the number of voted ballots in the box, and file those in the Voted Emergency Ballots envelope.
Comments	The Total number of Voters and the Total Number of Ballots Voted should match (lines 3 and 6). If they do not, please explain. Refer to the JBC reports and the number of Access Codes Issued, Voted, Expired, and Canceled. If the Emergency Ballot Slot was used to place ballots in the Emergency Ballot Box, please explain.
Signature	Sign and date the document at the end of the day.

Hart Voting System Reconciliation Log – Early Voting (Main Office) Explanation

Field	More Information
Location	Write in the polling place name (this may have been done for you).
Total Ballots Voted	Write the number of ballots voted.
Total Voters Today	Write the total number of checked-in and provisional voters, combined. Note: This assumes that provisional voters are voting on the eSlate system.
Difference	Find the difference between the number of Ballots Voted and the number of Voters Checked In. This should be “zero”. If not, refer to the comments in the polling place Reconciliation Log.
Cumulative Ballots Voted	Add the number of Ballots Voted today to the number of Cumulative Ballots Voted from the previous day.
Cumulative Voters Checked In	Add the number of Voters Checked In today to the number of Cumulative Voters Checked In from the previous day.
Total Votes Today	Add the number of Ballots Voted from all polling places.
Total Votes Cumulative	Add the Total Votes Today to the previous day’s Total Votes Cumulative.
Total Voters Today	Add the number of Voters Checked In from all polling places.
Total Voters Cumulative	Add the Total Voters Today to the previous day’s Total Voters Cumulative.

Hart Voting System Reconciliation Log – Election Day Unconsolidated

Attach this log to the Main Envelope. Complete one form per polling place.

Election _____ **Polling Place** _____ **Date** _____

OPEN POLLS

Initial the form, and enter the **Start of Day Public Count**.

Lead Pollworker Initials	
eScan Start of Day Public Count (from eScan) <small>(from the eScan "Polls Open Report")</small>	
JBC Start of Day Public Count (from JBC) <small>(lower right corner of JBC screen)</small>	

CLOSE POLLS

Enter the **End of Day Public Count**. Using polling place records, enter the **Number of Voters Checked In**.

1. eScan End of Day Public Count (from eScan) <small>(from the eScan "Polls Closed Report")</small>	
2. JBC End of Day Public Count (from JBC) <small>(lower right corner of JBC screen)</small>	
3. Number of Voters Checked In <small>(including provisionals)</small>	

FROM VOTING DEVICE END-OF-DAY REPORTS

4. Number of Ballots Voted eScan <small>(from eScan Daily Detail Report or Tally Report)</small>	
5. Number of Access Codes Voted JBC <small>(from JBC Access Code Report or Tally Report)</small>	
6. Number of Paper Provisional Ballots <small>(count paper provisional ballots or envelopes, if applicable)</small>	
7. Total Ballots Voted <small>(add lines 4, 5, and 6)</small>	

Lines 3 and 7 (shaded boxes) should match each other. If they do not, please explain below in **Comments**.

Number of Unscanned Voted Ballots in the Emergency Ballot Box <small>(If applicable, explain in "Comments")</small>	
Comments: 	

Signature _____ **Date** _____

Hart Voting System Reconciliation Log – Election Day Explanation Unconsolidated

Field	More Information
START OF DAY	
Election	Enter information regarding the Election (e.g., November General Election 2002).
Polling Place	What polling place does this log pertain to (e.g., Dulles High School).
Date	Enter the date.
Lead Poll Worker Initials	Initial here.
Start of Day Public Count	Enter the PUB COUNT before the first voter votes. The PUB COUNT can be found in printed device reports.
END OF DAY	
1. End of Day Public Count - eScan	After closing the polls, what is the eScan PUB COUNT? Read the eScan "Polls Closed" report.
2. End of Day Public Count - JBC	After closing the polls, what is the JBC PUB COUNT? Read from the JBC "Polls Closed" report, or read in the lower-right-hand corner of the JBC screen.
3. Number of Voters Checked In	What is the number of registered voters who signed in? This includes provisional voters.
4. Number of Ballots Voted eScan	Read eScan Daily Detail or Tally Report.
5. Number of Access Codes Voted JBC	Read JBC Access Code or Tally Report.
6. Number of Paper Provisional Ballots	Count paper provisional ballots or provisional ballot envelopes for paper ballots only, if applicable. Do not include provisional ballots voted on the eSlate Voting System. eSlate provisional ballots are part of the Access Codes Voted number.
7. Total Ballots Voted	Add lines 4, 5, and 6. Line 7 should match line 3.
Number of Unscanned Voted Ballots in Emergency Ballot Box	If the Emergency Ballot Box was used, and those ballots were not later scanned into the system, log the number of voted ballots in the box, and file those in the Voted Emergency Ballots envelope.
Comments	The Number of Voters Checked In and the Total Number of Ballots Voted should match (lines 3 and 7). If they do not, please explain. Refer to the JBC reports and the number of Access Codes Issued, Voted, Expired, and Canceled. If the Emergency Ballot Slot was used to place ballots in the Emergency Ballot Box, please explain.
Signature	Sign and date the document at the end of the day.

Hart Voting System Reconciliation Log - Election Day Consolidated

Attach this log to the Main Envelope. Complete one form per polling place.

Election _____ **Polling Place** _____ **Date** _____

OPEN POLLS

Initial the form, and enter the **Start of Day Public Count**.

Lead Pollworker Initials	
eScan Start of Day Public Count (from eScan) <small>(from the eScan "Polls Open Report")</small>	
JBC Start of Day Public Count (from JBC) <small>(lower right corner of JBC screen)</small>	

CLOSE POLLS

Enter the **End of Day Public Count**. Using polling place records, enter the **Number of Registered Voters Checked In**.

1. eScan End of Day Public Count (from eScan) <small>(from the eScan "Polls Closed Report")</small>	
2. JBC End of Day Public Count (from JBC) <small>(lower right corner of JBC screen)</small>	
3. Number of Voters Checked In <small>(including provisionals)</small>	

FROM eScan CONSOLIDATED TALLY REPORT

Consolidate MBBs from all voting devices in the polling place and print a Tally Report from the eScan.

4. Number of Ballots Voted <small>("Total Ballots" number from consolidated device Tally Report)</small>	
5. Number of Provisional Ballot Envelopes <small>(count all provisional ballot envelopes)</small>	
6. Total Ballots Voted <small>(add lines 4 and 5.)</small>	

Lines 3 and 6 (shaded boxes) should match each other. If they do not, please explain below in **Comments**.

Number of Unscanned Voted Ballots in the Emergency Ballot Box <small>(If applicable, explain in "Comments")</small>	
Comments: 	

Signature _____ **Date** _____

Hart Voting System Reconciliation Log – Election Day Explanation Consolidated

Field	More Information
START OF DAY	
Election	Enter information regarding the Election (e.g., November General Election 2002).
Polling Place	What polling place does this log pertain to (e.g., Dulles High School).
Date	Enter the date.
Lead Poll Worker Initials	Initial here.
Start of Day Public Count	Enter the PUB COUNT before the first voter votes. The PUB COUNT can be found in printed device reports.
END OF DAY	
1. End of Day Public Count - eScan	After closing the polls, what is the eScan PUB COUNT? Read the eScan "Polls Closed" report.
2. End of Day Public Count - JBC	After closing the polls, what is the JBC PUB COUNT? Read from the JBC "Polls Closed" report, or read in the lower-right-hand corner of the JBC screen.
3. Number of Voters Checked In	What is the number of registered voters who signed in? This includes provisional voters.
4. Number of Ballots Voted	Read Consolidated Tally Report printed from the eScan after reading other polling place device MBBs. This number DOES NOT include provisional ballots.
5. Number of Provisional Ballot Envelopes	Count all provisional ballot envelopes.
6. Total Ballots Voted	Add lines 4 and 5. Line 6 should match line 3.
Number of Unscanned Voted Ballots in Emergency Ballot Box	If the Emergency Ballot Box was used, and those ballots were not later scanned into the system, log the number of voted ballots in the box, and file those in the Voted Emergency Ballots envelope.
Comments	The Number of Voters Checked In and the Total Number of Ballots Voted should match (lines 3 and 7). If they do not, please explain. Refer to the JBC reports and number of Access Codes Issued, Voted, Expired, and Canceled. If the Emergency Ballot Slot was used to place ballots in the Emergency Ballot Box, please explain.
Signature	Sign and date the document at the end of the day.

Reconciliation Log – Early Voting with Hand Count Paper Ballots

Attach this log to the Main Envelope. Complete one form per polling place.

Election				Polling Place				
Date	Open Polls		Close Polls		Daily Summary Report			
	Lead Poll Worker Initials	Start of Day Public Count	End of Day Public Count	Total # Voters Checked In	# of Access Codes Issued	# of Access Codes Canceled	# of Access Codes Expired	# of Access Codes Voted
Cumulative Total Number of Voters From Combination Forms:					Total Number of Access Codes Voted:			

To Be Completed by Early Voting Ballot Board:

A	Total Number of Paper Ballots Voted:	
B	Total Number of Paper Provisional Ballots:	
C	Total Number of Access Codes Voted (from above):	
D	Sum of A + B + C:	
E	Cumulative Total Number of Voters From Combination Forms:	
F	Subtract E from D: (total should be zero)	
<i>Please attach affidavit to explain variance between voter totals and ballot/access code counts.</i>		

Reconciliation Log – Early Voting with Hand Count Paper Ballots Explanation

<i>Time</i>	<i>Field</i>	<i>More Information</i>
First Day of Early Voting	Election	Enter information regarding the Election (e.g., November General Election 2002).
	Polling Place	Enter the polling place name (e.g., Dulles High School).
Fields to fill out when opening and reopening polls.	Date	Current date
	Initials	Enter the Lead Poll Worker's initials for <u>each day</u> of Early Voting
	Start of Day Public Count	According to the JBC screen and JBC Network Configuration Report , record the Public Count (PUB COUNT) before adding any voters for the day. Complete this field <u>right after</u> printing the Network Configuration Report .
	End of Day Public Count	According to the JBC screen (PUB COUNT), how many voters voted <u>this day</u> . Complete this field after suspending the polls.
Fields to fill out when suspending polls.	Total # Voters Checked In	What is the number of voters that signed in? This number includes provisionals.
	# of Access Codes Issued, Voted, Expired, and Canceled	Copy these numbers from the Daily Summary Report . This explains any differences between the number of access codes issued and the number of voters checked in.
Early Voting Ballot Board	A. Total Number of Ballots Voted	Number of ballots included in the Early Voting Paper Ballot Box.
	B. Total Number of Paper Provisional Ballots	Count the number of paper provisional ballots. Do not include provisional ballots voted on the eSlate Voting System.
	C. Total Number of Access Codes Voted	This is the total number of Access Codes voted during the entire Early Voting period. Add the Access Codes voted each day to get the Total Number of Access Codes Voted.
	D. Sum of A+B+C	Add lines A, B and C
	E. Cumulative Total Number of Voters From Combination Forms	Total number of Voters signed in during the entire Early Voting period. Add the number of voters signed in each day to get the Cumulative Total Number of Voters.
	F. Subtract E from D	Subtract E from D – Total should be Zero

Reconciliation Log – Election Day (One JBC) with Hand Count Paper Ballots

Attach this log to the eSlate Main Envelope. Complete one form per polling place.

Election _____ Polling Place _____ Date _____

OPEN POLLS

Initial the form, and enter the **Start of Day Public Count** from the PUB COUNT on the JBC screen (bottom right hand corner, after PUB).

Lead Pollworker Initials	
Start of Day Public Count (from JBC) (lower right corner of JBC screen)	

CLOSE POLLS

Enter the **End of Day Public Count** from the PUB COUNT on the JBC screen (bottom right hand corner, after PUB). Using county records, enter the **Number of Voters Checked In**.

1. End of Day Public Count (from JBC) (lower right corner of JBC screen)	
2. Number of Voters Checked In (including provisionals)	

FROM ACCESS CODE REPORT/SUMMARY

Enter the **Number of Access Codes Issued, Voted, Expired, and Canceled** from the **Access Code (Summary) Report**.

3. Number of Access Codes Issued	
4. Number of <u>Access Codes Voted</u> (same as line 1)	
5. Number of Access Codes Expired	
6. Number of Access Codes Canceled	
7. Number of <u>Paper Ballots Voted</u> (including any paper provisional ballots)	
8. Total Number of Ballots Voted (add lines 4 and 7)	

The **Total number of Voters Checked In** and the **Total Number of Ballots Voted** should match (lines 2 and 8). If they do not, please explain below in **Comments**.

Comments:

Signature _____ Date _____

Reconciliation Log – Election Day (One JBC) with Hand Count Paper Ballots Explanation

Field	More Information
START OF DAY	
Election	Enter information regarding the Election (e.g., November General Election 2002).
Polling Place	What polling place does this log pertain to (e.g., Dulles High School).
Date	Enter the date.
Lead Poll Worker Initials	Initial here
Start of Day Public Count	Enter the PUB COUNT before the first voter votes. The PUB COUNT can be found in the bottom right-hand corner of the JBC Polls Open Menu Screen.
END OF DAY	
1. End of Day Public Count	After closing the polls, what is the PUB COUNT? The PUB COUNT can be found at the bottom right-hand corner of the JBC screen.
2. Number of Voters Checked In	What is the number of registered voters who signed in? This number includes provisional voters.
3. Number of Access Codes Issued	How many Access Codes were issued? You can find this information on the "Access Code (Summary) Report."
4. Number of Access Codes Voted	How many Access Codes were voted? This matches the JBC Public Count. You can find this information on the "Access Code (Summary) Report."
5. Number of Access Codes Expired	How many Access Codes expired? You can find this information on the "Access Code (Summary) Report."
6. Number of Access Codes Canceled	How many Access Codes were canceled? You can find this information on the "Access Code (Summary) Report."
7. Number of Paper Ballots Voted	This number should include any paper provisional ballots voted. You can find this information by counting the number of paper ballots in the paper ballot box and adding the number of paper provisional ballots voted.
8. Total Number of Ballots Voted	Add lines 4 and 7
Comments	The Number of Voters Checked In and the Total Number of Ballots Voted should match (lines 2 and 8). If they do not, please explain.
Signature	Sign and date the document at the end of the day.

eScan Reconciliation Log – Absentee Voting Explanation

Field	More Information
START OF DAY	
Election	Enter information regarding the Election (e.g., November General Election 2002).
eScan Serial Number	Enter the eScan serial number (on back panel of device).
Date	Enter the date.
Operator Initials	Initial here
Start of Day Public Count	Enter the PUB COUNT before the first voter votes. The PUB COUNT can be found in the "Election Identification Report" report that prints after starting up.
END OF DAY	
1. End of Day Public Count	After closing the polls, what is the PUB COUNT? The PUB COUNT can be found in the "Polls Suspended Report".
2. Number of Qualified Envelopes Processed	What is the number of ballot envelopes processed?
3. Daily Total Ballots Voted	How many Ballots were voted today? You can find this information on the "Daily Report", Daily Total, line. This number should match line 2.
Comments	Lines 2 and 3 should match. If they do not, please explain.
Signature	Sign and date the document at the end of the day.

Help Desk Call Log

Date:		Jurisdiction:		Help Desk Operator:	
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Time of Call: A.M. or P.M.		Polling Place Name:		Caller:	
		Precinct No.:		Phone:	

Description of Problem Reported:	Description of Support Steps and Problem Resolution:
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Technician Dispatched?	YES / NO
Technician Name:	
Technician Phone:	

Follow-up

Time of Call: A.M. or P.M.		Poll Worker Contacted:	
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Follow-up Feedback Received: (Recurrence of problem? Satisfaction with response to problem? Other observations/suggestions?)
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Log # _____
 (Log # comes from Help Desk)

Polling Place Troubleshooting & Observation Log

Date:		Jurisdiction:		Troubleshooting Tech:	
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Purpose of Call (circle one):	TROUBLESHOOTING	OR	OBSERVATION
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Time: a.m/p.m.	ARRIVAL:		Polling Place:		Poll Worker Contacted:	
	DEPARTURE:					

Documentation of Problem Reported/Observations:	Documentation of Support Steps & Problem Resolution: Not necessary for observations
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Original Equipment S/N:	Replacement Equipment S/N: Call Help Desk if replacing equipment
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Follow-up

Time: a.m/p.m.		Poll Worker Contacted:	
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Follow-up Feedback Received: (Recurrence of problem? Satisfaction with response to problem? Other observations/suggestions?)
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Procedure for Duplicating an Invalid Paper Ballot onto a Valid Paper Ballot

There should be teams of at least two people involved in the duplication process.

1. Ballots to be duplicated should be organized in precinct-number order.
2. Starting with the first ballot to be duplicated, select a blank ballot from the same election to match the precinct of the invalid ballot.
3. Place the two ballots side-by-side.
4. On the blank, valid ballot, record the serial number of the invalid ballot in any available whitespace.
Example: "Replacement of invalid ballot S/N_____."
5. On the original, invalid ballot, record the serial number of the blank, valid ballot.
Example: "Duplicated onto ballot S/N_____." Also record "Original" on this ballot.
6. Duplicate, by hand, the voter's choices from the original, invalid ballot onto the replacement ballot.
7. After all votes have been duplicated onto the replacement ballot, one person should call the choices recorded, while the other person verifies against the votes on the original ballot.
8. Place the original, invalid ballot into the Replacement Ballots Log Envelope.
9. Place the newly created, valid ballot in an envelope or bin to be scanned.
10. Repeat for each ballot to be duplicated.
11. The duplicated replacement ballots should be scanned as a separate batch. If using Ballot Now, note that these ballots are replacements in the **Scan Batch Notes** field.
12. Keep both sets of ballots and all paperwork as part of official election records.

