



**V**ERITY™

# administrator's guide



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# administrator's guide



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# introduction

## about this guide

This guide outlines the processes and steps for creating and deploying an election using the Verity Voting System. The particular software and device implementation may vary depending on your state and jurisdiction.

This document focuses on software administration for the Verity Build, Central, and Count applications. This guide is intended as an accompaniment to the Verity Build, Central, and Count training courses, as well as a practical user guide for software operation in an election setting. This document provides step-

by-step instructions for each of the essential software processes, including processes related to ballot proofing and media creation in Build, ballot scanning and resolution in Central, and tabulation and election reporting in Count. The *Verity Administrator's Guide* is designed to be used by election officials and staff in conjunction with the *Verity Support Procedures Guide* and *Verity Polling Place Operations Guide*. Together these documents will provide a comprehensive reference for all election-related activities.

## **objectives of the Verity software training courses**

Through the Verity Build, Central, and Count training courses associated with this document, trainees learn the procedures necessary to create and deploy a successful election with the Verity Voting System, with special attention to skills required to proof print ballots and write election media in Verity Build, scan and resolve ballots in Verity Central, and tabulate cast vote records and generate reports in Verity Count.

# election security

## security features of Verity

- ▶ Verity Voting utilizes the AAA (authentication, authorization, and audit) security framework.
- ▶ All Verity software has been tested by an independent test lab to ensure proper security.
- ▶ Verity uses a multi-layered authentication process.
- ▶ Verity software is tamper evident; any attempts to alter the function of the software would be evident when tested.



- ▶ Comprehensive audit logs are generated for all login attempts, data transfers, configuration changes, and errors. Logs are stored redundantly and securely.
- ▶ Vote records are stored redundantly for security and auditability, risk mitigation and disaster recovery.
- ▶ The integrity of the data is protected from power outage, power surge, magnets, and rough handling.

Verity incorporates the latest generation of voting technology features with tamper-evident controls and non-standard port connectors. Verity's secure architecture includes trusted software build verification – if an unauthorized change is detected, the voting device will not start. Verity also offers a paper-based voting option; Paper records can solidify trust that the software is working correctly through a paper check of vote records.

Verity's easy-to-use auditing dashboard allows election officials to filter and review cast ballot vote records and ballot images, and it heightens public confidence in the election process. Officials can filter cast vote records by accessing a precinct, polling place, device, vDrive, scan batch, contest, or other user-defined variables.

Verity adheres to the most current best practices in voting technology for application security, role management, intrusion detection, software validation and data validation. Verity's audit logging features allows for independent verification of the Verity system's operation and accuracy, contributing to higher voter confidence. Verity's superior information design includes efficient audit logs in plain language, and robust filters for ballot images and cast vote record data exports.

## election security recommendations

Verity provides state of the art voting system security. In addition to the security provided by the system, we also recommend jurisdictions follow standard election security procedures. Some of these include:

- ▶ Restricting access to voting equipment behind locked doors when not in use.
- ▶ Ensuring chain of custody when delivering, receiving or transporting any voting equipment or ballots.
- ▶ Never leaving voting equipment unattended when polling place is open.
- ▶ Never removing or tampering with seals except in controlled circumstances.
- ▶ Never issuing Access Codes or paper ballots until the voter has been properly qualified and there is an available voting booth.
- ▶ Reporting any suspicious activity to the local election officer.



## benefits of Verity

**Usability** – Verity makes election administration and voting easier, by providing user-friendly tools that reduce complexity and streamline productivity.

- ▶ Modern, intuitive, friendly software design.
- ▶ Innovative hardware that is easy to store, transport, set up, and operate.
- ▶ Usable, plain language ballot design and reporting.



**Adaptability** – Verity is designed to support any kind of election, and to be flexible enough to change as your needs change.

- ▶ Verity Election Office election management and the Verity Voting system follow a unique “ecosystem” approach that can respond to legislative changes and support new applications over the long term.
- ▶ Modular parts allow Hart to convert Verity devices from electronic to paper and back, as your jurisdiction’s needs evolve.

**Transparency** – Verity provides for open, secure, and easily auditable elections.

- ▶ Store images from Verity Scan scanning devices.
- ▶ Robust filters to print and export ballot images from Verity Central, with adjudication notes, if desired.
- ▶ Built-in Auditing Dashboard in Verity Count, to export Cast Vote Record data according to your specific needs.
- ▶ Usable, easy-to-read plain language audit reports from every software application.
- ▶ Easy, efficient methods to validate software on voting devices and desktop workstations.

## benefits of Verity accessible design

- ▶ Universal design – Verity allows all voters to vote on the same common platform, with a shared, common interface design.
- ▶ The right technology – By offering innovative hybrids of electronic and paper ballots, Verity provides maximum choice for the full spectrum of voters, regardless of ability or disability.
- ▶ True equality of access – the paper ballot output from Verity Touch Writer is the same paper ballot that all voters use, without “segregation” or difference.
- ▶ Superior usability – with the modern Design for Democracy interface and an enhanced Access Controller, Verity provides simplicity, satisfaction, efficiency, and confidence.
- ▶ Flexibility, physical access and privacy – Verity Touch Writer supports frontal and parallel wheelchair access, many choices for voter personalization and comfort (video-only; audio-only; adaptive devices), and best flexibility for placement in the polling place, so there are no bottlenecks (as with all-in-one devices) and maximum quiet and privacy.



## Verity hardware advantages

- ▶ Latest technology in smaller footprint means much easier transport, set up, use, and storage.
- ▶ Modular design approach delivers longer product life cycle; Hart can help customers adapt the equipment to stay current with changing needs.
- ▶ Verity has the flexibility to support all accessible voting needs and provides equality of access for all voters.

## Verity software advantages

- ▶ Intuitive, approachable interface makes training and utilization faster and easier.
- ▶ High degree of flexibility, allowing election data import from multiple customer sources and supporting any election type.
- ▶ Best-in-class security, privacy, transparency, and reporting features.



# Verity system components

## hardware components

**TIP:**

The particular quantities and types of voting equipment may vary depending on your jurisdiction.

### Verity vDrives

- ▶ In the Verity system, **vDrives** are used to transfer ballots from the Verity software to voting devices, and to transfer voted ballots to Verity software for tabulation.



vDrives are inserted into a standard USB port; each Verity voting device has its own vDrive.

## hardware components, *continued*

### Verity Touch Writer with Access

- ▶ Using **Verity Touch Writer**, voters mark digital ballots using a touch screen. After the voter has confirmed the selections, the voter prints the marked ballot on the attached printer. The voter then retrieves and casts the ballot.



Verity Touch Writer devices are compatible with **Verity Access**, which provides the voter with additional input options: buttons with scrolling wheel, headphones, and tactile button or sip-



and-puff devices. Verity Access can be docked within the Verity Touch Writer base or held in hand.

## hardware components, *continued*

### Verity Scan

- ▶ **Verity Scan** is a polling-place-based digital scanner for casting ballots. Scan can be used with hand-marked ballots or with those printed using the Touch Writer. Verity Scan allows the voter the opportunity to check and correct the ballot before casting. Verity Scan deposits scanned ballots into its ballot box for secure storage.



## hardware components, *continued*

### Verity Key

- ▶ **Verity Key** is a small security device that is programmed for each election. Verity Key is inserted into a USB port.



Verity Key is part of Verity's two-factor authentication process. Two-factor authentication requires each user to have something (a programmed Verity Key) and to know something (the passcode associated with the Verity Key). Both the user passcode and the Verity Key must be authenticated together.

Critical operations within the Verity Voting system require the Verity Key to be inserted and the passcode to be entered. Only when the Verity system authenticates the Verity Key and password will it allow the operation to continue.

## actions requiring use of the Verity Key

### Use in Verity Build

- ▶ Verity Keys are written for the current election in Verity Build. Writing Verity Keys requires the Operator or Media Creator user to know the Verity Build administrator password. When writing the Verity Key in Build, the user will assign application and device passwords for the election. See page 112 of this guide.

### Use in voting devices (*Touch Writer and Scan*):

- ▶ Verity Key is required to predefine Touch Writer and Scan with the proper polling place prior to deployment. The Verity Key is removed from the device after predefining, before the device is sealed and transported to the polling place. See the *Verity Support Procedures Guide* for predefining procedures.

### Use in Verity Central

- ▶ In Central, the Verity Key is required in order to import a signed election from Verity Build. A signed election is one that has been proofed and accepted in Build. The user must know the Verity Key application password for Central. See page 150 of this guide.

## **actions requiring use of the Verity Key,** *continued*

- ▶ A Verity Key is also required in order to create a Recovery vDrive in the event of a damaged or lost vDrive in Central. The user must know the Verity Key application password for Central. See page 222 of this guide.

## **Use in Verity Count**

- ▶ In Count, the Verity Key is required in order to import a signed election from Verity Build. A signed election is one that has been proofed and accepted in Build. The user must know the Verity Key application password for Count. See page 248 of this guide.
- ▶ Verity Key is also required in order to read the first vDrive for an election into Count. The user must know the Verity Key application password for Count. See page 286 of this guide.

## the Verity software suite

### Verity Layout

- ▶ In Verity Layout, you can import or enter election data and ballot translations, and record audio. Layout includes robust ballot design, layout, and proofing features, and is flexible to adapt as your needs change.

### Verity Build

- ▶ In Verity Build, you can import an election database, proof data, print ballots, and write vDrives. In Build, you will perform the final steps to prepare the ballot for your election.

### Verity Central

- ▶ Verity Central is a powerful application designed to manage central ballot scanning operations. Here you can scan, review ballots, resolve write-in votes and voter intent issues, and export cast vote records for tabulation.

### Verity Count

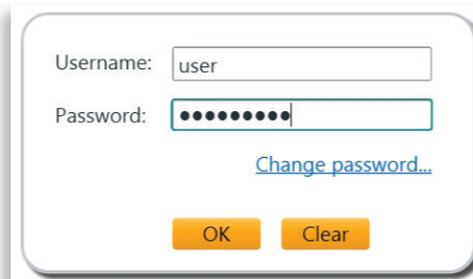
- ▶ Verity Count is Verity's comprehensive application for ballot tabulation. In Count, you will read vDrives, tabulate ballots, resolve write-in votes, print reports, and export election results.



# getting started with Verity

## logging in to Verity

Enter your User Name and Password, and then click **OK** to begin using Verity. Selecting the **Log Out** link in the upper right corner in any application will return you to this Login screen.



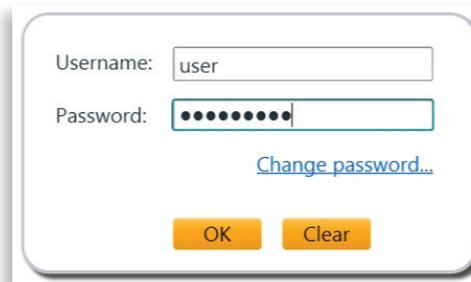
A screenshot of the Verity login interface. It features a white rounded rectangle with a thin grey border. Inside, there are two input fields: 'Username:' with the text 'user' and 'Password:' with ten black dots. Below the password field is a blue link that says 'Change password...'. At the bottom of the form are two orange buttons: 'OK' and 'Clear'.

## logging in to Verity, continued

**Note:** the first time you log in to a Verity workstation you will use a login supplied by Hart. You will then need to create your own unique login for subsequent use.

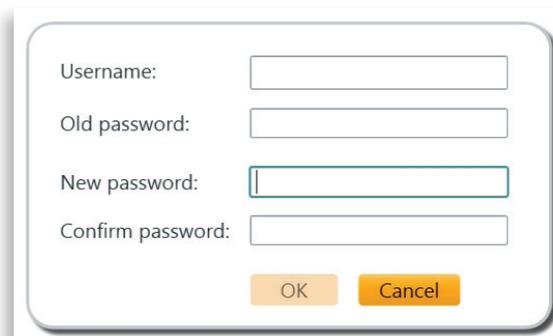
- ▶ The first time you log in, Verity will prompt you to create a new password.
- ▶ At any time, you can use the **Change password...** link on the Login screen to create a new password:

### 1 Select **Change password...** ▶



A screenshot of the Verity login interface. It features a 'Username:' field with the text 'user' and a 'Password:' field with masked characters. Below the password field is a blue link labeled 'Change password...'. At the bottom are two orange buttons: 'OK' and 'Clear'.

### 2 Enter your existing password, and then enter a new password. Enter the new password a second time to confirm, and then click **OK**. ▼



A screenshot of the password change dialog box. It contains four input fields: 'Username:', 'Old password:', 'New password:', and 'Confirm password:'. At the bottom are two orange buttons: 'OK' and 'Cancel'.

## the Verity home screen

The home screen is the first thing you will see after you log in to a Verity workstation. The home screen has several large buttons or 'tiles'.

- ▶ Selecting the **Home** link in the upper left corner in any application will return you to this screen.



- ▶ Depending on the workstation you are using, the tiles shown will vary; below, for example, is the home screen of a Verity Build workstation. In this case, clicking the leftmost tile will open the Verity Build application.



- ▶ In the bottom right corner is the **Shutdown** button. Clicking this button will shut down the Verity computer workstation.

## the Verity home screen, *continued*

In addition to the application tile(s) (Layout, Build, Central or Count), there are three tiles labeled Desktop, Manage, and Users. Clicking these tiles will open the Desktop, Manage, or Users applications. These three applications are available on all workstations.\*



The **Desktop** application allows you to set date and time for the Verity workstation, export file hashes, and enter a passcode to access the Windows operating system.



The **Manage** application (*\*available only on server workstations, see page 59*) allows you to create, open or manage your elections. Manage is also used to archive an existing election and restore an archived election.



The **Users** application allows you to create and manage users and set user privileges.

## the Desktop application



The **Desktop** application contains three tiles that allow you to set the time, export file hashes, or access the Windows operating system. To access the Desktop application, click the Desktop tile on the Verity home screen.



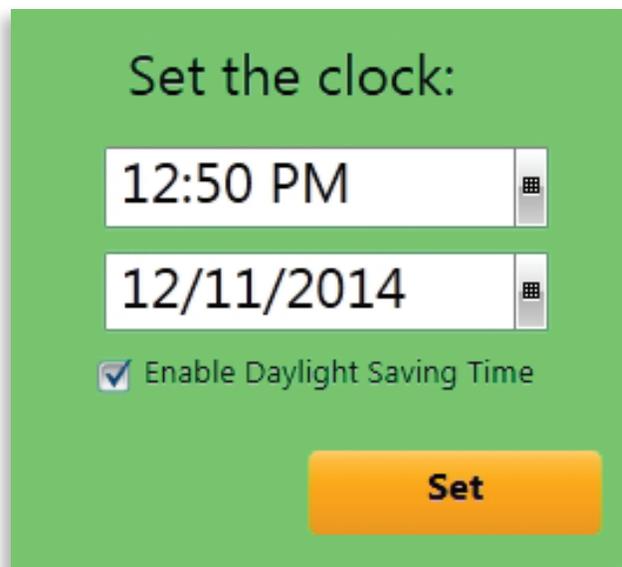
- ▶ **Setting the clock:** Setting the workstation time and date here will affect all Verity applications installed on the workstation.
- ▶ **Exporting file hashes:** Verity Desktop allows Administrator users to export file hashes to a removable drive so that a file hash test can be performed. In a file hash test, the exported data is compared against a trusted build of the software, to confirm that no unauthorized changes were made to the software components.
- ▶ **Accessing the operating system:** For security purposes, a Verity workstation normally operates in what is known as "Kiosk" mode, in which the Windows desktop is not accessible, and the user only has access to the Verity applications installed. To access the Windows desktop, you must request a code from Hart.

## the Desktop application, *continued*

### Setting the system clock and date

- 1 Under **Set the clock**, you can update the time and/or date by clicking the time or date field and typing in the desired value.
- 2 Check the box to enable Daylight Savings Time, if desired.
- 3 Click **Set**.

**Note:** *When setting the time, you must include AM or PM.*



Set the clock:

12:50 PM

12/11/2014

Enable Daylight Saving Time

Set

the Desktop application, *continued*

## Exporting file hashes

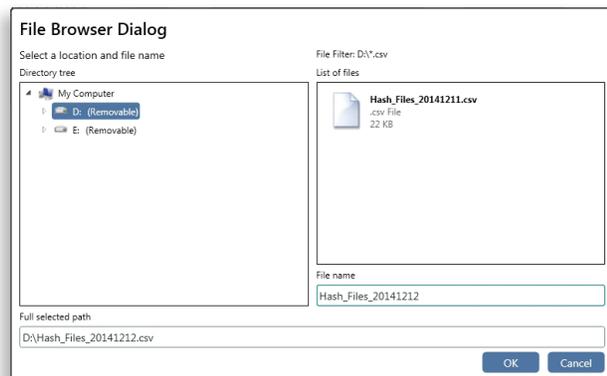
**TIP:**

File hashes are used to verify that the Verity software has not been tampered with in any way since it was installed. For information about verifying file hashes, see the following page. For instructions on exporting file hashes on devices, see page 36.

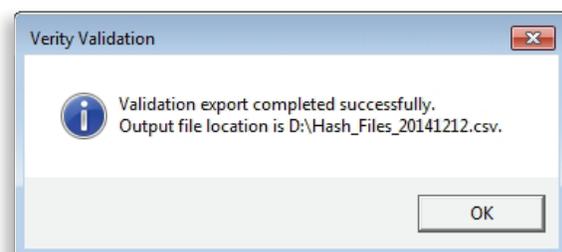
**1** Under **Export file hashes to a removable drive**, click **Export**. ▶



**2** Browse to the location where you would like to save the files, and then click **OK**. ▶



**3** You will see the message **Validation export completed successfully...**; click **OK**. ▶



## about file hashes

Verity Desktop allows Administrator users to export file hashes to a removable drive. This provides a means of verifying, using hash testing, that the software installation is identical to the certified software. The generation of hash files is a reproducible method of reading a data stream to produce a number (the “hash value”) that serves as a digital “fingerprint” of the data. Hash testing is a common method used to verify the integrity of installed software, and may be used to confirm that the voting system software running on your workstations matches the software as certified by the NASED or the EAC.

To conduct hash testing, a third party program may be used to generate the hash value for installed software, and the hash value can be compared to that of the original source data to confirm that it has not been altered or corrupted. General directions for finding and downloading a third-party hash value generation tool and using that tool to verify Hart Voting System software application hash values are outlined below.

This information is being shared as a courtesy of Hart InterCivic. Contact your Secretary of State’s office for additional information concerning hash testing requirements in your jurisdiction. Consult your Information Technology department for assistance with hash tools.

For further information, see the Verity Knowledge Base Article *Hash Testing for Installed Software*.

## exporting file hashes on Verity voting devices

As with Verity software workstations, you can also export file hashes from the Touch Writer and Scan voting devices themselves.

- 1** On a non-Verity workstation, prepare a standard USB flash drive (*do NOT use a vDrive*): on the USB flash drive, create a folder named "**HartValidation**".
- 2** Set up the voting device (Touch Writer or Scan) and connect it to AC power. Open the vDrive compartment. The voting device should not have a vDrive or Key inserted.
- 3** Insert the USB flash drive into one of the two USB ports inside the vDrive compartment on the voting device.
- 4** Press the red button on the back of the device to power it on. Look for the Verity Initialization screen. ▶



## exporting file hashes on voting devices, *continued*

**5** When you see the Verity Initialization screen, press and hold the blue Validation button inside the vDrive compartment.

**6** Hold the button down until you see the message **“Hash values have been calculated and stored”**. This may take some time.

**Note:** *if you see the message **No vDrive Found**, this means that either a) the HartValidation folder was not found on the inserted USB drive, or b) the Validation button was not pressed/held as directed. Verify the correct folder is present on the USB drive, restart the device and repeat steps 4-6.*

**7** Remove the USB drive. Repeat the process with fresh USB flash drives for any additional devices.

**8** For information on comparing exported Hash files to the trusted software build, see the Verity Knowledge Base article *Hash Testing for Installed Software*.

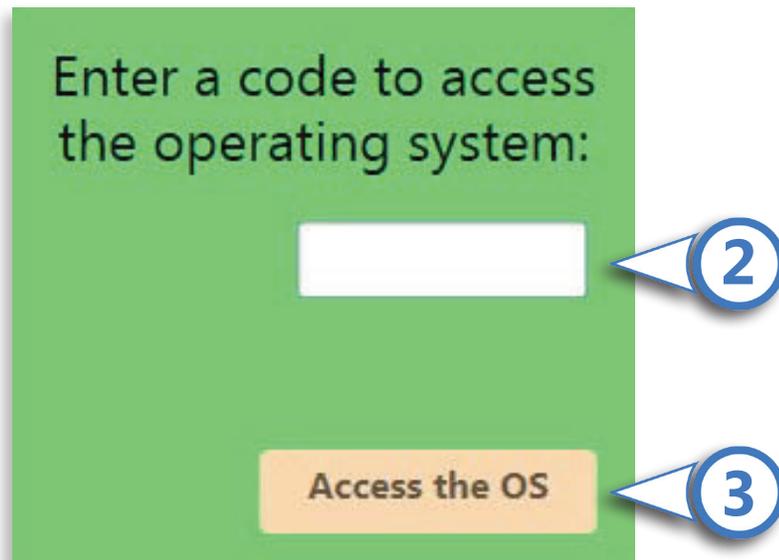
## the Desktop application, *continued*

**TIP:**

As a security measure, during normal operation, the computer desktop is not available while the Verity software is running. This ensures that access to election data is managed only through secure access to the Verity applications.

### Accessing the Windows operating system

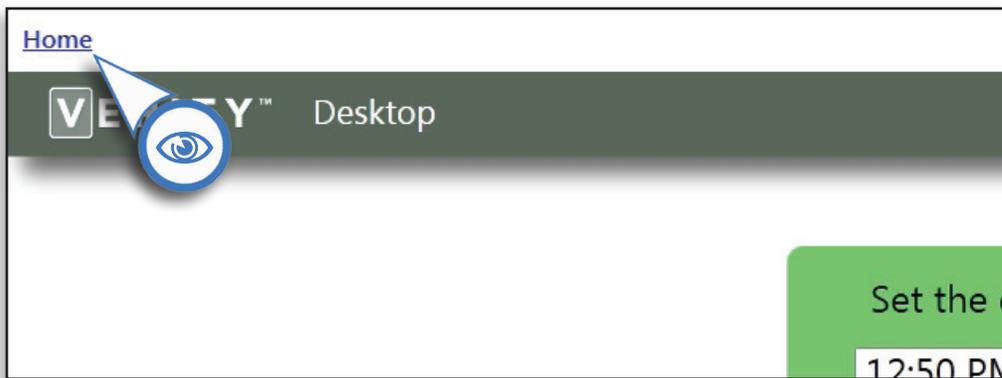
- 1 Contact Hart Support (1.866.ASK.HART) and request a code.
- 2 Under **Enter a code to access the operating system**, type in the code you are issued.
- 3 Click **Access the OS**.



## the Desktop application, *continued*

### Returning to the Verity home screen

- ▶ To return to the Verity home screen from any application, click **Home** in the upper *left* corner.



### Logging out of Verity and returning to the Verity login screen

- ▶ To log out of Verity and return to the Verity login screen from any application, click **Log Out** in the upper *right* corner.



## the Manage application

In the **Manage** application, administrators can add, import, export, rename, delete, archive, and restore elections created in the Verity system. The Manage application is available only on server workstations (see page 59).

### Accessing the Manage application



► From the Verity Home page, click the **Manage** tile.

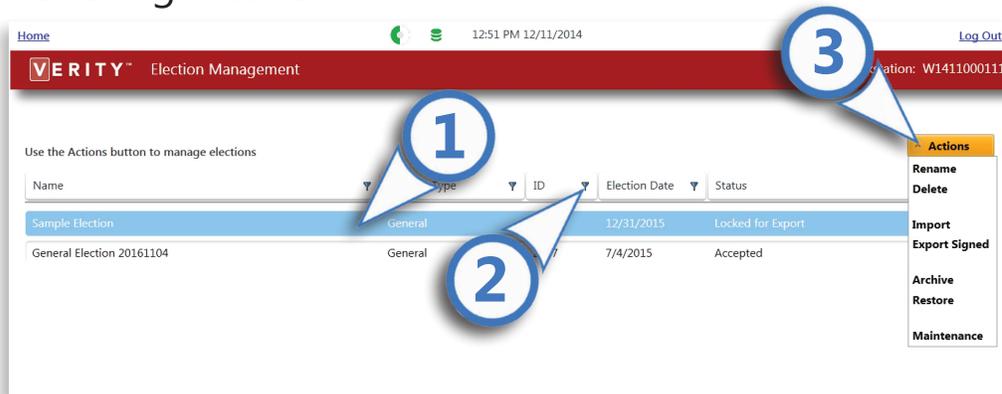
The Manage application is context-sensitive, meaning the management features available on each Verity workstation will vary depending on the Verity application installed. For instance: on a workstation equipped with Verity Layout, you can add a new election; on a Verity Build workstation, you can import an election; on a Verity Count workstation, you can import a signed election.

You will use the Manage application throughout the election process to manage the transfer of the election database from one Verity workstation to another; each step will be covered in this guide in the appropriate sequence.

## the Manage application, *continued*

### Using the Manage application

**1** Clicking an election name from the list selects an existing election.



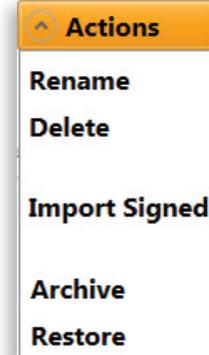
**2** Clicking one of the filter icons  in one of the column headers filters the list by category.

**3** Clicking **Actions** allows you to choose a desired action for the selected election. Available actions vary depending on the applications installed on the workstation. To the right are examples of actions available for a Build workstation and for a Count workstation.

Build workstation



Count workstation



## the Manage application, *continued*

The following **Actions** may be available in the Manage application, depending on the workstation:

- ▶ **Add:** creates a new election (only available on a Layout workstation).
- ▶ **Copy:** creates a copy of an existing election (only available on a Layout workstation).
- ▶ **Rename:** Renames the selected election. The election ID does not change.
- ▶ **Delete:** Removes the selected election from the election list and the workstation.

**Note:** *Hart recommends that you archive all elections before deleting.*

- ▶ **Import:** Imports an election.
- ▶ **Import Signed:** Imports a signed election (only available in Central and Count). A signed election is one that has been accepted in Verity Build. Requires **Verity Key**.
- ▶ **Export Signed:** Exports the finished and accepted election (only available in Build). Signed elections are used by Count and Central.
- ▶ **Archive:** Creates an archive copy of the election. The election status does not change.
- ▶ **Restore:** Restores the archived election from saved records without changing the election status.

## best practices: archiving elections

It is important to archive your election in Verity regularly to provide protection against the loss of important data in the event of damage to the computer hard drive. In addition, archiving your election regularly provides a convenient method of restoring previous states of an election so that changes can be made if necessary. Using the Manage application, you can archive any election in its current state to removable USB media, and restore the archived version if needed.

An election can be archived at any time. Examples of *some* key archive points are noted below:

- ▶ Before importing election data in Layout
- ▶ Before an election changes status:
  - Before Locking an election for export in Layout
  - Before Accepting an election in Build
- ▶ After Accepting an election in Build
- ▶ Before performing Manual Vote Recording in Count
- ▶ After completing tabulation in Count

## the Manage application, *continued*

### Archiving elections in the Manage application

1 Open the Manage application.



2 Insert a removable USB media into an available port on the workstation.

The screenshot shows the VERITY Election Management application interface. The top navigation bar includes "Home", "12:51 PM 12/11/2014", and "Log Out". The main header displays "VERITY Election Management" and "Workstation: W1411000111". Below the header, there is a table of elections with columns for Name, Election Type, ID, Election Date, and Status. The first row is highlighted in blue. A callout bubble with the number "3" points to the "Sample Election" row. To the right of the table, an "Actions" menu is open, showing options: Rename, Delete, Import, Export Signed, Archive, Restore, and Maintenance. A callout bubble with the number "4" points to the "Archive" option.

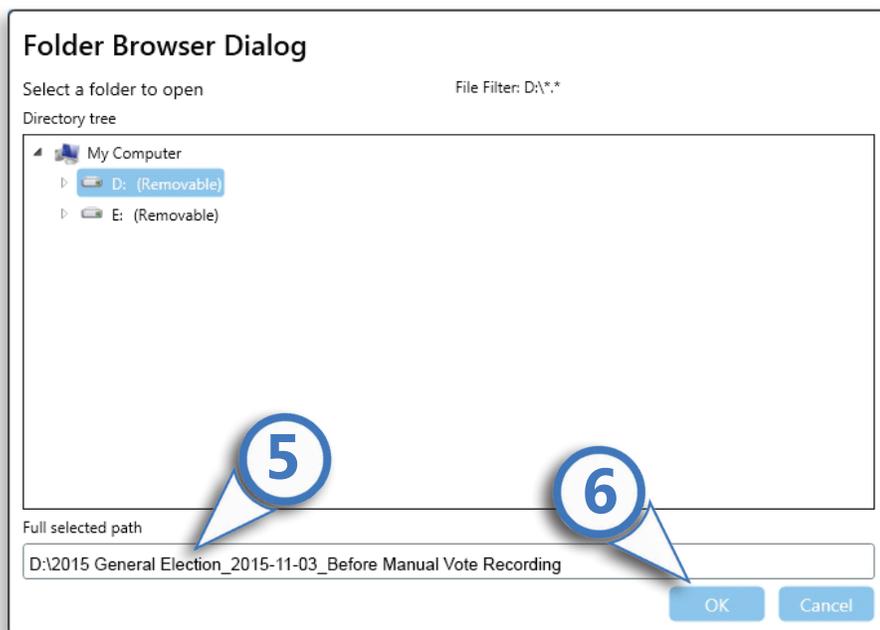
Name	Election Type	ID	Election Date	Status
Sample Election	General	19193	12/31/2015	Locked for
General Election 20161104	General	2967	7/4/2015	Accepted

3 Select the election to be archived.

4 Under the Actions menu, select **Archive**.

## the Manage application, *continued*

**5** Browse to the location of the removable media where you would like to save the file. Enter a name for the archived election. The name should include the Election name, date, and current state of the election (i.e. Open, Locked, or Accepted, before MVR, etc.).



**6** Click **OK**. The election will be saved in its current state in the location you have chosen.

**7** Label the USB media clearly with the election name, date, and election status.

## the Manage application, *continued*

### Restoring an archived election

To restore an archived election, the same election cannot already exist in the Manage application.

- 1 Open the Manage application.
- 2 Insert the removable USB media containing the archived election to be restored.
- 3 Under the Actions menu, select **Restore**.
- 4 Browse to the location on the removable USB media and select the election ZIP file.
- 5 Click **OK**. The archived election now appears in the Manage application.
- 6 To load the archived election, select the election in the Manage application, and then click **Open**.

## The Disk and RAID indicators

At the top center of the Verity workstation screen are two icons, the Disk icon (A) and the RAID icon (B).



### The Disk icon

In configurations with only a single workstation, this icon represents the available hard drive space on that workstation. In configurations with two or more networked workstations, the icon represents the hard drive space on the server, or primary, workstation. If server hard drive space is low, archival of older election data may be required before creating or editing a new election.



More than 20% of the free hard drive space remaining.



WARNING: remaining hard drive space is limited to between 5%-20%. Archive and delete some elections to increase available free space.



WARNING: remaining hard drive space is less than 5%. You must archive and delete some elections before continuing to use the software.



Unable to determine the amount of free disk space. Please contact Hart Support.

## The Disk and RAID indicators, *continued*

### The RAID icon

Hovering the mouse over the RAID icon displays the status of the RAID array on the workstation. RAID is an acronym for Redundant Array of Independent Disks; Verity utilizes RAID technology to store data on the server using multiple disk drives to provide redundancy and improve performance. The RAID icon indicates whether both independent drives are functioning properly, and whether they are synchronized. If the RAID drives become desynchronized, Verity will automatically rebuild them. If one drive fails, you can continue to use the system, however you will need to contact Hart for a replacement.



The hard drive array is working correctly



WARNING: The hard drive array is repairing itself. The system may run slowly while it is being repaired.



WARNING: One of your hard drives is not functioning. Please contact Hart Support.



Unable to determine the status of the hard drive array. Please contact Hart Support.

## the Users application



The **Users** application allows an administrator-level user to add users and define user roles, disable or remove users, and manage user rules. Administrators can also manage user passwords, and users can update their own passwords. To open the Users application, click the **Users** tile on the Verity home screen.

### Adding a user and defining user roles

#### 1 Click Add. ▼

Home 12:52 PM 12/11/2014 Log Out

**VERITY™** User Management Workstation: W1411000111

Manage users with the grid below.  
Expand a user entry to assign roles.

Username ▼	Set New Password ▼	Account Locked? ▼
user		<input type="checkbox"/>

**Set rules that apply to all users:**

- Lock accounts after  failed login attempt(s)
- Allow locked accounts to login after  minute(s)
- Force password change every  month(s)
- Log idle user out after  minute(s)

**Password complexity rules**

- Must contain at least one upper-case character
- Must contain at least one numeric digit
- Must contain at least one special character
- Must be at least 6 characters long

**1**

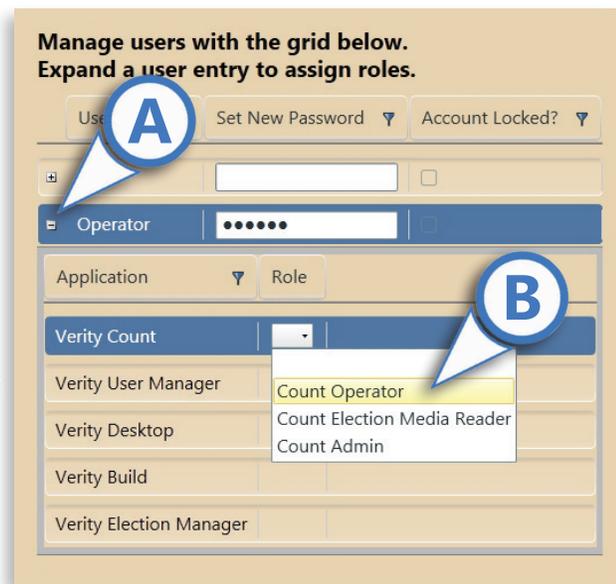
Add Delete Save

## the Users application, *continued*

3 Type a User Name (A) and Password (B). ▼



4 To define user roles, expand a user profile by clicking the + (A) and use the drop down menu to assign the user a role for each of the Verity applications (B). For a description of each type of user role, see page 51. ►



5 Click **Save** in the bottom right corner.

## User Roles in Verity

The specific user roles available vary for each Verity application. Each user role has specific privileges, or abilities, within that application. Below are the user roles available for each application, and the privileges available to each user role. In addition to performing the actions themselves, Administrator users can also authorize actions not available to other user roles. For example, an Administrator can give on the spot authorization for an Operator user to perform Manual Vote Recording in Count.

### Verity Build user roles

- ▶ **Viewer:** Can open elections, preview ballots, and print reports for proofing purposes. Viewers cannot modify content, configurations, or elections.
- ▶ **Media Creator:** Can perform all Viewer tasks. In addition, can create Keys and vDrives, and print ballots.
- ▶ **Operator:** Has full access to Verity Build; only one Operator can open a given election at a given time.

### Verity Central user roles

- ▶ **Viewer:** Can open elections and tasks, and print and export reports. Cannot modify content, configurations, or elections.
- ▶ **Resolution Board:** Can open and view ballots with voter intent issues to determine validity, resolve ballots, and run reports.

## User Roles in Verity, *continued*

### Verity Central user roles, *continued*

- ▶ **Operator:** Has full access to Verity Central, including the ability to review ballots with voter intent issues, change election status, restore elections, and perform all tasks for ballot scanning and generating reports.
- ▶ **Administrator:** Has all of the abilities of Operators. In addition, Administrators have additional access for administrative setup and closing polls.

### Verity Count user roles

**Note:** *In Count, only one Administrator or Operator user can be logged at a given time.*

- ▶ **Election Media Reader:** Can open elections and tasks to read vDrives.
- ▶ **Operator:** Can open and manage elections and tasks, generate reports, and update polling place data, and precincts. Users can import and export data, resolve ballots, and access the audit dashboard. Users cannot manually record votes.
- ▶ **Administrator:** Users have unrestricted access to all aspects of Verity Count. Can manually record votes, access all aspects of reports and the auditing dashboard, and import and export data.

## the Users application, *continued*

### Disabling a user account

**1** Check the box next to the user name, under the **Account Locked** column.

**2** Click **Save** in the bottom right corner.

**Manage users with the grid below.  
Expand a user entry to assign roles.**

Username ▼ Set New Password ▼ Account Locked? ▼

user

Application	Role
Verity Count	Count Admin
Verity User Manager	UserManager Admin
Verity Desktop	Desktop Admin
Verity Build	Build Operator
Verity Election Manager	ElectionManager Admin

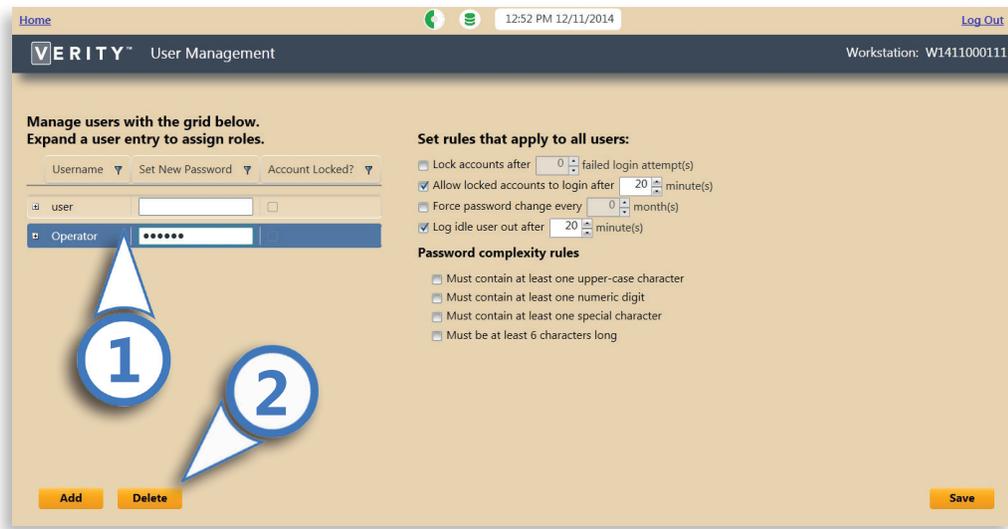


**Note:** *this feature may be useful if an account will be used again, but only at specific times.*

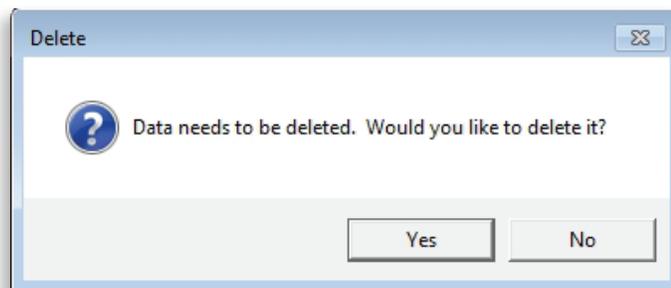
## the Users application, *continued*

### Removing a user account permanently

- 1 Click a user account to select it. ▼
- 2 Click **Delete** on the bottom of the screen. ▼



- 3 Click **Yes** to confirm. ▼



- 4 Click **Save** in the bottom right corner.

## the Users application, *continued*

### Setting rules that apply to all users

- 1 Set the number of failed login attempts before the account is locked.
- 2 Set the period of time a locked account will remain locked.
- 3 Set the frequency with which passwords must be changed.
- 4 Set the idle user log out time.
- 5 Set rules regarding password complexity.
- 6 Click **Save** in the bottom right corner.

**1** **Set rules that apply to all users:**

- Lock accounts after  failed login attempt(s)
- Allow locked accounts to login after  minute(s)
- Force password change every  month(s)
- Log idle user out after  minute(s)

**2**

**3**

**4** **Password complexity rules**

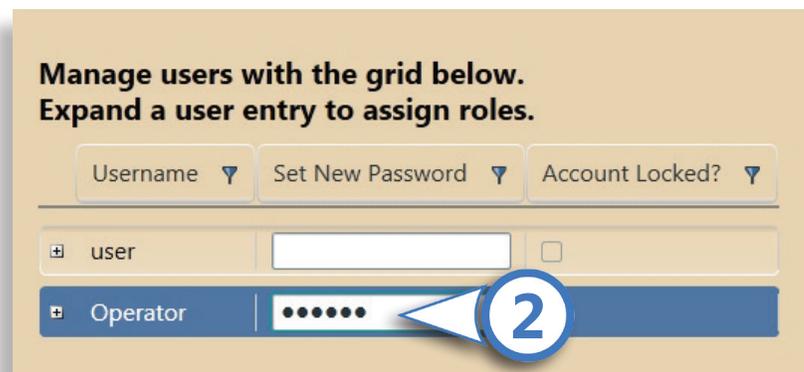
- Must contain at least one upper-case character
- Must contain at least one numeric digit
- Must contain at least one special character
- Must be at least 6 characters long

**5**

## the Users application, *continued*

### Changing user passwords

- 1 Click in the password field next to the user name.
- 2 Type the desired password.



- 3 Click **Save** in the bottom right corner.

### best practices: user passwords

- ▶ Passwords should contain at least 6 characters.
- ▶ Passwords should contain both numbers and letters.
- ▶ Passwords should contain both uppercase and lowercase letters.

## managing passwords in Verity

The Verity voting system requires the use of passwords and passcodes to ensure security throughout the election definition, voting, ballot processing, and tabulation processes. In addition to the user passwords required to access the Verity software applications discussed on the previous pages, there are a number of other passwords and passcodes that the system administrator must create and manage.

- ▶ In Build, you must create separate device passcodes for administrators, maintenance and warehouse personnel, and poll workers. These passcodes allow you to manage the ability of staff to access different menus and functions on the devices themselves. (See page 112.)
  - **Poll worker passcodes** give access to poll workers to create access codes, print reports, and perform certain other actions related to the voting process.
  - **Maintenance passcodes** give access to warehouse personnel and technical support personnel to predefine and calibrate devices, and change certain device settings.
  - **Administrator passcodes** allow administrators to change certain device settings, such as changing ballot rules.
- ▶ In addition, you will create additional device passcodes for opening, suspending, and closing polls for each voting type in the election. (See page 112.)

*continued on next page*

## managing passwords in Verity, *continued*

- ▶ Finally, you must create and manage the passcodes associated with the Verity Key, including an administrator passcode for the Key itself, and device and application passcodes. (see page 134)
  - The Key administrator passcode is required to write the Key for each election. It cannot be recovered if forgotten.
  - Device and application passcodes are used, in conjunction with the physical Key itself, to authorize certain actions, such as predefining devices, and importing signed elections from the Build workstation.
  - A complete list of actions requiring the use of the Verity Key is found on page 24.

It is important to carefully manage these passwords and passcodes to ensure that the authorized personnel know their required passcodes when needed. Log all passcodes in a secure location and limit access.

It is important to note that device passcodes can be unique, or shared across functions (e.g., you can use the same passcode for opening polls across all voting types, or create a unique passcode for each). You can create a new set of passcodes for each election, if desired. **Remember that creating unique codes increases security, but also requires more careful management.**

## networking and servers

Depending on your jurisdiction's particular implementation, you may have one or more networked workstations for each of the Verity software applications. For example, you could have a Build **server** workstation with a networked Build **client** workstation. A server-client configuration consists of two or more workstations for a single application, with all data for that application stored on the server workstation. This allows multiple users to work with the application simultaneously.

However, there are restrictions on the number and type of users (administrators, operators, etc.) that can access a networked setup simultaneously. For example, in a networked Count configuration, there can be only one Administrator or Operator user logged in at any given time, yet there can be multiple Media Reader users logged in simultaneously. These restrictions reflect the software privileges associated with each user role. For a description of the software privileges accorded to each user role, see page 51. Examples of possible network configurations are given on the following pages.

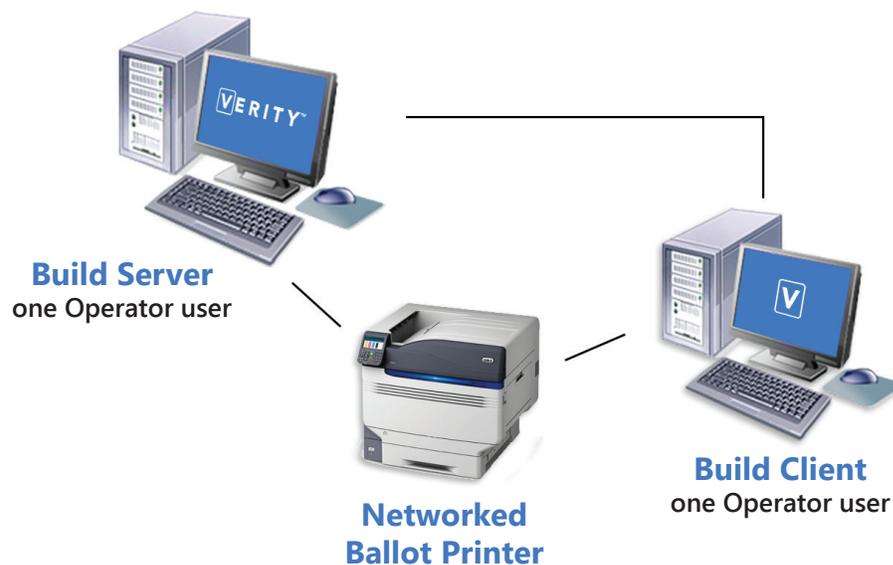
## sample network configurations

The configurations illustrated below are samples only; your jurisdiction's configuration may vary, and the below diagrams are not intended to illustrate all possible configurations.

**Note:** *an individual user can only be logged into one workstation at a time.*

### Sample configuration #1

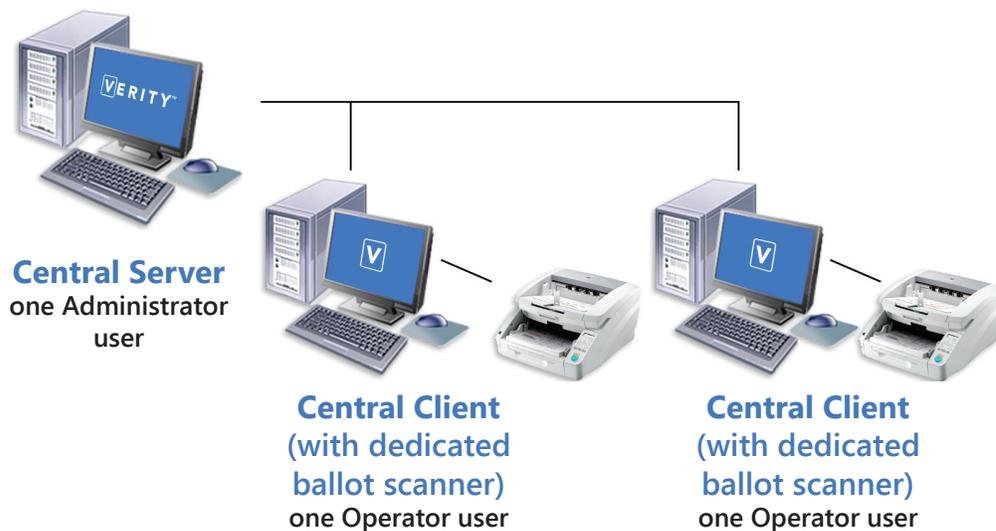
Below is a sample configuration with one Verity Build server and one Build client, with a networked ballot printer. In the sample configuration shown, two Operator users can be logged in simultaneously. Print jobs can be sent from either workstation.



## sample network configurations, *continued*

### Sample configuration #2

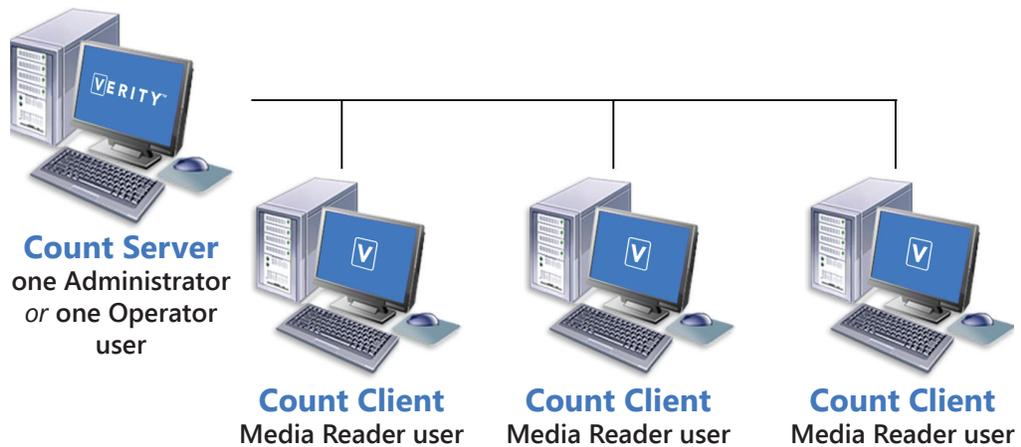
Below is a sample configuration with one Verity Central server and two Central clients, each with a dedicated ballot scanner. In the sample configuration shown, one Administrator user and up to two Operator users can be logged in simultaneously.



## sample network configurations, *continued*

### Sample configuration #3

Below is a sample configuration with one Verity Count server and three Count clients. In the sample configuration shown, one Administrator or Operator user and up to three Election Media Reader users can be logged in simultaneously.







# verity **build**



---

**version 1.0**

# verity build

## 1 getting started

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## 1

# getting started

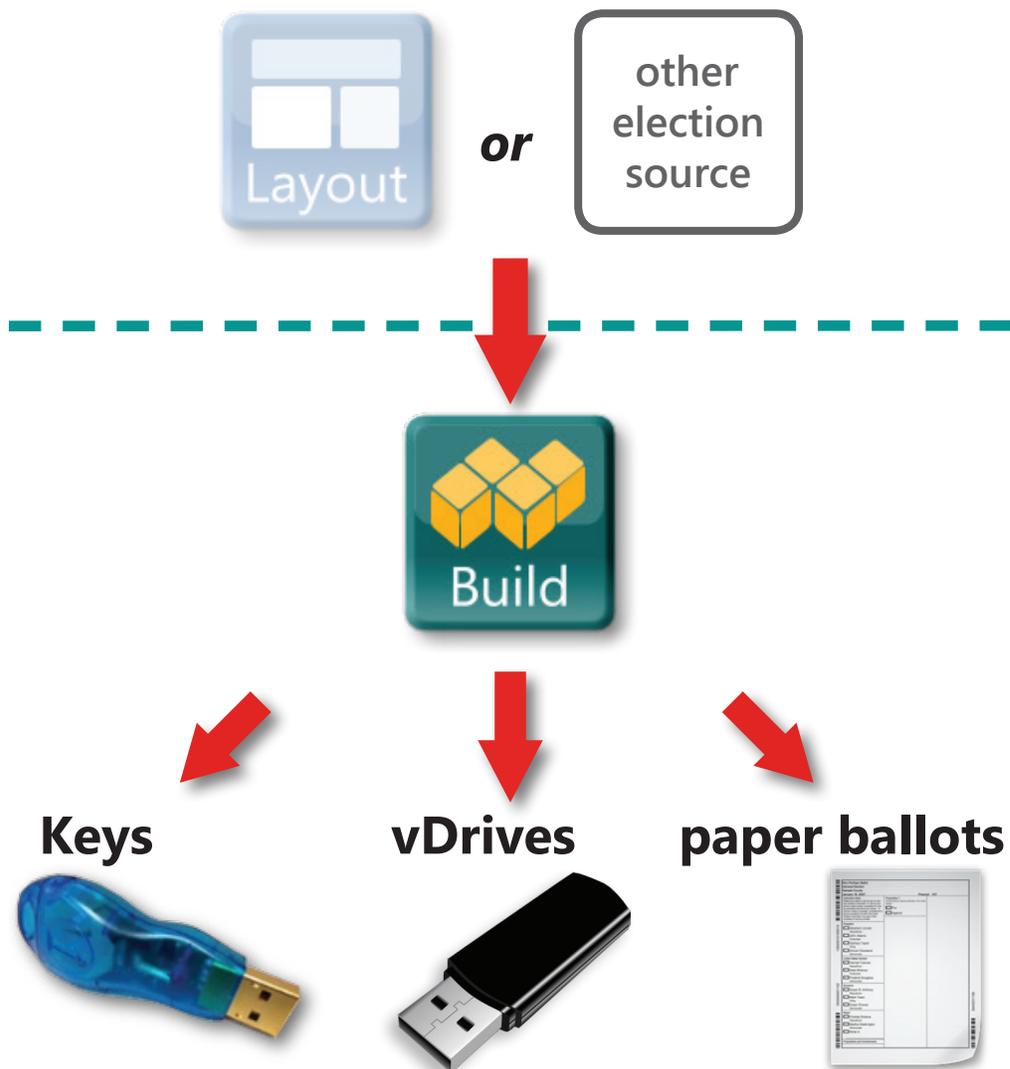
## verity build: an overview



In Verity Build, you will proof your ballot data and ballot layout, configure the settings for your election, and print ballots, write vDrives, and write Verity Keys. Ballot data and layout can be imported from Verity Layout, or from another source that you use to create your election.

## verity build: an overview, *continued*

### Verity Build workflow



## importing an election on the Build workstation

To open an election in Verity Build, you first must import the election in the Manage application on that workstation (\*Manage is available only on server workstations, see page 59).

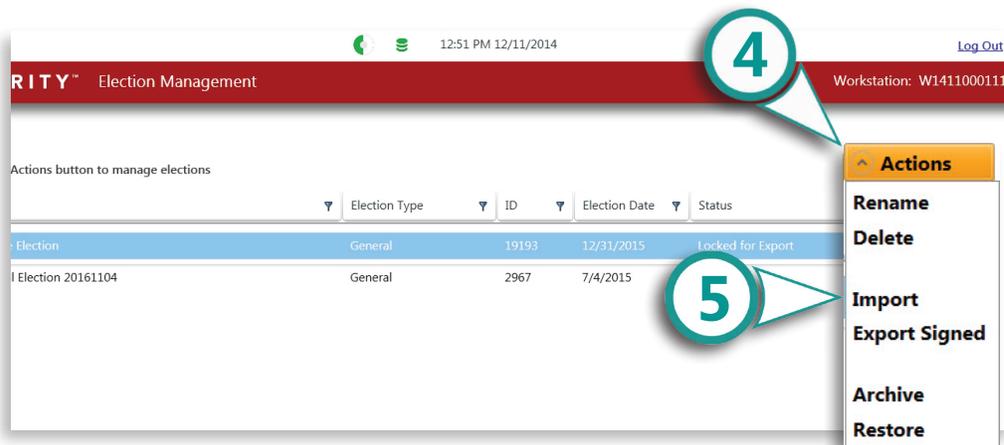
**Note:** *Before importing any elections, you can first set basic election preferences for Build, if desired (see page 77). These preferences will be applied as defaults to any imported election.*

- 1** Insert the removable media (USB) containing the election into an available USB port on the Build workstation computer.
- 2** If you have already launched Verity Build, click the **Home** link in the upper left corner to return to the Verity Desktop.
- 3** On the Verity home screen, click the **Manage** tile.



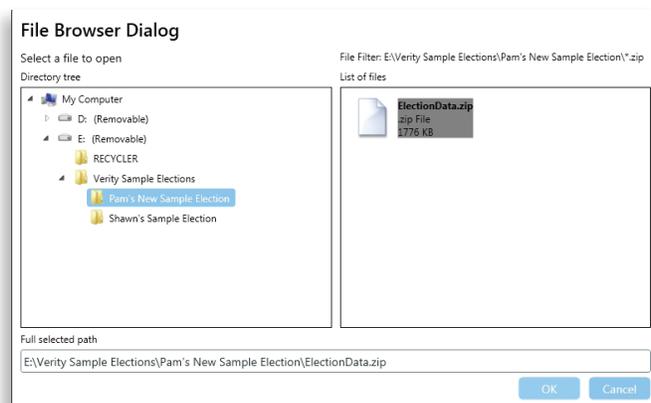
## importing an election on the Build workstation, *continued*

**4** In the Manage application, click **Actions**.



**5** Select **Import** from the Actions drop-down menu.

**6** Browse to the location of the removable media and select the election to import. Click **OK**.



## importing an election on the Build workstation, *continued*

- 7** Confirm the election to be imported is correct, and then click **Yes**.

**Election Description :Sample Election**  
 Election ID:19193  
 Election Date :12/31/2015 12:00:00 AM

Election Totals		
Precincts	.....	5
Districts	.....	4
Ballot Texts	.....	0
Contests	.....	7
Options	.....	32
Audio	.....	82
Languages	.....	1



Is this the election you would like to import ? Yes No

- 8** Click **Home** in the upper left corner to return to the Verity Home screen.

[Home](#) 🔄 📄

V E R I T Y
™
Election Management

Use the Actions button to manage elections

Name
▼ Election T

## about election status

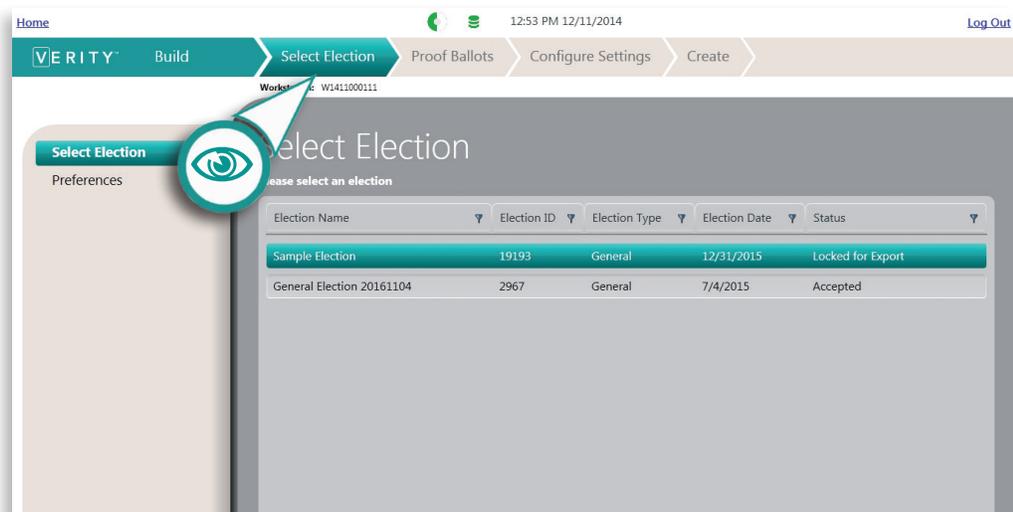
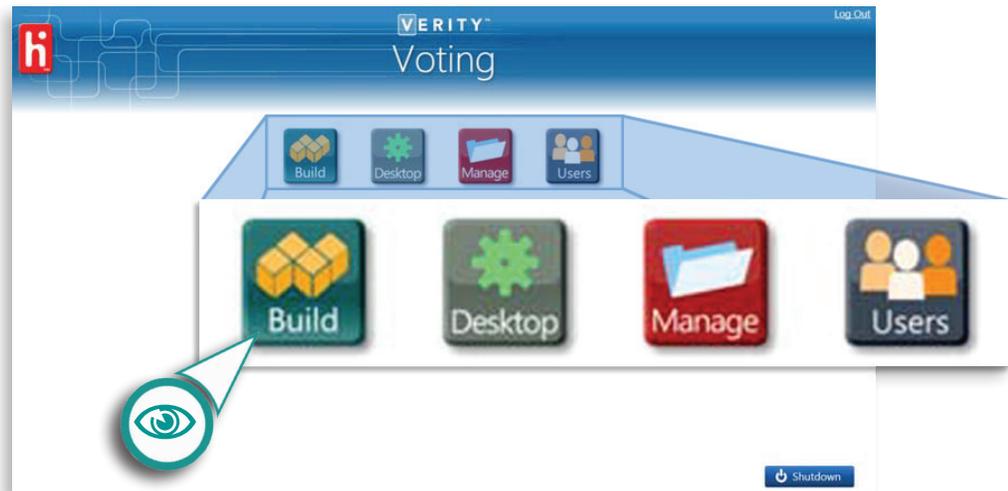
The status given for each election in the Manage application indicates at what point the election is in the election definition process.

- ▶ **Open for Editing:** The election is in the process of being created and can be edited in Verity Layout.
- ▶ **Locked for Export:** The election has been created using Verity Layout (or other election definition software) and is now ready to import into Verity Build.
- ▶ **Accepted:** The election has been proofed in Verity Build and you can now print ballots and create vDrives and Keys. Election is now ready for export to Verity Central or Verity Count. An election that has been accepted in Build is also termed a "signed" election.

A **signed** election has been accepted in Verity Build. Importing a signed election on a separate Verity Central or Count workstation requires the user to insert a Verity Key for that election (created in Build) and also enter the Verity Key application password.

## opening the Build application

Log into the Verity workstation. On the Verity home screen, click the Build application tile to open Build. The Build application contains four tabs: **Select Election**, **Proof Ballots**, **Configure Settings**, and **Create**.

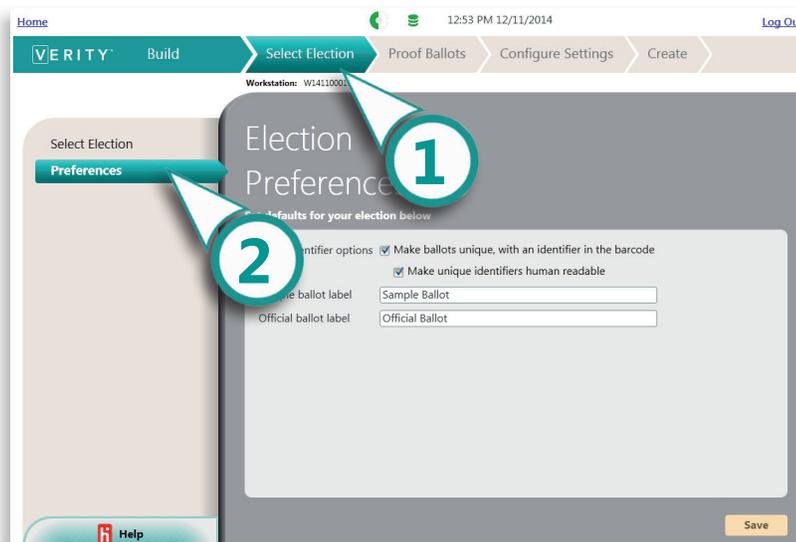


## setting preferences

The **Preferences** menu allows you to set default preferences for all elections in Verity Build. You can set preferences at any time; however, preferences set here only affect elections that have not yet been imported in Manage. The first time you open Build you should set preferences *before* importing your first election onto the workstation. You can change settings for an election you have already imported on the Build workstation under Configure Settings (page 106).

**1** Click the **Select Election** tab.

**2** Select the **Preferences** menu.



## setting preferences, *continued*

**3** Set your preferences for unique identifiers on ballots. For details on unique identifiers, see page 128.

**A)** Check the box to include unique identifiers on your ballots, if desired.

**B)** Check the box to make unique identifiers human-readable, if desired.

**Note:** *a human readable unique identifier will include numerals in addition to a barcode.*

Home 12:53 PM 12/11/2014 Log Out

VERITY Build Select Election Proof Ballots Configure Settings Create

Workstation: W1411000111

Select Election Preferences

### Election Preferences

Set defaults for your election below

Ballot identifier options  Make ballots unique, with an identifier in the barcode **3A**  
 Make unique identifiers human readable **3B**

Sample ballot label

Official ballot label

Help Save

## setting preferences, *continued*

**4** Type your default label for sample ballots and for official ballots. This will appear in the header of the ballot.

**5** Click **Save** to save your preferences.

Home 12:53 PM 12/11/2014 Log Out

VERITY Build Select Election Proof Ballots Configure Settings Create

Workstation: W1411000111

Select Election

Preferences

### Election Preferences

Set defaults for your election below

Ballot identifier options  Make ballots unique, with an identifier in the barcode  
 Make unique identifiers human readable

Sample ballot label

Official ballot label

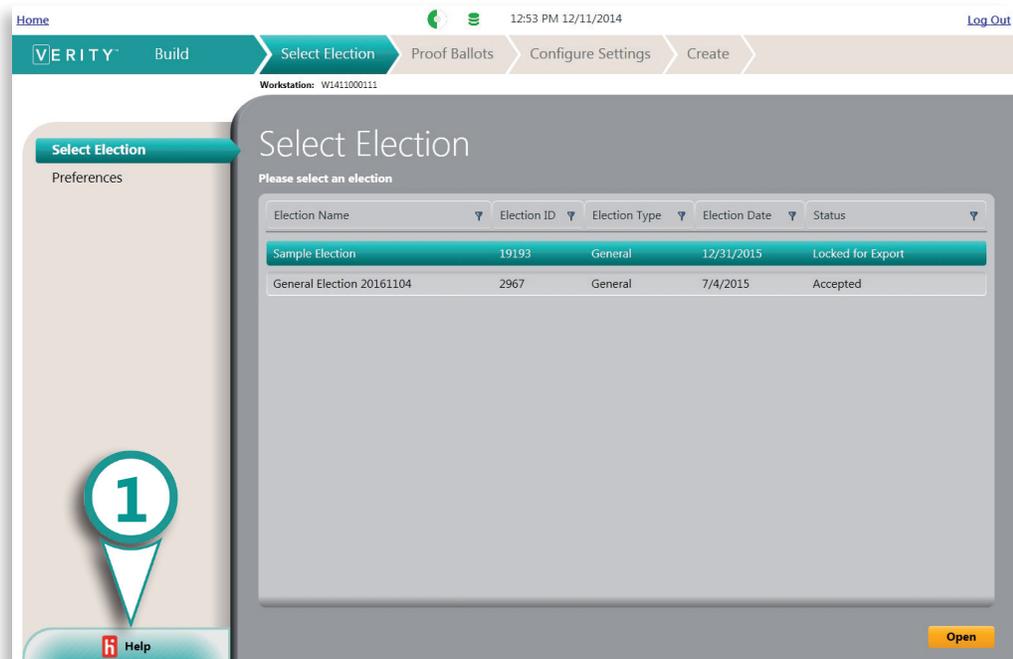
Save

Help

## using on-screen help

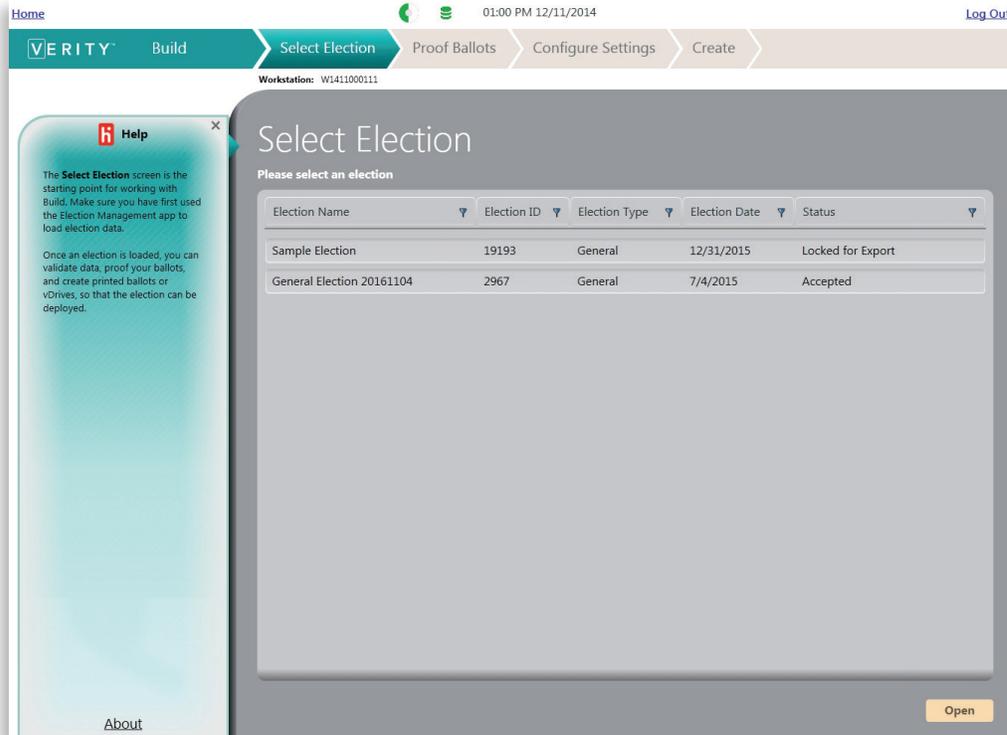
Help is available on every screen of the Build application; it will contain information related to the current screen, including instructions, notes, and important information regarding the steps you must complete on that screen.

- 1 Click the tab labeled **Help** at the bottom left of the screen to expand the help tab. ▼



## using on-screen help, *continued*

2 The help tab will display information about the current screen. ▼



The screenshot shows the VERITY application interface. The top navigation bar includes 'Home', 'Build', 'Select Election', 'Proof Ballots', 'Configure Settings', and 'Create'. The 'Select Election' screen is active, displaying a table of election data. A help tab is open on the left side of the screen, providing instructions for the 'Select Election' screen. The help tab has a red 'h' icon and a close button (X) in the upper right corner.

Home 01:00 PM 12/11/2014 Log Out

VERITY Build Select Election Proof Ballots Configure Settings Create

Workstation: WI411000111

**h Help** X

The **Select Election** screen is the starting point for working with Build. Make sure you have first used the Election Management app to load election data.

Once an election is loaded, you can validate data, proof your ballots, and create printed ballots or vDrives, so that the election can be deployed.

About

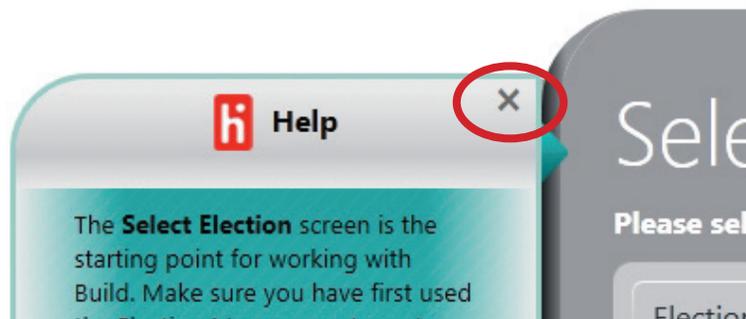
**Select Election**

Please select an election

Election Name	Election ID	Election Type	Election Date	Status
Sample Election	19193	General	12/31/2015	Locked for Export
General Election 20161104	2967	General	7/4/2015	Accepted

Open

3 Click the **X** in the upper right corner to close the help tab. ▼



## Build checklist: getting started

- 1** Log in to Verity.
- 2** Open Build and set default election preferences, if you have not already done so.
- 3** Insert the USB media containing the election exported from Layout (or other election definition software) into an available port on the Build workstation.
- 4** Click Home to return to the Verity home screen.
- 5** Open the Manage application on the Build workstation.
- 6** Under the Actions menu in Manage, choose Import. Browse to and select the election on your removable USB media, and then click OK.
- 7** Click Home to return to the Verity home screen.





## select election

### the select election tab

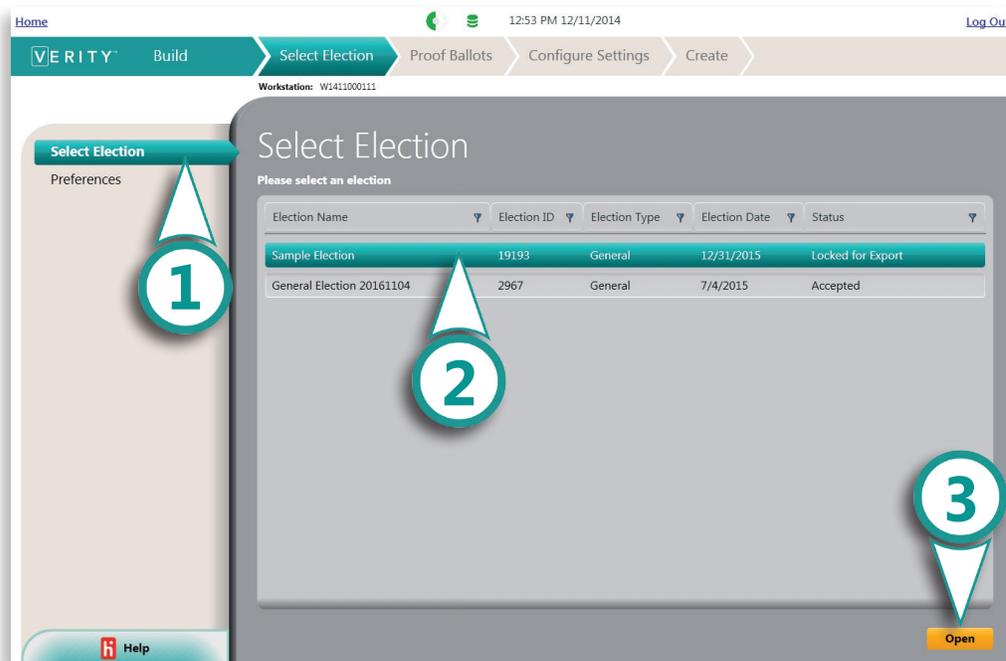


Under the **Select Election** tab, you will open the election created in Verity Layout (or another election source) and adjust basic preferences for elections that you have not yet imported. The following menus are available in the Elections tab:

- **Election:** select and open the election you need to work with.
- **Preferences:** Set basic election preferences for Build.

# selecting and opening an election

- 1 Select the **Select Election** menu.
- 2 Select the election you need to work with from the list.
- 3 Click **Open** in the bottom right of the screen.



## setting preferences

The **Preferences** menu allows you to set default preferences for all elections in Verity Build. You can set preferences at any time, however preferences set here only affect elections that have not yet been imported in Manage; the first time you open Build you should set preferences *before* importing your first election onto the workstation. See page 77 for instructions on setting default preferences. You can change settings for an election you have already imported on the Build workstation under the configure tab (page 106).

## Build checklist: the select election tab

- 1** Log in to Verity.
- 2** Open Build.
- 3** In the Select Election tab, select the election you need to work on from the list, and then click Open.
- 4** Under the Select Election tab, you can also review the default election preferences by selecting the Preferences menu, if desired. Changes made here will not affect elections that have already been imported in the Manage application.

## 3

## proof ballots

### the proof ballots tab

Build

Select Election

Proof Ballots

Configure Settings

Create

In the **Proof Ballots** tab, you will check election data for errors, proof ballot content and layout, print reports of ballot data for review, and proof audio recordings. The following menus are available in the Proof tab:

- **Data Validation:** view and print any problems with ballot data.
- **Ballot Preview:** preview each ballot style for content and layout.
- **Reports:** create reports used to proof the ballot data for errors.
- **Proof Audio:** listen to and proof audio recordings.

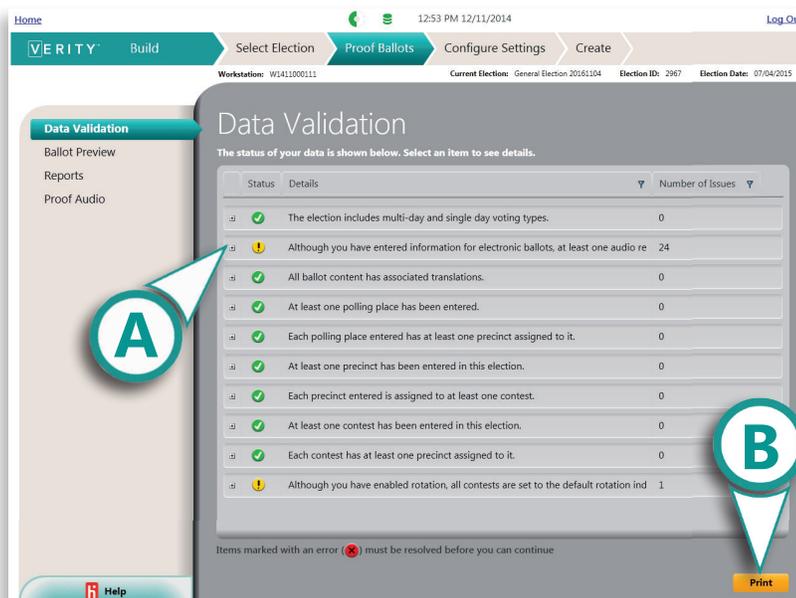
## data validation

The **Data Validation** menu alerts you of any problems found with the ballot data. If errors are found, the election must be corrected and then re-imported into Build. Select an item from the list to view any validation issues.

**A)** Click the + symbol next to the item to view individual issues; the number of issues is indicated in the rightmost column. Note the following indicators:

-  = Warnings. These items should be dealt with before proceeding, but are not required.
-  = Errors. These items must be resolved before you can continue.

**B)** Click Print to save or print a report of all issues.



The screenshot displays the VERITY Data Validation interface. The top navigation bar includes 'Home', 'Build', 'Select Election', 'Proof Ballots', 'Configure Settings', and 'Create'. The current election is 'General Election 20161104' with ID '2967' and date '07/04/2015'. The left sidebar shows 'Data Validation' as the active menu, with sub-options for 'Ballot Preview', 'Reports', and 'Proof Audio'. The main content area is titled 'Data Validation' and contains a table of issues.

Status	Details	Number of Issues
✔	The election includes multi-day and single day voting types.	0
⚠	Although you have entered information for electronic ballots, at least one audio re	24
✔	All ballot content has associated translations.	0
✔	At least one polling place has been entered.	0
✔	Each polling place entered has at least one precinct assigned to it.	0
✔	At least one precinct has been entered in this election.	0
✔	Each precinct entered is assigned to at least one contest.	0
✔	At least one contest has been entered in this election.	0
✔	Each contest has at least one precinct assigned to it.	0
⚠	Although you have enabled rotation, all contests are set to the default rotation ind	1

Items marked with an error (❌) must be resolved before you can continue.

## ballot preview

In the **Ballot Preview** menu, you will proof each ballot style for content and layout. The ballot preview window contains three sections:

- (A) The **Select a ballot** panel
- (B) The ballot preview image
- (C) The ballot preview toolbar

The screenshot shows the VERITY Ballot Preview interface. At the top, there are navigation tabs: Home, Build, Select Election, Proof Ballots (active), Configure Settings, and Create. The current election is 'Sample Election' with ID '39193' and date '12/31/2015'. The workstation ID is 'W1411000111'. The interface is divided into three main sections:

- (A) Select a ballot panel:** This panel on the left allows users to select a ballot style. It includes a 'Data Validation' section, a 'Ballot Preview' section (highlighted in blue), 'Reports', and 'Proof Audio'. Below these is a table for selecting a ballot:
 

Precinct	Style
101-A	1
101-B	2
102	3
103	3
104	1
- (B) Ballot preview image:** This central area displays a sample ballot for 'Sample County, Sample State' on 'December 31, 2015'. It shows various contests such as 'United States Senate', 'President and Vice-President of the United States', and 'Write-in'. Each contest has a list of candidates with checkboxes for voting. Instructions for voters are provided at the top of the ballot preview.
- (C) Ballot preview toolbar:** This panel on the right contains several interactive buttons: a search icon, a 'Stub' button with an 'OFF' toggle, a 'Fold lines' button with an 'OFF' toggle, three 'Line' height input fields (Line 1, Line 2, Line 3), an 'Export' button, and a 'Print' button. A note at the bottom of the toolbar states: 'Fold lines cannot be less than 3 inches from the top or bottom of the ballot.'

**! IMPORTANT:** You should proof all ballot styles for content and layout. A ballot style consists of a ballot format containing a specific subset of contests. You should also proof ballots by language & ballot type (paper/electronic).

## ballot preview, *continued*

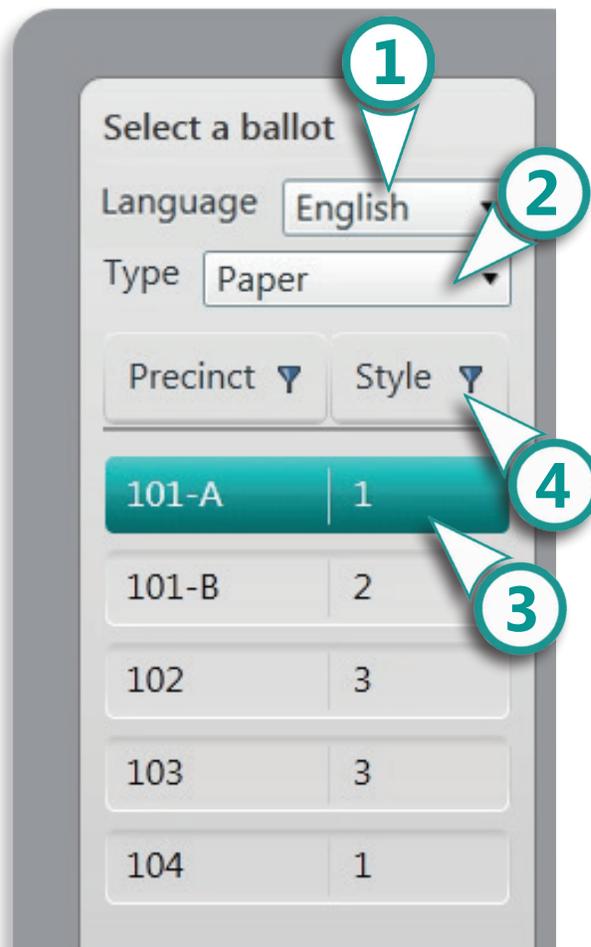
### Selecting a ballot

- 1** In the **Select a ballot** panel, select the language that you want to proof (if applicable).
- 2** Select the ballot type to proof (paper or electronic).

**Note:** *You should proof each ballot style by language and by ballot type.*

- 3** Select the precinct or ballot style to proof. You should proof at least one ballot of each ballot style, in all languages and ballot types.

- 4** Click the filter icon  in a column header to filter by category.



## ballot preview, *continued*

### The ballot preview window

The ballot preview window displays the current page of the ballot whose language, ballot type, and ballot style you have selected.

- ▶ The green sliders on the right and bottom allow you to adjust the view when zoomed in.

Sample Election  
December 31, 2015  
Sample County, Sample State

**Preview Ballot**  
12/11/2014 12:54:02

Sample County Ballot

Precinct 101-A  
**Page 1 of 2**

Please use a blue or black ink pen to completely fill in the box next to your choice. To vote for a write-in candidate, fill in the box next to the words "Write-in," and write in the name of your candidate on the line underneath the box.

<p><b>Straight Party</b></p> <p><input type="checkbox"/> Whig Party</p> <p><input type="checkbox"/> Historical Party</p> <hr/> <p><b>President and Vice-President of the United States</b></p> <p><i>Vote for One Pair</i></p> <p><input type="checkbox"/> Joseph Barachi and Joseph Hallaren Whig</p> <p><input type="checkbox"/> Adam Cramer and Greg Vuocolo Historical</p> <p><input type="checkbox"/> Daniel Court and Amy Blumhardt</p>	<p><b>United States Senate</b></p> <p><i>Vote for One</i></p> <p><input type="checkbox"/> Dennis Weiford Whig</p> <p><input type="checkbox"/> Lloyd Garriss Historical</p> <p><input type="checkbox"/> Sylvia Wentworth-Farthington</p> <p><input type="checkbox"/> John Hewetson</p> <p><input type="checkbox"/> Write-in: _____</p>
---	---

Read Both Sides of the Ballot

## ballot preview, continued

### The ballot preview toolbar

**A)** Use the **Magnifying Glass** buttons to examine the ballot in greater detail.

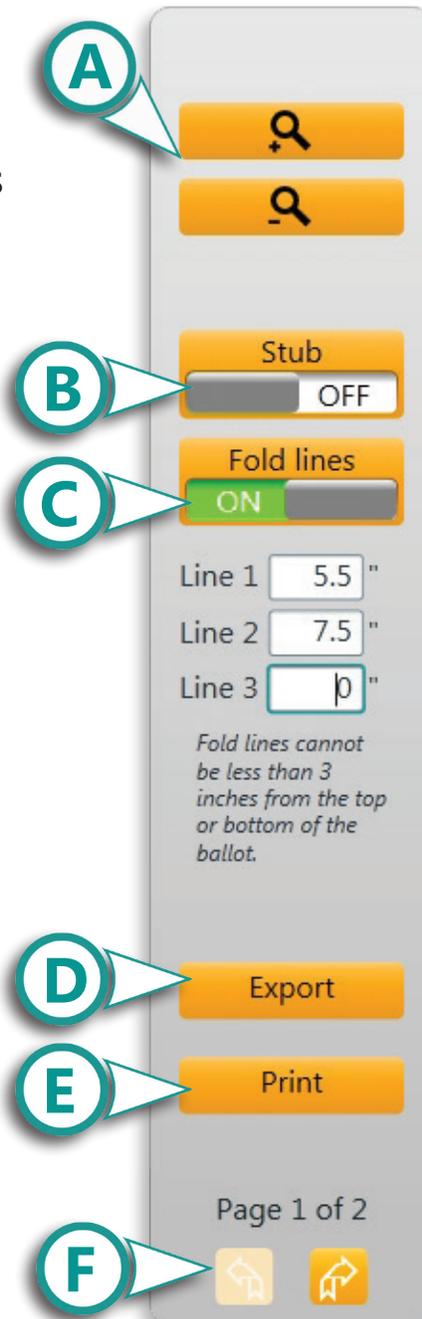
**B)** Stub slider allows you to see the ballot stub.

**C)** Fold Lines slider allows you to see where fold lines appear on the ballot. Best practices for fold line placement can be found on page 94. Change fold line positioning by entering values in the boxes below.

**D)** Click **Export** to export the page preview image to file (PDF).

**E)** Click **Print** to print the page image.

**F)** Use the **Page** buttons to view each page of the ballot; be sure to proof all pages.



## best practices: fold lines

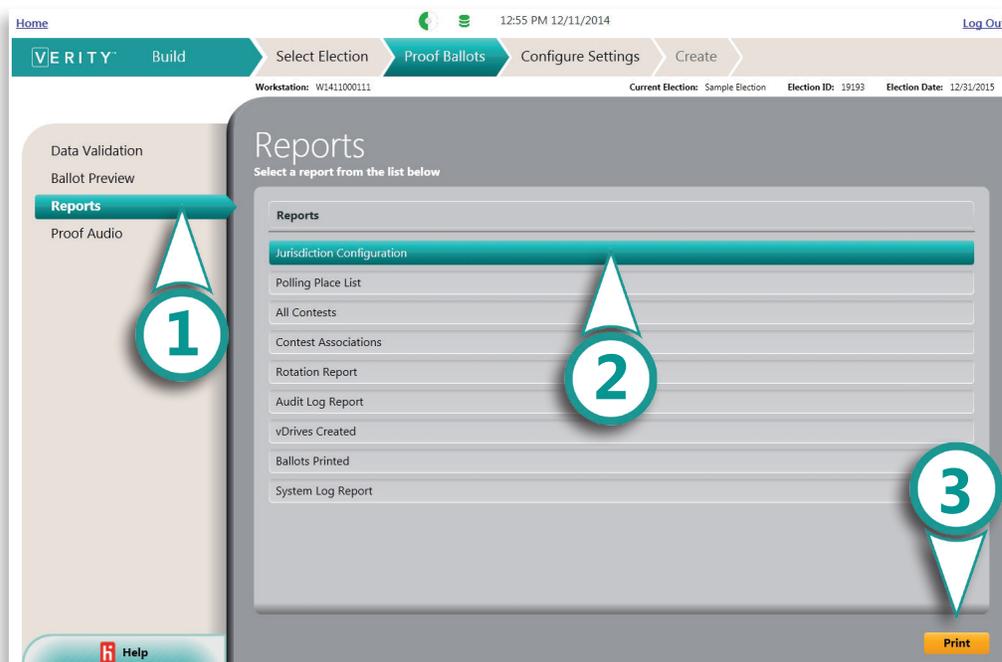
Consider the placement of fold lines when laying out your ballot.

- Don't fold ballots through option boxes and barcodes as dirt may accumulate in the fold.
- Use the minimum number of folds required to fit the ballot into its envelope.
- Be familiar with all of your ballot styles. Some may require a different type of fold than others.
- Avoid excessive folding and creasing.
- Avoid folding against the grain of the paper.
- Avoid any folds occurring just above or below a ballot stub perforation.

# reports

The **Reports** menu contains a number of reports that can be used to proof the ballot data for errors. Available reports are listed on page 97.

- 1 Select the **Reports** menu.
- 2 Select the desired report from the list.
- 3 Click **Print**.



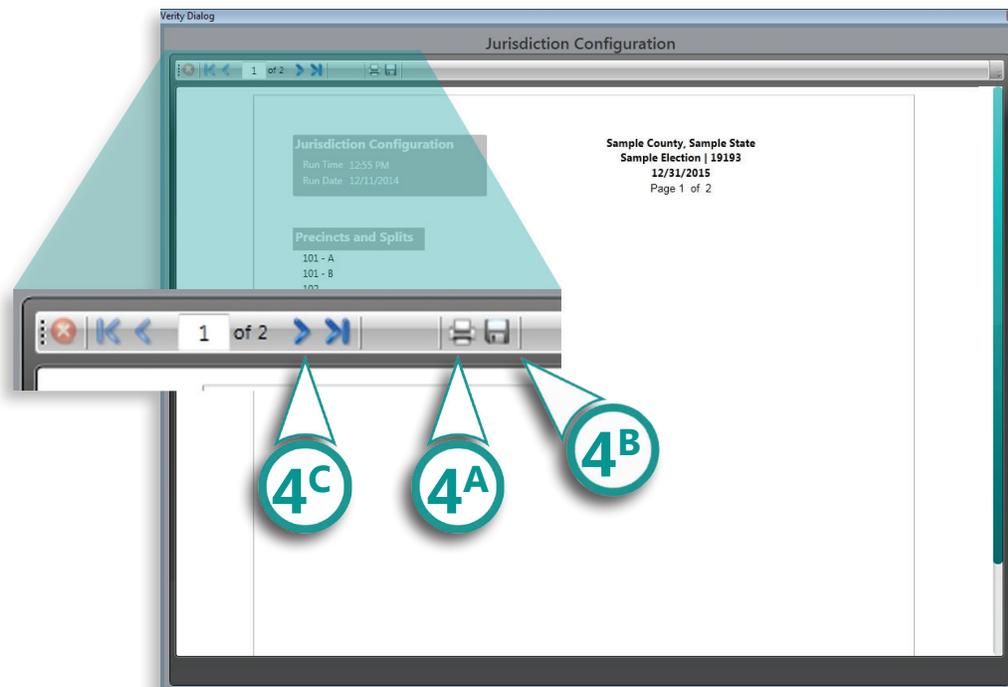
**reports, continued**

**4** View, Print or Save the report.

**A)** To Print, click the Printer icon.

**B)** To Save to file, click the Disk icon.

**C)** You can view additional pages of the report using the blue arrow buttons.



## available reports: Build

The following reports are available in Build; the contents of each report are listed below. These reports cannot be deleted or edited by the user. All Build reports contain the following information in their header:

- Report Title
- Election Title
- Election Date
- Election ID
- Jurisdiction Name
- Date and time the report was generated

### Audit log report

The Audit log report is a comprehensive log of all activity that has occurred in the Build application on that workstation. Each entry includes the following detail:

- Date/time of event
- User logged in at time of event
- Application name and full version number
- Device serial number or workstation ID
- Event name (in plain text)
- Event detail data (in plain text)
- Election ID
- Tags

### System log report

The System log report is a comprehensive log of all activity that has occurred on a workstation or network that is not election-specific. Each entry includes the same details as the audit log, listed above.

## available reports: Build, *continued*

### Jurisdiction Configuration report

**Note:** All lists in this report are sorted by the sequence number of the list items.

- Jurisdiction name
- List of precinct names
- List of precinct split names
- List of district names
- Precinct associations with districts
- Precinct split associations with districts

### Polling Place List

This report includes a list of all polling places, with the following details for each polling place:

**Note:** All lists in this report are sorted by the sequence number of the list items.

- Polling place name
- Polling place notes
- Polling place to voting type associations
- Polling place to party associations
- Polling place associations with precincts (*optional*)
- Polling place associations with precinct splits (*optional*)
- Polling place associations with districts (*optional*)
- Items in this report can also be filtered by voting type

## available reports: **Build**, *continued*

### All Contests report

This report includes a list of all contests in the election.

**Note:** *All lists in this report are sorted by the sequence number of the list items.*

- Each contest includes the following details:
  - Contest title
  - Contest type
  - List of contest party associations
  - Instruction text
  - Contest notes
  - Number of valid selections
  - Number of write-in options
  - Whether contest is included in straight party
  - Whether contest is included in rotation
- A list of contest options, with the following details:
  - Option name
  - Option details
  - Option party association
- Whether contest is non-partisan
- Total count of contest that include vote-able options in this election

### Contest Associations report

This report displays a list of all Contests in the election, including the following details:

**Note:** *All lists in this report are sorted by the sequence number of the list items.*

- Contest title
- Contest party association
- The contest's associations with:
  - Precincts
  - Precinct splits
  - Districts
- This report can be filtered by association type

**available reports: Build, *continued*****Rotation Report**

This report contains information relating to rotation, organized into the following sections:

- List of all contests included in rotation
- Contest details:
  - Contest title
  - Contest party associations
  - Option names, in rotated order, for each precinct and precinct split associated with the contest
  - Write-in options

**Ballots Printed**

This report lists ballot print jobs that have been created in this election, with the following details for each print job:

- Precinct name
- Precinct split name
- Party
- Quantity of ballots printed
- Language
- Ballot type
- Starting ballot number for the print job (if applicable)
- Ending ballot number for the print job (if applicable)
- Date and time of the print job
- User logged in when the ballots were printed

## available reports: **Build**, *continued*

### **vDrives Created report**

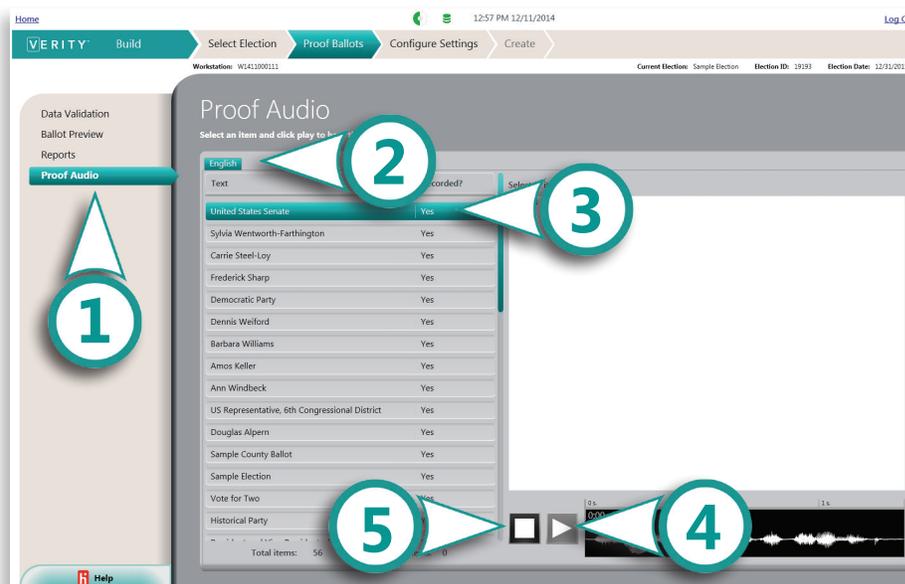
This report includes the following details relating to vDrive and creation:

- Total number of vDrives created in this election
- Total number of Test vDrives created in this election
- Total number of Official vDrives created in this election
- List of all vDrives and Keys created in this election, with the following details:
  - Media ID
  - Media type
  - User who created the media
  - Date and time the media was created

## proofing audio

The **Proof Audio** menu shows a list of all ballot items; the rightmost column indicates whether an audio recording exists for that ballot item.

- 1 Select the **Proof Audio** menu.
- 2 Select the desired language (if applicable).
- 3 Select the ballot item you would like to proof.
- 4 Click the **Play** button (triangle) to hear the audio recorded for that item.
- 5 Click the **Stop** button (square) to stop playback.



## summary: proofing ballots

- 1 Review fold line and ballot stub positioning using the ballot preview toolbar.
- 2 Print and use reports to proof ballot content and associations.
- 3 Proof ballot content and associations for:
  - Spelling and Content
  - Contest Details
  - Contest options
  - Write-in lines
  - Party information
  - Candidate details
  - Straight party options
  - Contest instructions
  - District, Precinct, and Polling Place associations
- 4 Review all audio after recording.
  - Listen for any mispronunciations, especially with candidate names.
  - Listen for truncated words at the beginning and ending of audio strings.
  - Listen for extreme changes in volume from string to string.
  - Confirm that all audio strings are clear, audible, and associated with the appropriate text.

**TIP:**

Customers using Hart's Ballot Production Service should test vDrives as soon as they are received. Notify BPS as soon as possible with edits and changes.

## general recommendations for proofing ballots

- ▶ Proof ballot content carefully; try reading the ballot upside-down or from bottom to top to encourage careful examination. Be sure to check all spelling.
- ▶ Proof ballot layout aesthetics and usability; ballots should be simple, well-spaced, and easy to understand.
- ▶ Ballot content should be laid out evenly throughout the page.
- ▶ Verify that all contests and candidate names appear without avoidable truncation or needlessly small font size.
- ▶ Assess fold patterns on different ballot styles.

## Build checklist: the proof ballots tab

- 1** Log in to Verity.
- 2** Open Build and select the Proof Ballots tab.
- 3** Under the Data Validation menu, review the list for any errors or warnings. Errors must be corrected before you can proceed.
- 4** Under the Ballot Preview menu, proof ballots for content and associations, and check fold line and ballot stub positioning, if applicable. Be sure to proof all ballot styles and languages.
- 5** Under the Reports menu, print reports to help you proof ballot content and associations.
- 6** Under the Proof Audio menu, check all audio strings for accuracy and clarity.

## 4

# configure settings

## the configure settings tab



Build Select Election Proof Ballots **Configure Settings** Create

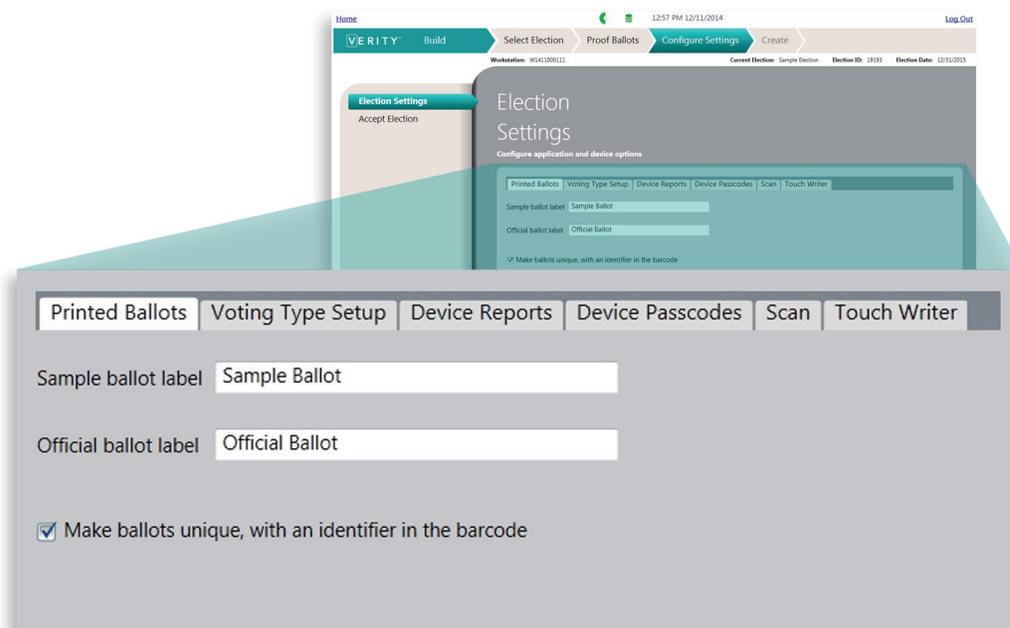
In the **Configure Settings** tab, you will set up your application and device options and accept the election in preparation for printing ballots and writing vDrives and Keys. The following menus are available in the Configure tab:

- **Election Settings:** set your options for printed ballots, voting types, and voting devices.
- **Accept Election:** finalize the election before you write vDrives and Keys and print ballots.

# election settings

The **Election Settings** menu contains several tabs which allow you to set options for:

- Printed ballots
- Voting types
- Device reports
- Device passcodes
- Device options for Scan and for Touch Writer



## election settings, *continued*

**1** Select the **Printed Ballots** tab to set your printed ballot settings, if you did not do so earlier.

**A)** Type your default Sample ballot label. This label will appear along the top of sample ballots.

**B)** Type your default Official ballot label. This label will appear along the top of official ballots.

**C)** Check the box if you would like to include unique identifiers on your ballots. This option adds a unique identification number to the barcode on each ballot, enabling rejection of duplicate ballots during scanning.

**D)** If you have made changes, click **Save**.

The screenshot shows a web interface with a navigation bar at the top containing tabs: Printed Ballots, Voting Type Setup, Device Reports, Device Passcodes, Scan, and Touch Writer. The 'Printed Ballots' tab is active. Below the navigation bar, there are two text input fields. The first is labeled 'Sample ballot label' and contains the text 'Sample Ballot'. The second is labeled 'Official ballot label' and contains the text 'Official Ballot'. Below these fields is a checkbox labeled 'Make ballots unique, with an identifier in the barcode', which is checked. At the bottom right of the form is a yellow 'Save' button. Four callout boxes, labeled A, B, C, and D, point to the 'Sample ballot label' field, the 'Official ballot label' field, the 'Make ballots unique' checkbox, and the 'Save' button, respectively.

## election settings, *continued*

**2** Select the **Voting Type Setup** tab to choose your options for each voting type for the election (Election Day, Early Voting, and Absentee). ▼

**A)** Check the box under **Allow Tally** if you would like poll workers to have the option to print a daily tally report from the voting devices, for this voting type.

**B)** Click here to set the **End Date and Time** for each voting type (required).

**C)** Choose the **End of Day Type**. For Election Day, this is normally Close Polls. For Early Voting and Absentee/By-mail voting, this is usually Suspend Polls.

**D)** If you have made changes, click **Save**.

The screenshot shows a web interface for 'Voting Type Setup'. At the top, there are navigation tabs: 'Printed Ballots', 'Voting Type Setup', 'Device Reports', 'Device Passcodes', 'Scan', and 'Touch Writer'. Below the tabs is a table with columns: 'Name', 'Allow Tally?', 'End Date and Time', and 'End of Day Type'. The table contains three rows: 'Election Day Voting', 'Absentee Voting', and 'Early Voting'. Callout 'A' points to the 'Allow Tally?' checkbox for 'Election Day Voting'. Callout 'B' points to the 'End Date and Time' field for 'Election Day Voting'. Callout 'C' points to the 'End of Day Type' dropdown for 'Election Day Voting'. Callout 'D' points to the 'Save' button at the bottom right of the interface.

Name	Allow Tally?	End Date and Time	End of Day Type
Election Day Voting	<input type="checkbox"/>		Close Polls
Absentee Voting	<input type="checkbox"/>		Suspend Polls
Early Voting	<input type="checkbox"/>		Suspend Polls

Save

## election settings, *continued*

**3** Select the **Device Reports** tab to set reporting options for the voting devices.

**A)** Choose how report results will be sorted. This determines the order in which contest choices will appear on reports. The available options are:

- By ballot order
- By votes received

**B)** Choose the level at which results will be reported. The available options are:

- At the precinct level
- At the precinct split level (**Note:** *if you choose this option, your precinct reports will be at the precinct split level.*)

The screenshot shows a web interface for configuring election settings. At the top, there is a navigation bar with tabs: Printed Ballots, Voting Type Setup, Device Reports (selected), Device Passcodes, Scan, and Touch Writer. Below the navigation bar, there are several configuration options, each with a dropdown menu:

- Sort within a contest:** The dropdown menu is set to "By ballot order". A callout bubble labeled "A" points to this dropdown.
- Report results:** The dropdown menu is set to "At the precinct-split level". A callout bubble labeled "B" points to this dropdown.
- Report Detail:** This section contains three sub-headers, each with a dropdown menu:
  - Zero Report:** The dropdown menu is set to "By precinct/split".
  - Ballot Count Report:** The dropdown menu is set to "By precinct/split".
  - Tally Report:** The dropdown menu is set to "By precinct/split".

At the bottom right of the screen, there is a yellow "Save" button.

## election settings, *continued*

**C)** Choose how device report details will appear. Options can be set for the Zero Report, Ballot Count Report and Tally Report. The available options are:

- **Summary:** shows only totals for the device.
- **By precinct/split:** shows totals broken down by precinct/split.

**Note:** *If you set reporting detail to "By precinct/split", a detailed report will print showing the results for all contests, by each precinct; these may take a very long time to print if you have many precincts. Please keep in mind that choosing the "By precinct/split" option may cause delays when printing reports at Early Voting or Vote Center polling places, or when performing an LAT, since all precincts would be included.*

**D)** If you have made changes, click **Save**.

Printed Ballots | Voting Type Setup | **Device Reports** | Device Passcodes | Scan | Touch Writer

Sort within a contest: By ballot order

Report results: At the precinct-split level

Report Detail:

Zero Report: By precinct/split

Ballot Count Report: By precinct/split

Tally Report: By precinct/split

Save

## election settings, *continued*

**4** Select the **Device Passcodes** tab to set the device passcodes for election staff and pollworkers. Passcodes must be 6 numbers.

**Note:** *Passcodes are masked when entered, but can be viewed by hovering the mouse pointer over the entry box.*

- A)** Set passcodes for Maintenance (used when devices are first powered on), Poll Workers, and Administrators.
- B)** Set Open Polls passcodes for each voting type.
- C)** Set Suspend Polls passcode for each voting type, or
- D)** Set Close Polls passcode for each voting type.
- E)** If you have made changes, click **Save**.

**! IMPORTANT:** Log all passcodes and keep in a secure location.

The screenshot shows a web interface for configuring device passcodes. At the top, there are tabs: Printed Ballots, Voting Type Setup, Device Reports, Device Passcodes (selected), Scan, and Touch Writer. Under the 'Device Passcodes' tab, there are three input fields for 'All voting types': Maintenance, Poll Worker, and Administrator. A callout 'A' points to the Maintenance field. Below these are four columns for 'Voting Type': Open Polls, Suspend Polls, and Close Polls. Under each column are three input fields for Election Day Voting, Absentee Voting, and Early Voting. Callouts 'B', 'C', and 'D' point to the Open Polls, Suspend Polls, and Close Polls columns respectively. A callout 'E' points to a 'Save' button at the bottom right.

## election settings, *continued*

**5** Select the **Scan** tab to configure the Scan device behavior when scanning ballots with voter intent issues. These settings determine if and how second-chance voting opportunities are presented to the voter.

**A)** Choose if Scan will allow or reject undervotes, overvotes, blank ballots, or invalid votes.

The screenshot shows the 'Scan' tab in the election settings. The 'Ballot Processing Rules' section is highlighted with a callout 'A'. The table below shows the settings for various ballot processing rules.

Mismatch Type	Scan Behavior	Override by
Undervote	Allow	
Overvote	Reject All	Voter
Blank Ballot	Reject All	Voter
Invalid Vote	Reject All	Voter

Other settings:

- Save scanned images on vDrive
- Default audio volume (for alerts):

Save

- **Allow:** allows the device to accept any contests of that type (undervote, overvote, etc.).
- **Reject All:** sets the device to prompt the voter to correct any contests of that type (undervote, overvote, etc.) before the ballot can be cast. A rejected contest can be overridden by either the voter or the poll worker (see below).
- **Reject for some contests:** selecting this option allows you to reject undervotes only on a contest-by-contest basis.

## election settings, *continued*

**B)** Choose whether the **Voter** or the **Poll Worker** has the ability to override rejected undervotes, overvotes, blank ballots, or invalid votes. If a voter or poll worker chooses to accept a ballot as-is, any undervoted or overvoted contests will not be counted. Otherwise, in the case of undervotes and blank ballots, the ballot can be corrected and rescanned. In the case of overvotes, the ballot can be spoiled and the voter given a new ballot, according to local jurisdiction rules.

Mismark Type	Scan Behavior	Override by
Undervote	Allow	
Overvote	Reject All	Voter
Blank Ballot	Reject All	Voter
Invalid Vote	Reject All	Voter

**Other settings:**

Save scanned images on vDrive

Default audio volume (for alerts):

Save

## election settings, *continued*

- C)** Check this box if you would like the Verity Scan to save a bitmap image of each ballot page scanned to the vDrive. This may be useful for election transparency initiatives (making ballot images available to the public after the election, for instance). You must check this box if your jurisdiction uses scanned ballot images for recount purposes.
- D)** Set the default audio volume for alerts.
- E)** If you have made changes, click **Save**.

The screenshot shows a web interface for election settings. At the top, there are tabs for 'Printed Ballots', 'Voting Type Setup', 'Device Reports', 'Device Passcodes', 'Scan', and 'Touch Writer'. Below the tabs is the 'Ballot Processing Rules' section, which contains a table with columns for 'Mismark Type', 'Scan Behavior', and 'Override by'. The table has four rows: 'Undervote' (Allow), 'Overvote' (Reject All, Voter), 'Blank Ballot' (Reject All, Voter), and 'Invalid Vote' (Reject All). Below this is the 'Other settings' section, which includes a checkbox for 'Save scanned images on vDrive' and a dropdown menu for 'Default audio volume (for alerts)'. A 'Save' button is located at the bottom right. Three callout boxes labeled C, D, and E point to the 'Save scanned images on vDrive' checkbox, the 'Default audio volume' dropdown, and the 'Save' button, respectively.

Mismark Type	Scan Behavior	Override by
Undervote	Allow	
Overvote	Reject All	Voter
Blank Ballot	Reject All	Voter
Invalid Vote	Reject All	

**Other settings:**

Save scanned images on vDrive

Default audio volume (for alerts):

Save

## election settings, *continued*

**6** Select the **Touch Writer** tab to set device options for the Touch Writer.

**A)** Set the number of minutes an access code will remain active before expiring.

**B)** Check the box if you would like unique identifiers to be human readable on ballots printed from the Touch Writer. This will add a human-readable unique identifier to the ballot in addition to the identifier included in the barcode, which can be useful for scan resolution in Central.

**C)** If you have made changes, click **Save**.

The screenshot displays a web-based configuration interface for a Touch Writer device. At the top, there is a navigation bar with tabs: "Printed Ballots", "Voting Type Setup", "Device Reports", "Device Passcodes", "Scan", and "Touch Writer". The "Touch Writer" tab is currently selected. Below the navigation bar, the interface shows two main settings:

- The first setting is "Minutes voter access code is active:", followed by a numeric input field containing the value "30". A callout bubble labeled "A" points to this input field.
- The second setting is a checkbox labeled "Make unique ballot identifiers human readable", which is currently checked. A callout bubble labeled "B" points to this checkbox.

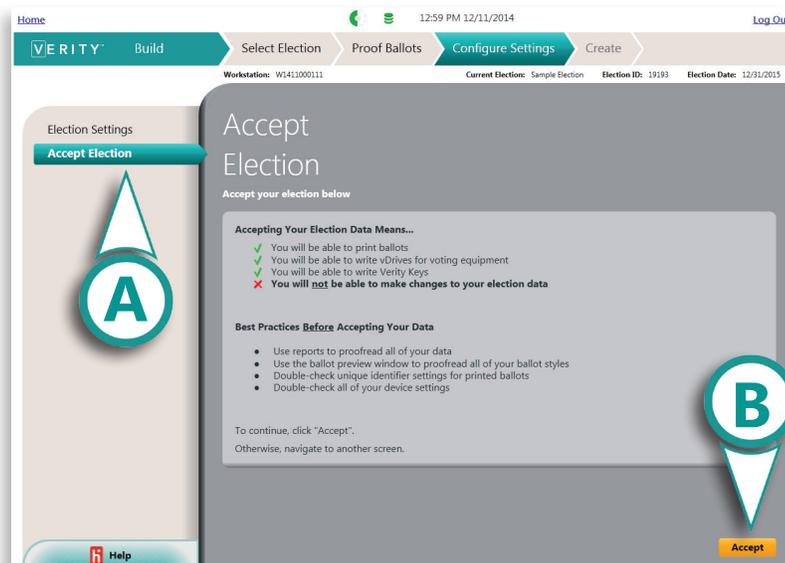
At the bottom right of the configuration area, there is a yellow "Save" button. A callout bubble labeled "C" points to this button.

## accepting the election

Accept the election **ONLY** if you are ready to write vDrives and Keys and print ballots.

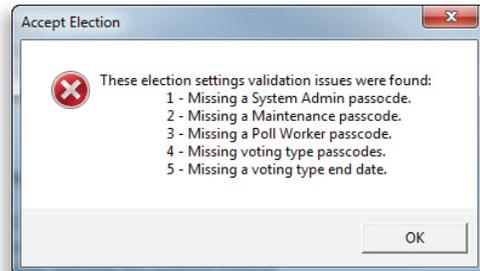
- ▶ If you are not ready to accept your election, you may log out and return later, or navigate to a previous screen to make changes.
- ▶ If you are ready to accept the election, select the **Accept Election** menu (A), and then click **Accept** (B).

**! IMPORTANT:** After accepting the election you will not be able to make further changes to the election.

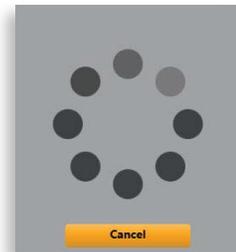


## accepting the election, *continued*

**1** If issues remain with the election data, you will see the message to the right. This message will list the items that must be fixed before you can accept the election. Click **OK** and correct the issues.



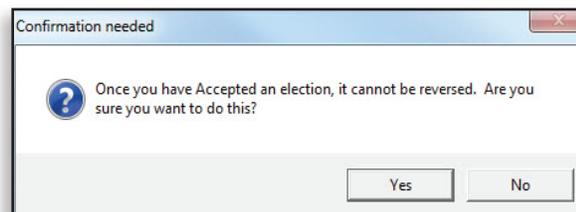
**2** If there are no issues found, you will see a progress screen while the election is validated. ►



**3** Once validation is complete, click **OK**. ▼



**4** Click **OK** again to confirm. ▼



## Build checklist: the configure settings tab

- 1** Log in to Verity.
- 2** Open Build, and select the Configure Settings tab.
- 3** Under the Elections Settings menu, review and choose election settings for printed ballots, voting types, and device reports. Set device passcodes and configure settings for the Scan and Touch Writer devices.
- 4** Before accepting the election, it is recommended that you first archive the election using the Manage application.
- 5** Under the Accept Election menu, accept the election only when you are finished making changes and are ready to print ballots and write vDrives and Keys for the election.

## 5

# create

## the create tab



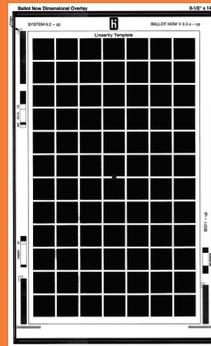
In the **Create** tab, you will print ballots, write and manage vDrives, and create and manage Verity Keys. The following menus are available in the Create tab:

- **Ballots:** print ballots and/or create ballot print files.
- **vDrives::** write the election to vDrives for use on voting devices and/or Central scanning stations.
- **Keys:** write Verity Keys for the election.

## about printing

- ▶ There are two basic options when printing paper ballots:
  - Ballots can be printed on-demand and in-house, *or*
  - Ballots can be exported to PDF, and printed by a third-party print vendor who typically uses a commercial digital document printer.
- ▶ Hart has developed a print vendor certification process designed to standardize the various practices used by commercial print shops. If using a contract printer, be sure that they conform to the recommended guidelines.

**! IMPORTANT:** All ballots, whether printed in-house or by a third party, must be checked using a Ballot QC Overlay. A Ballot QC Overlay is used to verify that the printing alignment is within the necessary tolerances so that the ballot can be scanned properly in the Verity system.



## printing ballots

**1** Under the **Ballots** menu, select the ballot style(s) you would like to print.

**A)** Ballot style is indicated in the left column; the associated precinct is in the right column.

**B)** You can click **Go to Preview** to go to the **Ballot Preview** screen; click the **Create** tab to return to the Ballots menu.

The screenshot shows the 'Print Ballots' interface. At the top, there is a navigation bar with 'Home', 'Build', 'Select Election', 'Proof Ballots', 'Configure Settings', and 'Create'. Below this, a status bar shows 'Workstation: W1411000111', 'Current Election: Sample Election', 'Election ID: 19193', and 'Election Date: 12/31/2015'. The main content area is titled 'Print Ballots' and contains a table for selecting ballot styles and precincts. The table has two columns: 'Style' and 'Precinct'. The first row is highlighted in blue and contains '1' and '101-A'. The other rows are '2 | 101-B', '3 | 102', '3 | 103', and '1 | 104'. To the right of the table is a 'Printing Options' panel with the following settings: Quantity: 5, Type: Official (selected), Unique ballot identifiers are enabled (checked), Make identifiers human readable (checked), Include ballot numbering (checked), Starting number: 1, Include ballot stub (unchecked), and Starting number: 1. At the bottom of the interface, there are four buttons: 'Go to Preview', 'Export', 'Import', and 'Print'. Callout boxes 'A' and 'B' highlight the table and the 'Go to Preview' button respectively.

Style	Precinct
1	101-A
2	101-B
3	102
3	103
1	104

Printing Options

Quantity: 5

Type:  Official  
 Test  
 Sample

Unique ballot identifiers are enabled  
 Make identifiers human readable

Include ballot numbering  
Starting number: 1

Include ballot stub  
 Include stub numbering  
Starting number: 1

Go to Preview Export Import Print

## printing ballots, *continued*

**2** For each ballot style, select the Quantity and Type of ballots to be printed. Ballot types include Official ballots, Test ballots, and Sample ballots.

- ▶ **Test ballots** are for testing printer settings, checking ballot layout, and for use during a Logic & Accuracy Test (LAT).
- ▶ **Sample ballots** are intended as samples to be distributed to the public. Sample ballots cannot be read or counted by voting devices.
- ▶ **Official ballots** are for voting.

The screenshot shows a 'Printing Options' dialog box with the following settings:

- Quantity:** 5
- Type:** Official (selected), Test, Sample
- Unique ballot identifiers are enabled:**
  - Make identifiers human readable
- Include ballot numbering:**
  - Include ballot numbering
  - Starting number: 1
- Include ballot stub:**
  - Include ballot stub
  - Include stub numbering
  - Starting number: 1

Buttons at the bottom: Export, Import, Print.

Other Printing options include:

- Enabling human readable unique identifiers for printed ballots.
- Including ballot numbering.
- Including ballot stubs.

## printing ballots, *continued*

**3** (*optional*) Print the selected ballot(s).

**A)** Click **Print**, or

**B)** If you wish to export the selected ballot(s) to PDF for printing at a later time, click **Export**.

**4** (*optional*) Import a print queue (see the following page for instructions on creating a print queue file).

Printing Options

Quantity

Type  Official  
 Test  
 Sample

**Unique ballot identifiers are enabled**

Make identifiers human readable

Include ballot numbering

Starting number

Include ballot stub

Include stub numbering

number

**Export** **Import** **Print**

## printing ballots, *continued*

### Creating a print queue file for import

Creating a print queue is a way to automate the printing process; to create a print queue you must first create a CSV file with ballot style(s), quantities, ballot type(s), etc. This file will also specify whether Build will automatically export the print job to PDF, or print the job immediately.

**1** On a non-Verity workstation, create an Excel™ spreadsheet with the following data:

Column	Content
1	Precinct Name ( <i>*required</i> )
2	Split Name
3	Party ( <i>*required for closed primaries</i> )
4	Language
5	Quantity
6	Ballot Type ( <i>*required</i> )
7	Print to file? (TRUE or FALSE)
8	Output File Name

### Example:

101	A		English	2000	Official	TRUE	101A_English_Official.pdf
101	A		Spanish	150	Official	TRUE	101A_Spanish_Official.pdf
101	B		English	800	Official	TRUE	101B_English_Official.pdf
101	B		Spanish	50	Official	TRUE	101B_Spanish_Official.pdf
201			English	1300	Official	TRUE	201_English_Official.pdf
201			Spanish	50	Official	TRUE	201_Spanish_Official.pdf
243			English	3600	Official	TRUE	243_English_Official.pdf
243			Spanish	1500	Official	TRUE	243_Spanish_Official.pdf
417			English	900	Official	TRUE	417_English_Official.pdf
417			Spanish	100	Official	TRUE	417_Spanish_Official.pdf

## printing ballots, *continued*

### Content descriptions

---

- **Precinct Name:** required; precinct name of the ballot to print. Case-sensitive, may include spaces; must exactly match the Precinct Name that was used in ballot definition.
- **Precinct Split Name:** precinct split name of the ballot to print, if applicable. Must exactly match the Precinct Split name that was used in ballot definition.
- **Party:** required only for closed primary elections.
- **Language:** language of the ballot to print, if applicable.
- **Quantity:** the number of ballots to print.
- **Ballot Type:** can be "Test", "Sample", or "Official".
- **Print to File:** type TRUE if you would like to output the print jobs to PDF; type FALSE if you would like to output directly to the default printer.
- **Output File Name:** The name of the PDF to be produced by the import file (Note: Print to File value must be TRUE).

**! IMPORTANT:** Delete any header row before saving the spreadsheet as a .csv (if using an export from Layout, you can leave the header row if desired).

**2** Save the spreadsheet you created as a CSV file to a removable media (USB). Insert the USB into an available USB port on the Build workstation.

## printing ballots, *continued*

**3** Under the Printing Options panel in Build, click **Import**.

The screenshot shows the 'Printing Options' dialog box. It has several sections:
 

- Quantity:** A spinner box set to 5.
- Type:** Radio buttons for 'Official' (selected), 'Test', and 'Sample'.
- Unique ballot identifiers are enabled:** A checked checkbox for 'Make identifiers human readable'.
- Include ballot numbering:** A checked checkbox. Below it is a 'Starting number' spinner box set to 1.
- Include ballot stub:** An unchecked checkbox. Below it is another 'Starting number' spinner box set to 1.

 At the bottom are three buttons: 'Export', 'Import', and 'Print'. A green callout bubble with the number '3' points to the 'Import' button.

**4** Browse to the CSV file you created and click **OK**.

The screenshot shows a 'File Browser Dialog' window. It has a title bar 'File Browser Dialog' and a subtitle 'Select a file to open'. On the right, it says 'File Filter: E:\\*.txt' and 'List of files'. The main area is split into two panes:
 

- Directory tree:** Shows a tree structure with 'My Computer' expanded, showing 'D: (Removable)' and 'E: (Removable)'.
- List of files:** An empty list box.

 At the bottom, there is a 'Full selected path' field and 'OK' and 'Cancel' buttons.

**NOTE:** *If you entered TRUE in the Print to File column of the CSV file, the ballots will be automatically saved to the export location in the file. If you entered FALSE under the Print to File column, the ballots will be sent to the printer immediately.*

## printing ballots, *continued*

### Creating a print queue file for import (pre-marked ballots)

You can also create a print queue for pre-marked ballots (for use in a Logic & Accuracy Test, for example). Instructions for creating a print queue with pre-marked ballots are located in the Appendix, page 372.

#### unique identifiers and ballot numbering

A **unique identifier** can be included in a ballot barcode, and if desired, also as a human-readable number printed on the ballot margin.

- Election officials can choose to include or exclude unique identifiers from printed ballots.
- A unique identifier is a non-serial number, used during the scanning process to detect and disallow duplicate ballots.
- The unique identifier is not tied in any way to an individual voter, as there is no individual voter data stored in the Verity system.

A **ballot number** is a separate, human readable number that can be included in the margin of a printed ballot.

- Ballot numbering can be used in the inventory process for paper ballots.
- Numbering can be set to restart after a set number of ballots.
- Ballot numbers are not read during the ballot scanning process.

# visual ballot guide: barcodes and numbering

**Official Ballot**  
**Sample Election**  
 December 31, 2015  
 Sample County, Sample State  
**Sample County Ballot**  
 Precinct 101-B  
**Page 1 of 2**

Please use a blue or black ink pen to completely fill in the box next to your choice. To vote for a write-in candidate, fill in the box next to the words "Write-in," and write in the name of your candidate on the line underneath the box.

**United States Senate**  
 Vote for One  
 Dennis Weiford  
 Whig  
 Lloyd Garriss  
 Historical  
 Sylvia Wentworth-Farthington  
 John Hewetson  
 Write-in:  
 -----

**President and Vice-President of the United States**  
 Vote for One Pair  
 Joseph Barachi and Joseph Hallaren  
 Whig  
 Adam Cramer and Greg Vuocolo  
 Historical  
 Daniel Court and Amy Blumhardt

**US Representative, 6th Congressional District**  
 Vote for One  
 Brad Plunkard  
 Whig  
 Bruce Reeder  
 Historical  
 Brad Schott  
 Glen Tawney

**Read Both Sides of the Ballot**

- Precinct
- Party
- Ballot Type
- Election ID

Ballot Number (if applicable)

Election ID

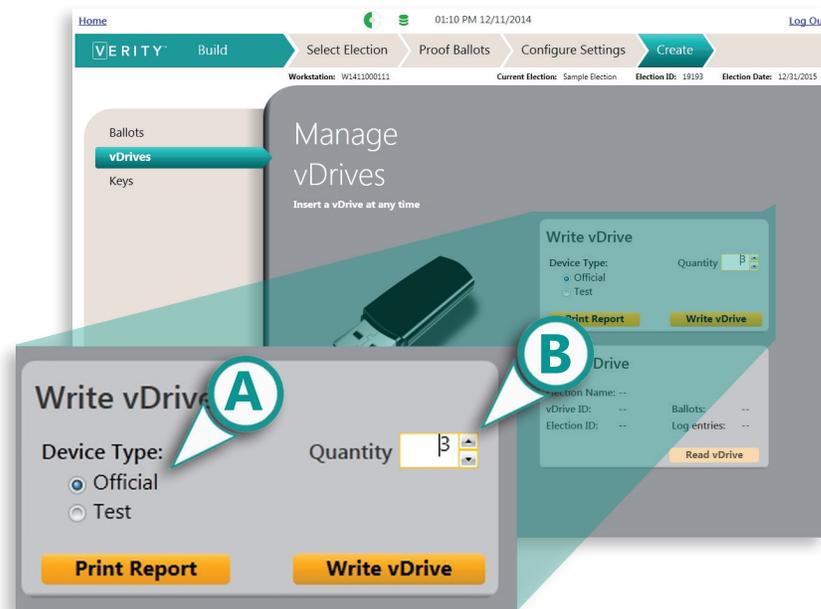
Unique Identifier (human readable) (if applicable)

- Language
- Sheet
- Page Number

- vDrive ID
- Unique Identifier (if applicable)

## creating vDrives

Before writing vDrives, you should plan the quantity of vDrives needed, using the vDrive Worksheet as a guide (see page 132). As vDrives are written, log the Polling Place and vDrive ID for each vDrive on the vDrive Tracking Log. Additional vDrives can be written at any time, as needed.

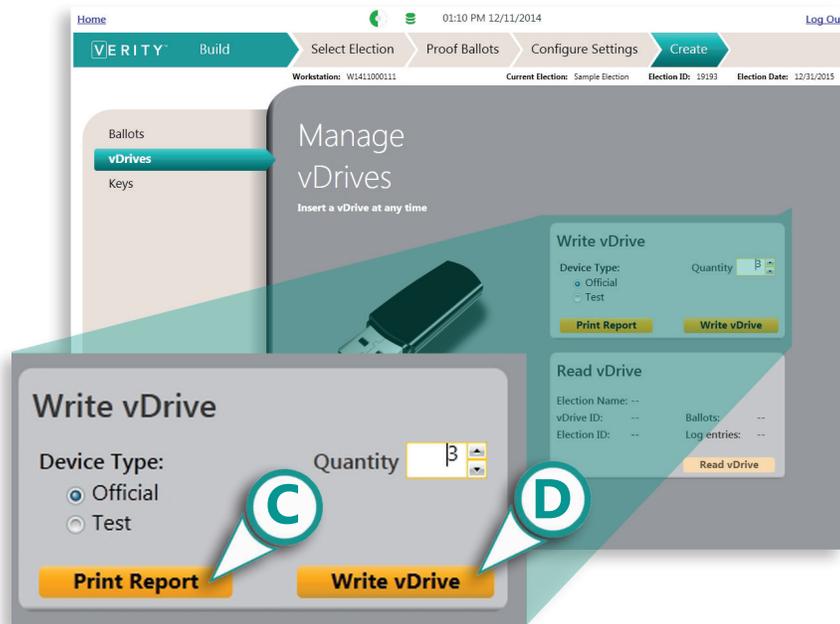


### 1 Write vDrives.

**A)** Choose the device type (Official or Test).

**B)** Choose the quantity of vDrives to be written.  
For help with planning vDrive quantities, see page 132.

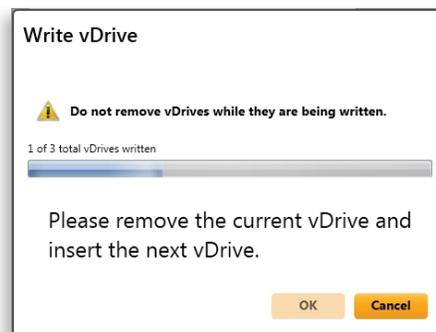
## creating vDrives, *continued*



**C)** To print a report of all vDrives written, click **Print Report**. Use this report to log vDrive IDs for future reference. Copy this data to the vDrive Tracking Log, if desired.

**D)** Click **Write vDrive**. You can insert *one* vDrive to be written into an open USB port at any time.

**E)** When prompted, you can remove the vDrive and insert the next vDrive to be written. ►



## planning vDrive quantities

A vDrive Worksheet is included in the Logs and Labels Pack (available from Hart) to assist you with planning vDrive quantities. Requirements will vary by jurisdiction, but generally speaking you will need the following at minimum:

### Test vDrives:

- 1 vDrive for each Touch Writer to be used in the Logic and Accuracy Test (LAT).
- 1 vDrive for each Scan to be used in the LAT.
- 1 vDrive for each Central scanning setup used in the LAT (minimum, see below under official mode vDrives).
- 1 vDrive per device in use at Help Desk, etc.
- 10% of total as spare Test mode vDrives.

### Official vDrives

- 1 vDrive for each Touch Writer to be used in the election – Early Voting and Election Day.
- 1 vDrive for each Scan to be used in the election – Absentee, Early Voting, Election Day.
- 1 vDrive minimum for each Central scanning setup, per 10k CVRs. More if pulling incremental reports from Count, or as per local Central workflow (e.g. Absentee and Early Voting on separate vDrives, etc.).
- 20% of total as spare Official mode vDrives.

## creating vDrives, *continued*

**2** Record the Election Name, Polling Place Names and vDrive IDs on the vDrive Tracking Log.

This log will be used when preparing equipment for deployment to the polling places. You can also click Print Report for a report of all vDrives written.

**3** To read a previously written vDrive, insert the vDrive into an available USB port on the Build workstation.

**A)** Click Read vDrive.

**B)** The details for the vDrive inserted will display.

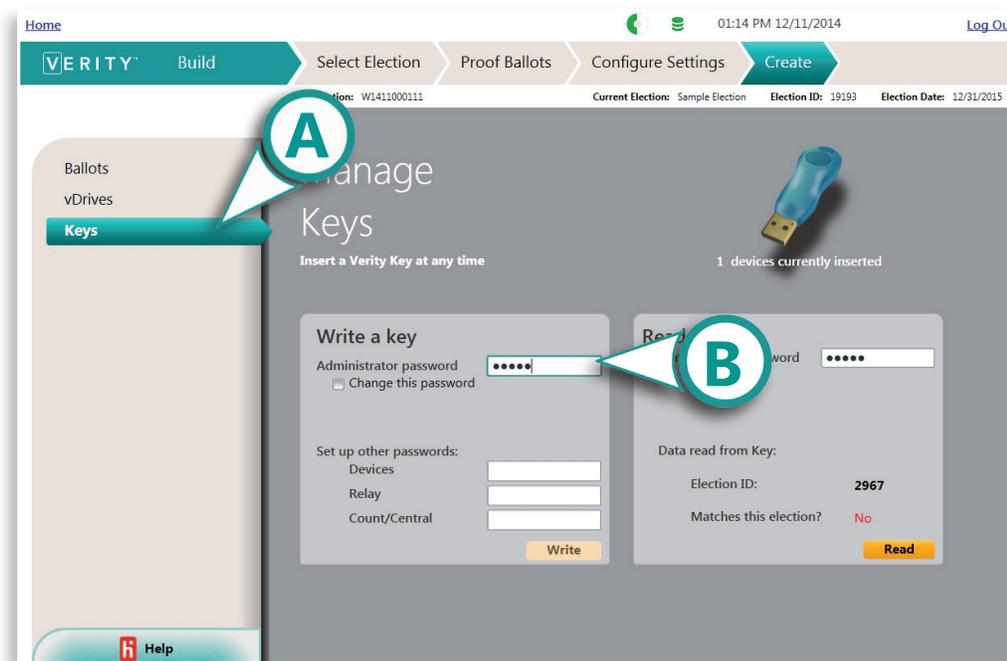
The screenshot displays the VERITY software interface for managing vDrives. The main window is titled 'Manage vDrives' and includes a 'Write vDrive' section with a 'Device Type' dropdown (set to 'Official'), a 'Quantity' field (set to 3), and buttons for 'Print Report' and 'Write vDrive'. A 'Read vDrive' dialog box is overlaid on the screen, showing the following details:

Read vDrive	
Election Name:	Sample Election
vDrive ID:	1
Election ID:	19193
Ballots:	0
Log entries:	0

A callout bubble with the letter 'A' points to the 'Read vDrive' button at the bottom of the dialog box. The background interface also shows a 'Write vDrive' section with a 'Device Type' dropdown (set to 'Official'), a 'Quantity' field (set to 3), and buttons for 'Print Report' and 'Write vDrive'. The 'Read vDrive' section shows 'Election Name: Sample Election', 'Ballots: 0', and 'Log entries: 0'.

## creating Verity Keys

### 1 Write Verity Keys for the election.



**A)** Choose the Keys menu.

**B)** Insert a Key into an available USB port, and then enter the administrator password. The password you enter the first time you write the Key in Build stays attached to the Key until changed. You can change the password by checking the box next to **Change this password**. You will be prompted to enter the current administrator password as well as the new password.

## creating Verity Keys, *continued*

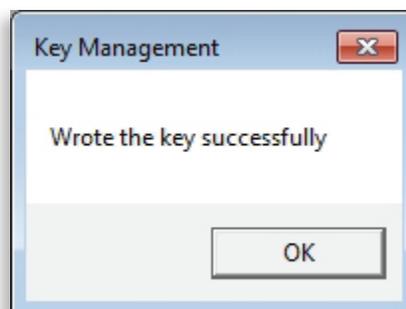
**! IMPORTANT:** Do not lose or forget the administrator password, as there is no way to recover it. The administrator password is used to write and read the Key in Build; if the password is forgotten, the Key cannot be re-written or re-used again.

**C)** Set up other passwords for voting devices and applications. These passwords can be changed for each election. All are required.

**Note:** *These are the passwords that are required when you use the Verity Key with the voting devices (for example, to predefine the polling place) and in the other Verity applications (to read in and tabulate vDrives in Count, for example). A complete list of actions requiring the Verity Key is provided on page 137.*

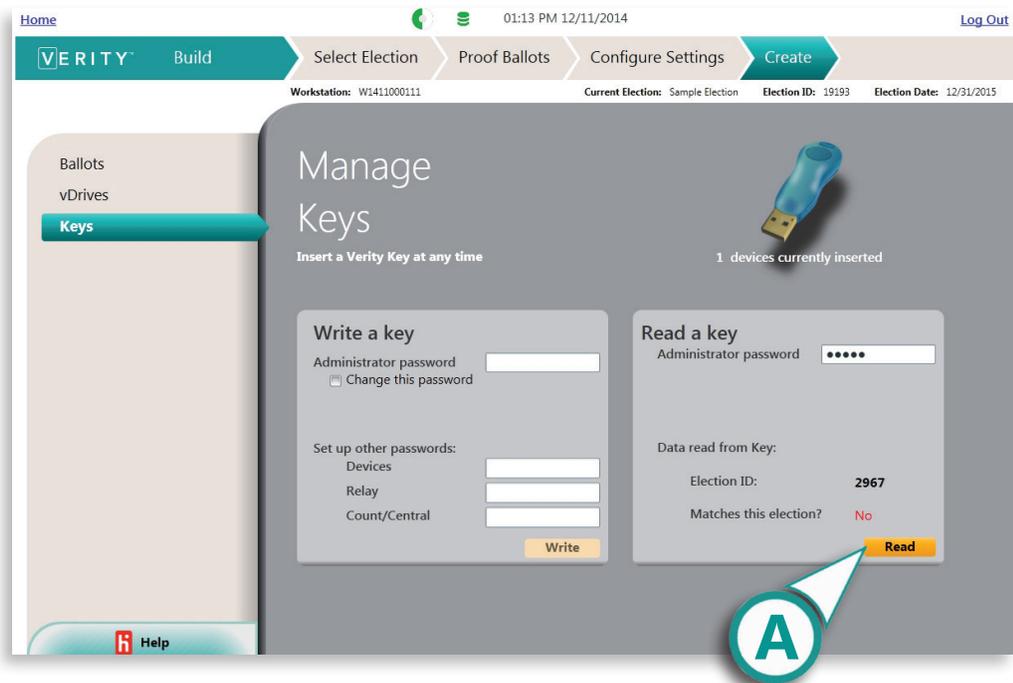
**D)** Click **Write**.

**E)** Remove the Key only after you see the success message shown. Click **OK**. ▶



## creating Verity Keys, *continued*

**2** To read a previously written Key, insert the Key into an available USB port on the Build workstation.



**A)** Click **Read**. You will be prompted to enter the administrator password for the Key.

**B)** The Key data will display.

# actions requiring use of the Verity Key

## Use in Verity Build

- ▶ Verity Keys are written for the current election in Verity Build. Writing Verity Keys requires the Operator or Media Creator user to know the Verity Build administrator password. When writing the Verity Key in Build, the user will assign application and device passwords for the election. See page 112 of this guide.

## Use in voting devices (*Touch Writer and Scan*):

- ▶ Verity Key is required to predefine Touch Writer and Scan with the proper polling place prior to deployment. The Verity Key is removed from the device after predefining, before the device is sealed and transported to the polling place. See the *Verity Support Procedures Guide* for predefining procedures.

## Use in Verity Central

- ▶ In Central, the Verity Key is required in order to import a signed election from Verity Build. A signed election is one that has been proofed and accepted in Build. The user must know the Verity Key application password for Central. See page 150 of this guide.

## actions requiring use of the Verity Key, *continued*

- ▶ A Verity Key is also required in order to create a Recovery vDrive in the event of a damaged or lost vDrive in Central. The user must know the Verity Key application password for Central. See page 222 of this guide.

## Use in Verity Count

- ▶ In Count, the Verity Key is required in order to import a signed election from Verity Build. A signed election is one that has been proofed and accepted in Build. The user must know the Verity Key application password for Count. See page 248 of this guide.
- ▶ Verity Key is also required in order to read the first vDrive for an election into Count. The user must know the Verity Key application password for Count. See page 286 of this guide.

## practicing Key security

- ▶ Limit access to Keys and maintain chain of custody logs.
- ▶ Remove Keys from equipment when not in use.
- ▶ Limit access to the Verity Key passwords, in particular the Key Administrator password.

## exporting a signed election from the Build workstation

To open the election you accepted in Build on a separate Verity Central or Count workstation, you first must export the signed election in the Manage application on the Build workstation.

**Note:** *if you are using a configuration with Build and Count on the same workstation, and you do not use Central, you can skip this procedure.*

**1** Insert a removable media (USB) into an available USB port on the Build workstation computer. You will save the signed election to the removable media so that you can transfer it to a Central or Count workstation.

**2** Log in to the Verity Build workstation.



Username:

Password:

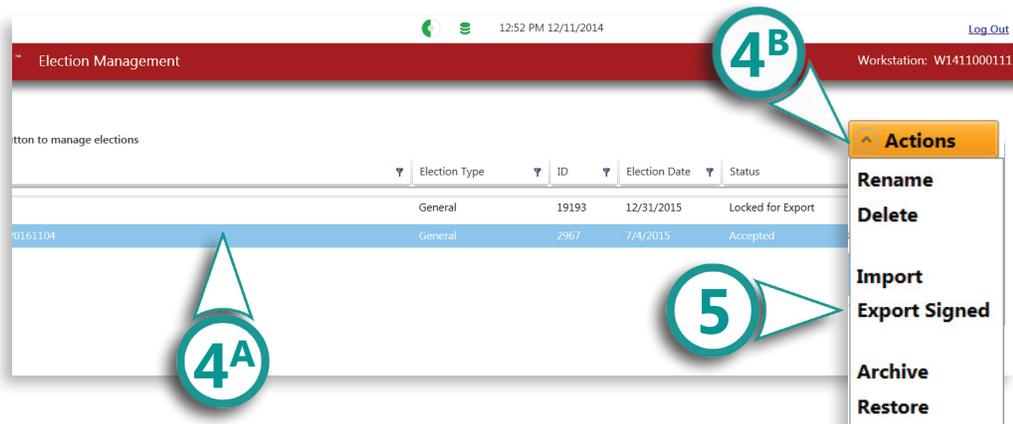
[Change password...](#)

**3** On the Verity home page, click the **Manage** tile.



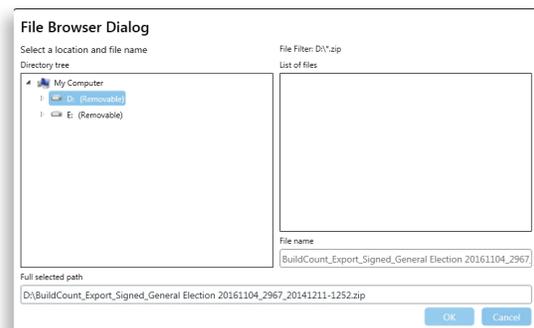
## exporting a signed election on the Build workstation, *continued*

- 4** In the Manage application, select the election (A), and then click **Actions** (B).



- 5** Select **Export Signed** from the Actions drop-down menu.

- 6** Browse to the location of the removable media (USB). Click **OK**.



- 7** Remove the removable media (USB) ; you will use this to transfer the election to your Central and/or Count workstation(s).

## Build checklist: the create tab

- 1** Log in to Verity.
- 2** Open Build, and select the Create tab.
- 3** Under the Ballots menu, you can print ballots or export ballots to PDF for printing later. You can also import print queue files to streamline your printing process.
- 4** Under the vDrives menu, you will write vDrives for use in voting devices (and in Verity Central, if applicable). Use the vDrive planning worksheet to help you plan quantities of vDrives for your election. You can write additional vDrives at any time.
- 5** Under the Keys menu, you will write Verity Keys for use during the election. You must know the Administrator passcode for the Key in order to write it for an election. Practice proper Key security when handling and distributing Verity Keys.
- 6** Click Home to return to the Verity home screen.
- 7** Insert a removable USB media.
- 8** Open Manage and Export the signed election from Build to the removable USB media.



# verity **central**



---

**version 1.0**

# verity central

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## 1

## getting started

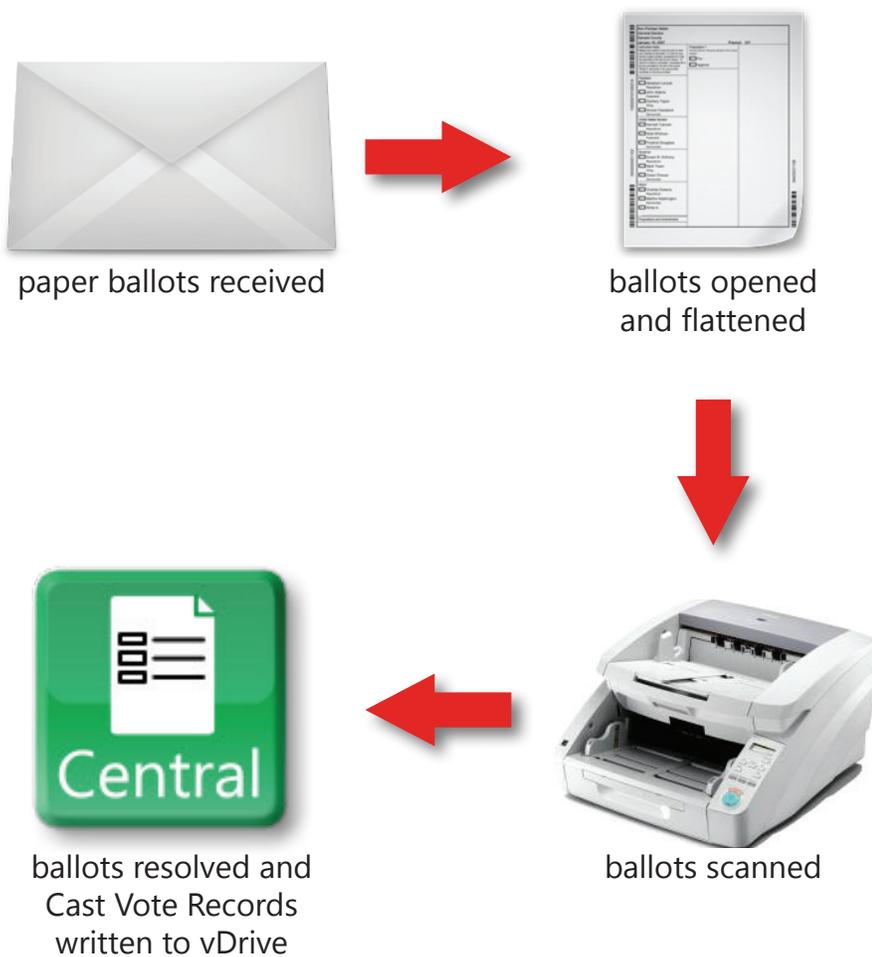
### verity central: an overview



In Verity Central, you will run voted paper ballots through your Verity Central scanner, review and resolve ballots, and write the cast vote records to a vDrive in preparation for Verity Count vote tabulation.

## verity central: an overview, *continued*

### Verity Central workflow



## importing a signed election on the Central workstation

To open an election in Verity Central, you first must import the election in the Manage application on that workstation.

- 1 Insert a Verity Key (created in Build) for the election.



- 2 Insert the removable media (USB) containing the signed election from Build into an available USB port on the Central workstation computer.

- 3 Log in to the Verity Central workstation.

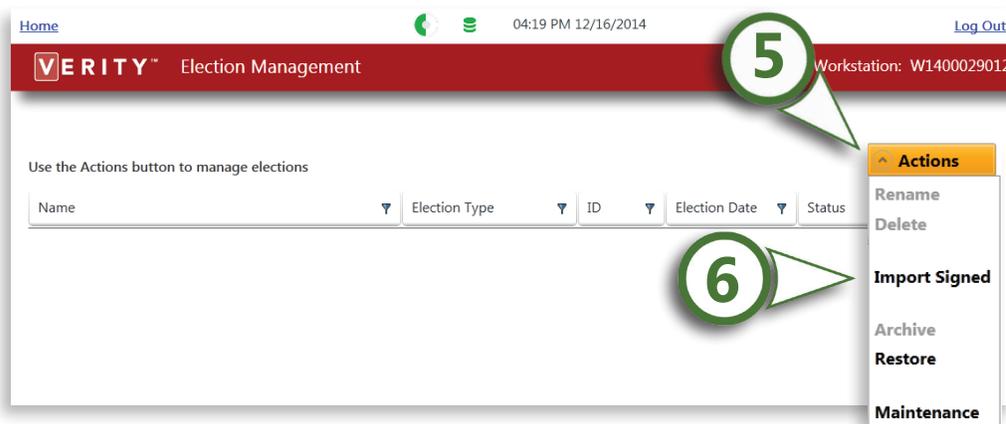
A login form with a white background and a thin border. It contains two input fields: 'Username:' with the text 'user' and 'Password:' with a masked password of ten dots. Below the password field is a blue link that says 'Change password...'. At the bottom are two yellow buttons: 'OK' and 'Clear'.

- 4 On the Verity home page, click the **Manage** tile.



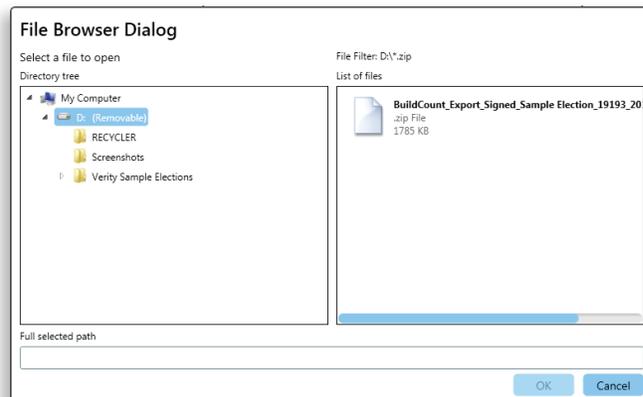
## importing a signed election on the Central workstation, *continued*

**5** In the Manage application, click **Actions**.



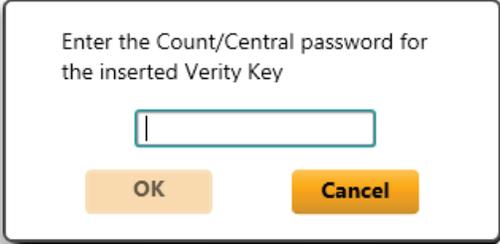
**6** Select **Import Signed** from the Actions drop-down menu.

**7** Browse to the location of the removable media and select the election to import. Click **OK**. ▼



## importing a signed election on the Central workstation, *continued*

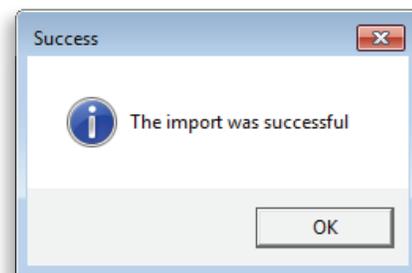
**8** Enter the Verity Key application password for Central, and then click **OK**.



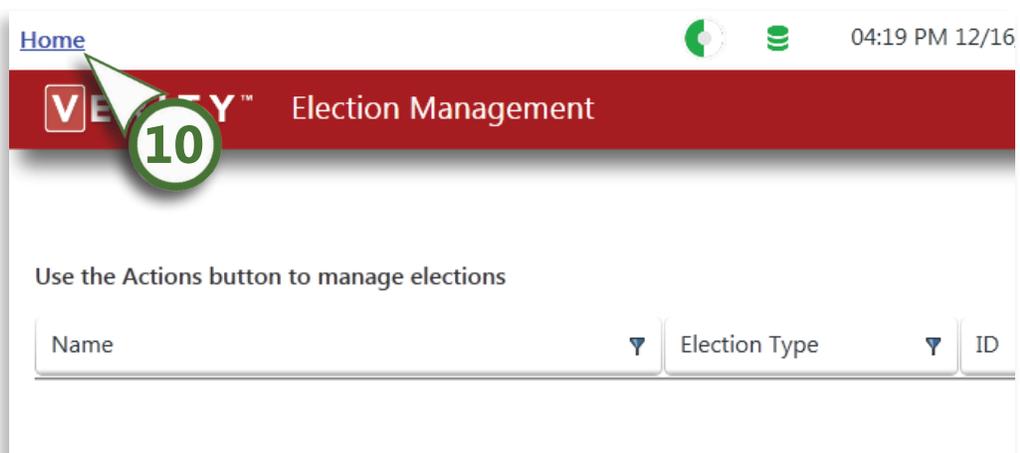
Enter the Count/Central password for the inserted Verity Key

OK Cancel

**9** Click **OK**.



**10** Click **Home** in the upper left corner to return to the Verity Home screen.



## about election status

The status given for each election in the Manage application indicates at what point the election is in the election definition process.

- ▶ **Open for Editing:** The election is in the process of being created and can be edited in Verity Layout.
- ▶ **Locked for Export:** The election has been created using Verity Layout (or other election definition software) and is now ready to import into Verity Build.
- ▶ **Accepted:** The election has been proofed in Verity Build and you can now print ballots and create vDrives and Keys. Election is now ready for export to Verity Central or Verity Count. An election that has been accepted in Build is also termed a "signed" election.

A **signed** election has been accepted in Verity Build. Importing a signed election on a separate Verity Central or Count workstation requires the user to insert a Verity Key for that election (created in Build) and also enter the Verity Key application password.

## opening the Central application

On the Verity home screen, click the Central application tile to open Central. The Central application contains five tabs: Elections, Read, Resolve, Results, and Import/Export.

The image shows two screenshots of the Verity Voting system. The top screenshot is the home screen, featuring a blue header with the Verity logo and 'Voting' text. Below the header are four application tiles: Central (green), Desktop (grey), Manage (red), and Users (blue). A magnifying glass highlights the Central tile. A 'Shutdown' button is visible at the bottom right.

The bottom screenshot shows the Central application interface. The header includes the Verity logo, 'Central', and a breadcrumb trail: 'Select Election' > 'Scan' > 'Review' > 'Write Ballots' > 'Reports'. The main content area is titled 'Select Election' and contains a table with the following data:

Election Name	Election ID	Election Type	Election Date
Sample Election	19193	General	12/31/2015

## using on-screen help

Help is available on every screen of the Central application; it will contain information related to the current screen, including instructions, notes, and important information regarding the steps you must complete on that screen.

- 1 Click the tab labeled **Help** at the bottom left of the screen to expand the help tab. ▼

Home 12:23 PM 12/17/2014 Log Out

VERITY Central Select Election Scan Review Write Ballots Reports

Workstation: W1411000211

Select Election

Please select an election

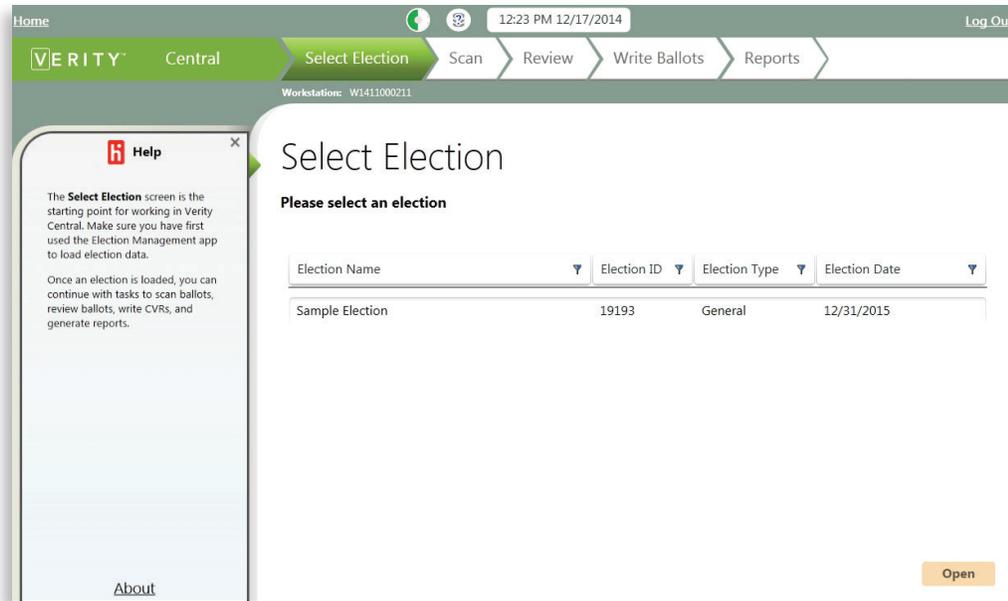
Election Name	Election ID	Election Type	Election Date
Sample Election	19193	General	12/31/2015

Open

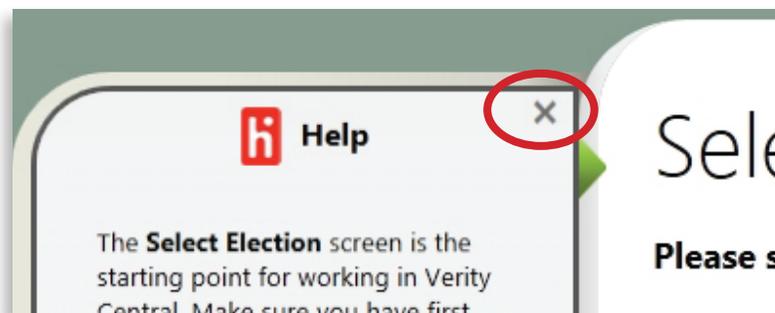
1 Help

## using on-screen help, *continued*

- 2 The help tab will display information about the current screen. ▼



- 3 Click the **X** in the upper right corner to close the help tab. ▼



## Central checklist: getting started

- 1** Insert the removable USB media containing the signed election from Build into an available port on the Central workstation.
- 2** Log in to Verity on the Central workstation.
- 3** Open the Manage application.
- 4** Under the Actions menu in Manage, choose Import signed. Browse to and select the election to be imported from the removable USB media.
- 5** Click Home to return to the Verity home screen.



## select election

### the select election tab



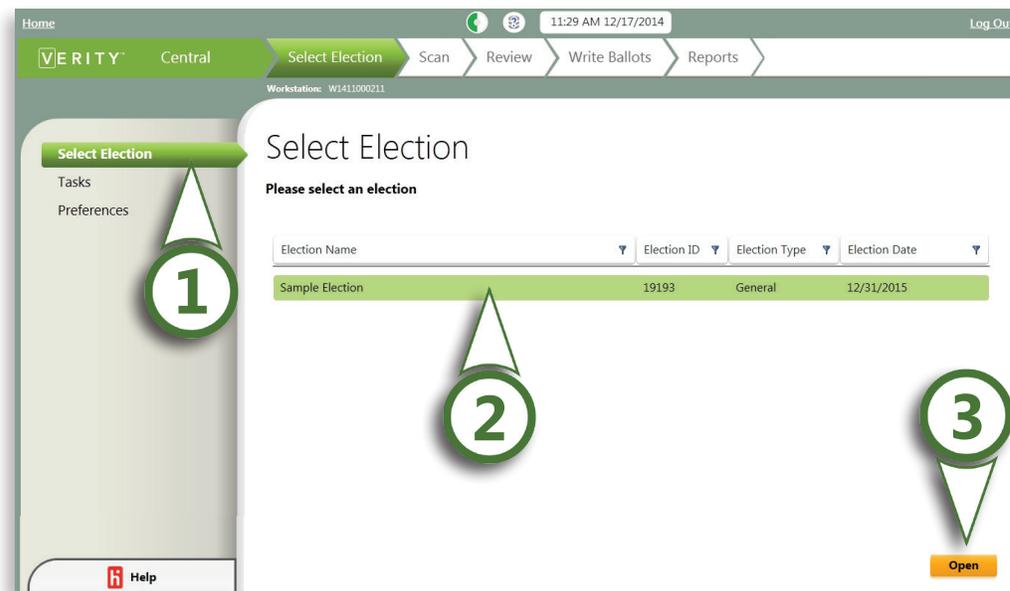
Under the **Select Election** tab, you will open the election, create tasks for scanning, and set your basic preferences for default voting type and ballot resolution. The following menus are available in the Select Election tab:

- **Select Election:** open a signed election imported from Build.
- **Tasks:** create and manage election tasks associated with Central scanning.
- **Preferences:** set default preferences for elections before importing them into the Central workstation.

## selecting and opening an election

The **Select Election** menu lets you select and open an election that you have imported from the Build workstation.

- 1** Open the Central application and select the **Select Election** menu.
- 2** Select the election you need to work with.
- 3** Click **Open** in the bottom right of the screen.



## creating and managing tasks

The **Tasks** menu allows you to create and manage various election tasks associated with Central scanning. The ballots you will scan must be associated with a particular task. "Logic & Accuracy Test" and "Election Results" are examples of Tasks. You will create and open a task before you begin scanning ballots.

### what is a task?

- ▶ A task is a new instance of a particular election. Each task can be created as either Test or Official type.
- ▶ For example for the election "General Election 2015" you may have the following tasks:
  - General Election 2015 LAT1 – Test
  - General Election 2015 Official results
- ▶ Note: if using a configuration with multiple networked Central workstations: If a task is created on another workstation *while you are viewing the Tasks menu*, the newly added Task will appear on your workstation only once you have left the Tasks menu and returned.

## creating and managing tasks, *continued*

**1** Use the **Tasks** menu to create a task and choose task settings.

**A)** Select the **Tasks** menu

**B)** Click **Actions**.

**C)** Select **New** under the Actions drop-down menu to open the New Election Task window.

Home 11:30 AM 12/17/2014 Log Out

VERITY Central Select Election Scan Review Write Ballots Reports

Workstation: W1411000211 Current Election: Sample Election Election ID: 19193 Election Date: 12/31/2015 Current Task: <none>

Select Election  
**Tasks**  
Preferences

**A**

### Task Management

Please select a task, or use the Action

Name	Type	
Official - Central 1	Official	Official
Official - Central 2	Official	Official

**B**

**Actions**

- Open
- New**
- Rename
- Change label
- Close Polls
- Delete

**C**

Open  
New  
Rename  
Change label  
Close Polls  
Delete

Help

## creating and managing tasks, *continued*

### In the New Election Task window:

**D)** Give the task a name.

**E)** Assign the task a type (Official or Test). Official should be used for scanning actual ballots. Test should be used in testing only, such as when performing an LAT.

The screenshot shows the 'New Election Task' dialog box. It has the following fields and options:

- Task Name:** A text input field with callout **D**.
- Task Type:** A dropdown menu with 'Official' selected and callout **E**.
- Report Label:** A text input field with callout **F**.
- Write-In Resolution:** A dropdown menu with 'Manage in Verity Central' selected and callout **G**.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.

**F)** Define a Report Label (optional). A Report Label will appear on reports generated under that task.

**G)** Decide how Central will handle write-ins for this task.

- **Manage in Verity Central:** If you choose this option, you will resolve all Write-in votes in Verity Central. Write-ins must be resolved in Central before any ballots from that batch can be tabulated in Count.
- **Defer to Verity Count:** If you choose this option, you will defer write-in resolution to Count. All write-ins will be resolved in the Verity Count application.

**TIP:**

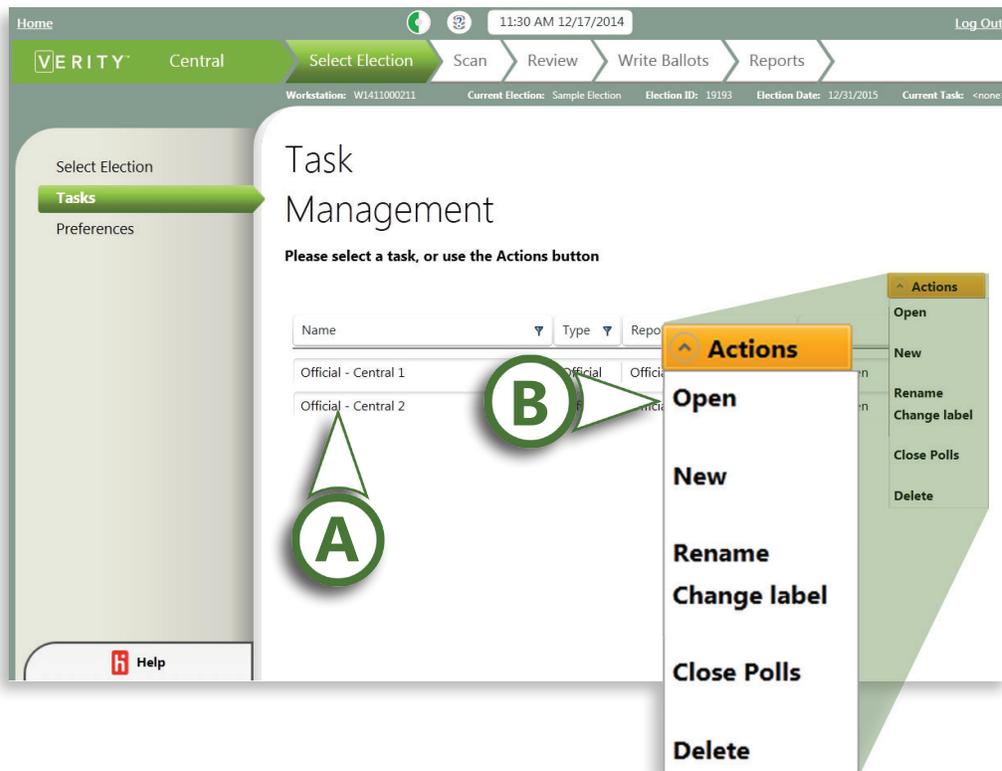
You can use the **Report Label** option to enter a description of the task that will appear on reports generated under that task.

## creating and managing tasks, *continued*

**2** Open the task you would like to work on.

**A)** Select the task to open from the list.

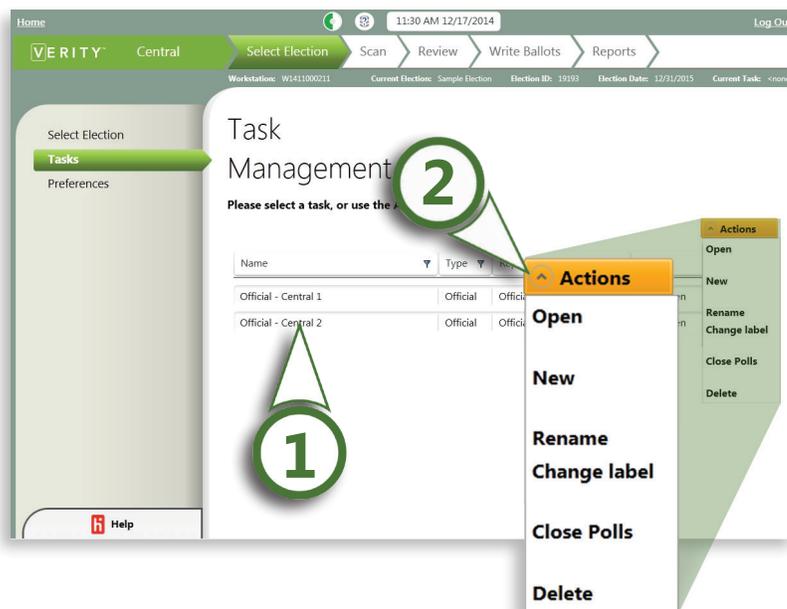
**B)** Under the Actions drop-down menu, select **Open**.



## creating and managing tasks, *continued*

### Additional task management options

- 1 Select a task to manage that task.
- 2 From the **Actions** drop-down menu, you can also:
  - ▶ Select **Rename** to rename a task
  - ▶ Select **Change label** to change a task's report label
  - ▶ Select **Delete** to delete a task



**! IMPORTANT:** If you delete a task, it cannot be retrieved.

## setting preferences

The **Preferences** menu allows you to set default preferences for Verity Central. Preferences set here will apply to all elections, including the current one.

**1** Select the **Preferences** menu.

**2** Choose the default voting type behavior.

- **Make me choose each batch** (*default*): This will force the Central operator to choose what Voting type they are scanning (i.e., Absentee, Election Day, Early Voting) each time they begin a batch.
- **Remember my last choice**: this option will automatically assign each batch to the same voting type that was used in the previous batch.



## setting preferences, *continued*

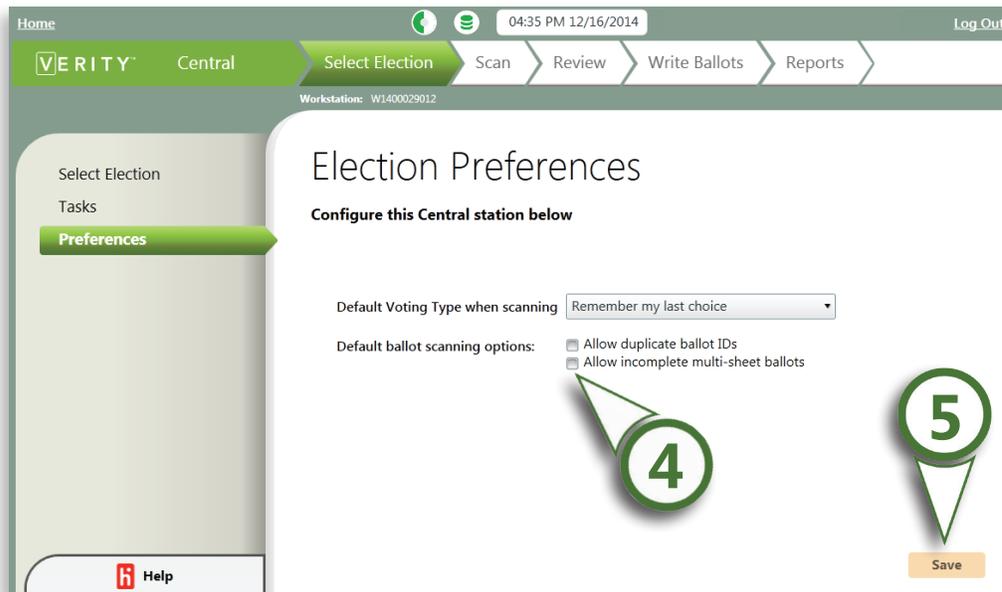
**3** Click the box next to **Allow duplicate ballot IDs** only if you assigned unique identifiers to your ballots, but you have duplicate ballots (if, for instance, there was a printing mistake, or duplicate unique identifiers were intentionally included). If you check this box, Central will not reject ballots with duplicate unique identifiers.



## setting preferences, *continued*

**4** If desired, check the box next to **Allow incomplete multi-sheet ballots**; if checked, Central will not reject multi-sheet ballots that are missing one or more sheets. You might want to check this box if you have ballot pages that may be spread across multiple batches (e.g. the second page of the ballot is separated from the first).

**5** If you have made changes, click **Save** to save your preferences.



## Central checklist: the select election tab

- 1** Log in to Verity on the Central workstation.
- 2** Open the Central application and click the Select Election tab.
- 3** Under the Preferences menu, you can choose your preferences for the Central application. Changes made here will affect the current election.
- 4** Under the Select Election menu, select the election you need to work with from the list, and click Open.
- 5** Under the Tasks menu, create and manage election tasks. Be sure to choose the proper task type (Official or Test) for each task you create.
- 6** Under the Tasks menu, select the first task you need to work on. Under Actions, choose Open to open the task.



## 3

## scan

### the scan tab



Under the **Scan** tab, you will scan ballots, manage batches of ballots, search and view scanned ballot images, and set up scanners. The following menus are available in the Scan tab:

- **Scan:** scan batches of ballots.
- **Manage Batches:** manage scanned batches of ballots.
- **Search Ballots:** search for and view individual scanned ballots.
- **Settings:** Setup scanners, test scanners, and choose scanning settings.

## scanning a batch

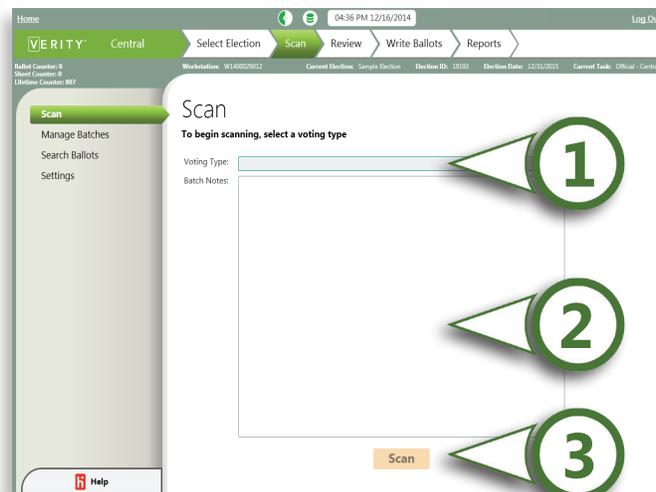
The **Scan** menu is where you will begin scanning ballots. If this is the first time you are using Central, you will need to set up the ballot scanner first *before* you begin scanning ballots. See page 181 for information on scanner settings.

- 1 Choose the voting type for the batch (Absentee, Election Day, or Early Voting).

**Note:** *If you selected **Remember my last choice** when setting Preferences (page 165), this choice will default to the voting type of the last batch that was scanned.*

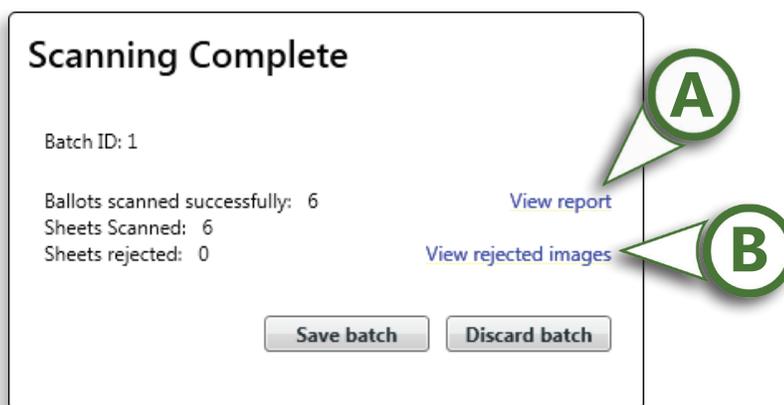
- 2 Type a description or notes for the batch, if desired (*optional*).

- 3 Click **Scan** to start scanning. A preview of each scanned ballot will appear on the right-hand side of the screen as it is scanned.



## scanning a batch, *continued*

**4** When scanning is complete, the **Scanning Complete** window will appear. Check the batch report and view any rejected images.



**A)** Click **View report** to see the batch report. Check to make sure the numbers of ballots and pages scanned equals the numbers expected. The report will also tell you which ballots or sheets were rejected, if any.

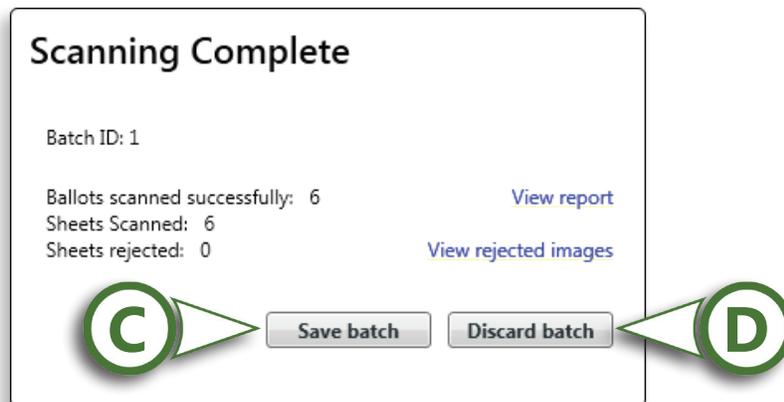
**B)** Click **View rejected images** (if any). Rejected images are ballots that cannot be read. Reasons could include:

- The ballot is damaged or torn, or the ballot barcodes are obscured or misprinted.
- The ballot was mis-fed in the scanner.
- A multi-sheet ballot is incomplete/missing sheets (Central can be set to accept or reject ballots with missing sheets; see setting preferences, page 167).
- The ballot has already been scanned (depending on how you set up your ballots, Central can be set to accept or reject ballots with duplicate ballot IDs; see page 166).

## scanning a batch, *continued*

**C)** If there are rejected images, you can choose **Discard batch** to rescan the entire batch. Choose **Save Batch** if you prefer to remove only the rejected ballots and correct/rescan them in a later batch.

**D)** If the number of ballots and pages scanned equals the number expected and there are no rejected images: Print the batch report and clip it to the ballots scanned in that batch. Click **Save Batch**. The Scanning Complete window will close.



**5** To scan additional batches, repeat steps 1-4 after you have saved the first batch.

## managing batches

The **Manage Batches** menu displays a list of all batches scanned, and includes the following information:

- ▶ Batch ID
- ▶ Status
  - **OK as scanned** = batch is ready to write to vDrive.
  - **Deleted** = batch was deleted.
  - **Written** = cast vote records written to a vDrive.
  - **Resolved** = no ballots in the batch require resolution.
  - **Not resolved** = the batch contains at least one ballot requiring resolution.
- ▶ Voting Type (i.e. Absentee, Election Day, etc.)
- ▶ Time Scanned (when the ballots were scanned)
- ▶ Workstation ID (where the ballots were scanned)

The screenshot shows the 'Manage Batches' interface in the VERITY Central application. The interface includes a navigation menu on the left with options like 'Scan', 'Manage Batches', 'Search Ballots', and 'Settings'. The main content area displays a table of scanned batches. The table has the following columns: Batch ID, Status, Voting Type, Date/Time Scanned, and Workstation. There are three rows of data, all with a status of 'Unresolved'.

Batch ID	Status	Voting Type	Date/Time Scanned	Workstation
1	Unresolved	Election Day Voting	12/16/2014 4:39:33 PM	W1400029012
2	Unresolved	Election Day Voting	12/16/2014 4:41:11 PM	W1400029012
3	Unresolved	Election Day Voting	12/16/2014 4:41:49 PM	W1400029012

## managing batches, *continued*

- 1 Select the Manage Batches menu.
- 2 Select the batch you would like to manage from the list. You can click the + next to the batch ID to view any batch notes.

The screenshot shows the VERITY Central interface. The top navigation bar includes 'Home', 'VERITY Central', and a breadcrumb trail: 'Select Election' > 'Scan' > 'Review' > 'Write Ballots' > 'Reports'. The left sidebar contains 'Scan', 'Manage Batches' (highlighted), 'Search Ballots', and 'Settings'. The main content area is titled 'Manage Batches' and contains a table with the following data:

Batch ID	Status	Voting Type	Date/Time Scanned	Workstation
1	Unresolved	Election Day Voting	12/16/2014 4:39:33 PM	W1400029012
2	Unresolved	Election Day Voting	12/16/2014 4:41:11 PM	W1400029012
3	Unresolved	Election Day Voting	12/16/2014 4:41:49 PM	W1400029012

## managing batches, *continued*

**3** Click **Actions**. Under the Actions drop-down menu, you have the following options:

- **Batch Report:** allows you to view and print a report showing the number of ballots, sheets, and status of the ballots in the selected batch.
- **Change type:** allows you to change the voting type for the selected batch (e.g. from absentee to early voting, etc.).
- **Edit notes:** allows you to change the batch notes.
- **Delete batch:** allows you to delete a scanned batch of ballots.

The screenshot shows the 'Manage Batches' interface in the VERITY Central system. The interface includes a navigation menu on the left with options like 'Scan', 'Manage Batches', 'Search Ballots', and 'Settings'. The main content area displays a table of batches with the following data:

Batch ID	Status	Voting Type	Date/Time Scanned
1	Unresolved	Election Day Voting	12/16/2014 4:39:33 PM
2	Unresolved	Election Day Voting	12/16/2014 4:41:11 PM
3	Unresolved	Election Day Voting	12/16/2014 4:41:49 PM

An 'Actions' dropdown menu is open over the first row, showing the following options: Batch Report, Change Type, Edit Notes, and Delete Batch. A callout box with the number '2' points to this menu.

**! IMPORTANT:** If you delete a batch, it cannot be retrieved; the ballots will need to be re-scanned.

## best practices for processing paper ballots

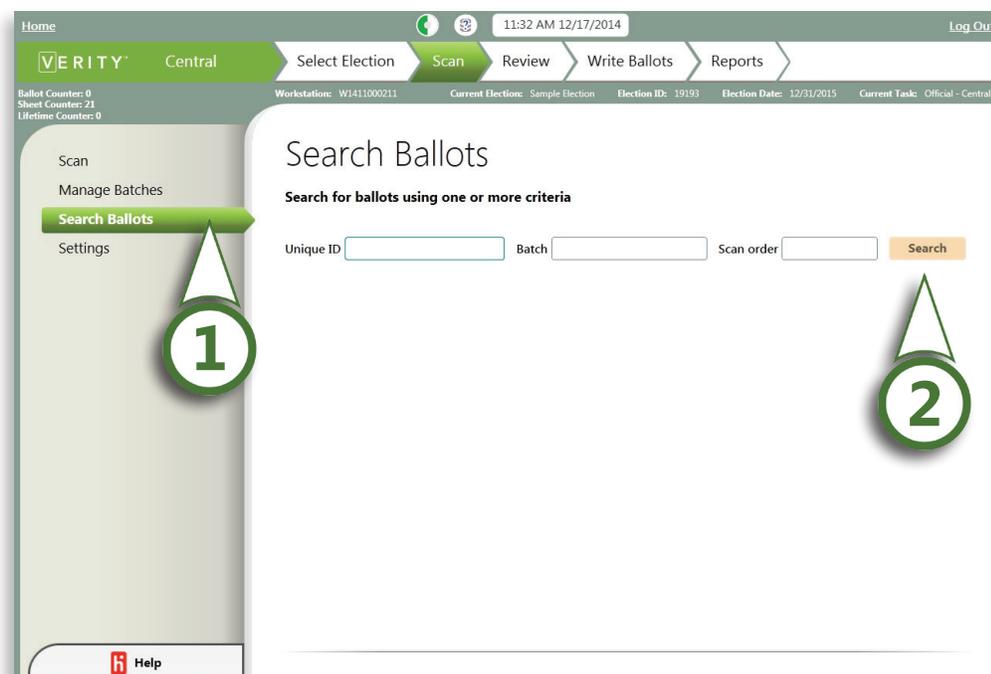
- ▶ Best practices for scanning paper ballots starts with proper management of print files from Build (observing proper naming conventions for ballot files and proper print/distiller settings, whether delivering to a ballot printer or printing directly to an in-house printer).
- ▶ For mailing ballots, proper folding techniques are also critical: Don't fold through option boxes or barcodes, and avoid folding against the grain of the paper.
- ▶ Be sure to properly unfold and flatten ballots prior to scanning.
- ▶ Assess and plan the workspace to efficiently and securely deliver voted ballots to and from the scanning station.
- ▶ Properly fan ballots prior to scanning to eliminate excess paper dust feeding into the scanner.
- ▶ Properly maintain your ballot scanner. Clean the scanner using a PC vacuum regularly and cover scanner when not in use to limit dust and debris.

## searching ballots

The **Search Ballots** menu allows you to search for individual scanned ballots within a batch by one or more criteria, so that you can view page images of the ballots.

**1** Select the **Search Ballots** menu.

**2** Type the desired search criteria, and then click **Search**. You can search by unique identifier, batch, or by scanning order; search results will display below the search fields.



## searching ballots, *continued*

**3** Click a ballot on the list to select it.

**4** Under the **Actions** drop-down menu, choose **View Ballot**. You can also choose **Delete Ballot** to permanently delete a ballot from the batch.

The screenshot shows the VERITY Central web application interface. The top navigation bar includes 'Home', 'Log Out', and a breadcrumb trail: 'Select Election > Scan > Review > Write Ballots > Reports'. The current page is 'Search Ballots'. The search criteria are: Unique ID (empty), Batch 3, and Scan order (empty). The search results table is as follows:

Unique ID	Ballot	Status	Batch	Voting Type	Party	Workstation
3	6	Resolved	3	Election Day Voting		W1400029012
	7	Resolved	3	Election Day Voting		W1400029012
	2	Resolved	3	Election Day Voting		W1400029012
3	3	Ok As Scanned	3	Election Day Voting		W1400029012
35	1	Resolved	3	Election		
47	4	Resolved	3	Election		
49	5	Resolved	3	Election		

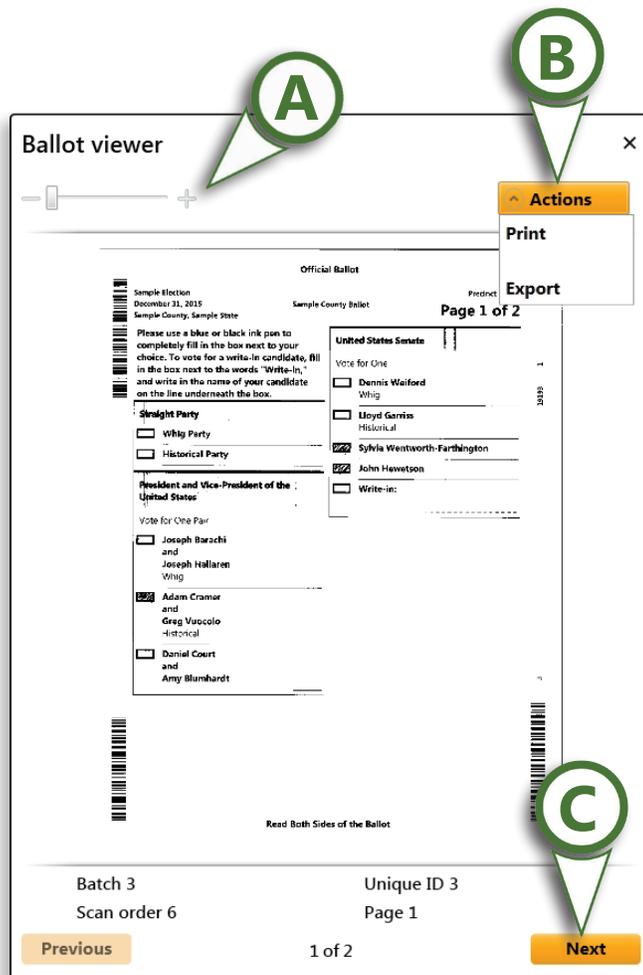
The 'Actions' dropdown menu for the first row is open, showing the following options:

- View Ballot
- Delete Ballot

## searching ballots, *continued*

### 5 View the ballot.

**A)** Use the zoom slider to magnify the ballot image.



**B)** Click **Actions**, and you can **Print** the ballot image or **Export** the ballot image to PDF.

**C)** Click **Next** or **Previous** to navigate to other pages in the batch.

## scanner settings

The **Settings** menu allows you to set up your scanner and perform a test scan, as well as set scanning preferences.

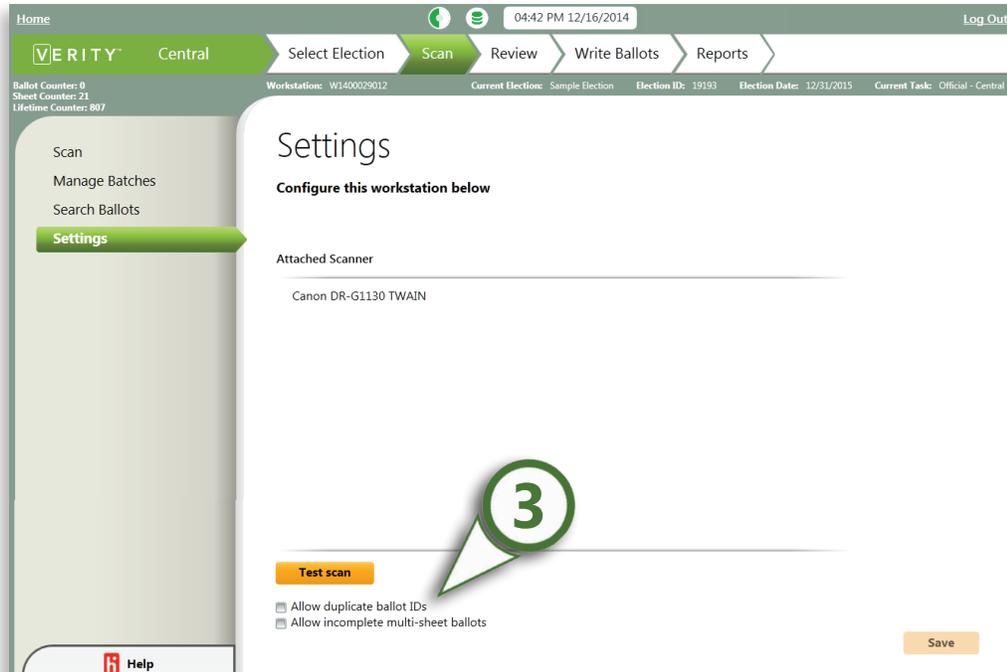
**1** The top portion of the screen displays the scanner(s) currently attached to the workstation or network.

**2** Click **Test scan** to perform a test scan. Ensure the test scan sheet is loaded in the scanner and the scanner is turned on.

The screenshot shows the VERITY Central interface. The top navigation bar includes 'Home', 'Log Out', and a breadcrumb trail: 'Select Election' > 'Scan' > 'Review' > 'Write Ballots' > 'Reports'. The 'Scan' step is highlighted. Below the navigation, the page title is 'Settings' with the instruction 'Configure this workstation below'. A green callout bubble with the number '1' points to the 'Attached Scanner' field, which displays 'Canon DR-G1130 TWAIN'. Another green callout bubble with the number '2' points to the 'Test scan' button, which is highlighted in orange. At the bottom, there are two checkboxes: 'Allow duplicate ballot IDs' and 'Allow incomplete multi-sheet ballots', both of which are unchecked. A 'Save' button is located in the bottom right corner. The left sidebar contains a menu with 'Settings' selected. The top status bar shows '04:42 PM 12/16/2014' and 'Current Task: Official - Central'.

## scanner settings, *continued*

**3** Check the box next to **Allow duplicate ballot IDs** only if you assigned unique identifiers to your ballots, but you have duplicate ballots (if, for instance, there was a printing mistake, or duplicate unique identifiers were intentionally included). If you check this box, Central will not reject ballots with duplicate unique identifiers.



Home 04:42 PM 12/16/2014 Log Out

VERITY Central Select Election Scan Review Write Ballots Reports

Ballot Counter: 0  
Sheet Counter: 21  
Lifetime Counter: 807

Workstation: W140029012 Current Election: Sample Election Election ID: 19193 Election Date: 12/31/2015 Current Task: Official - Central 1

### Settings

Configure this workstation below

Attached Scanner

Canon DR-G1130 TWAIN

**3**

Test scan

Allow duplicate ballot IDs  
 Allow incomplete multi-sheet ballots

Save

Help

## scanner settings, *continued*

**4** If desired, check the box next to **Allow incomplete multi-sheet ballots**; if checked, Central will not reject multi-sheet ballots that are missing one or more sheets. You might want to check this box if you have ballot pages that may be spread across multiple batches (e.g. the second page of the ballot is separated from the first).

**5** Click **Save** to save any changes.

Home 04:42 PM 12/16/2014 Log Out

VERITY Central Select Election Scan Review Write Ballots Reports

Ballot Counter: 0  
Sheet Counter: 21  
Lifetime Counter: 907

Workstation: W140029012 Current Election: Sample Election Election ID: 19193 Election Date: 12/31/2015 Current Task: Official - Central 1

Scan  
Manage Batches  
Search Ballots  
Settings

### Settings

Configure this workstation below

Attached Scanner

Canon DR-G1130 TWAIN

Test scan

Allow duplicate ballot IDs

Allow incomplete multi-sheet ballots

Save

## Central checklist: the scan tab

- 1** When you select and open a task, the Scan tab will open.
- 2** Under the Scan menu, choose a voting type and scan a batch of ballots under the current task.
- 3** Continue scanning additional batches of ballots as needed.
- 4** Under the Manage Batches menu, you can edit batch notes, delete batches, view batch status, edit the voting type for each batch, and print batch reports.
- 5** Under the Search Ballots menu, you can search for individual ballots within scanned batches by entering search criteria.
- 6** Under the Settings menu, you can choose basic scanner settings and perform a test scan.



## 4

## review

### the review tab



Under the **Review** tab, you will review ballot images, manage ballot filters, resolve ballots and contests, and review and manage write-in choices. You can also export ballot images singly or in bulk. The following menus are available in the Review tab:

- **Review Images:** filter scanned ballots by criteria, view ballots, and resolve ballots.
- **Write-in Candidates:** define certified write-in candidates for the election.

## resolving contests for voter intent

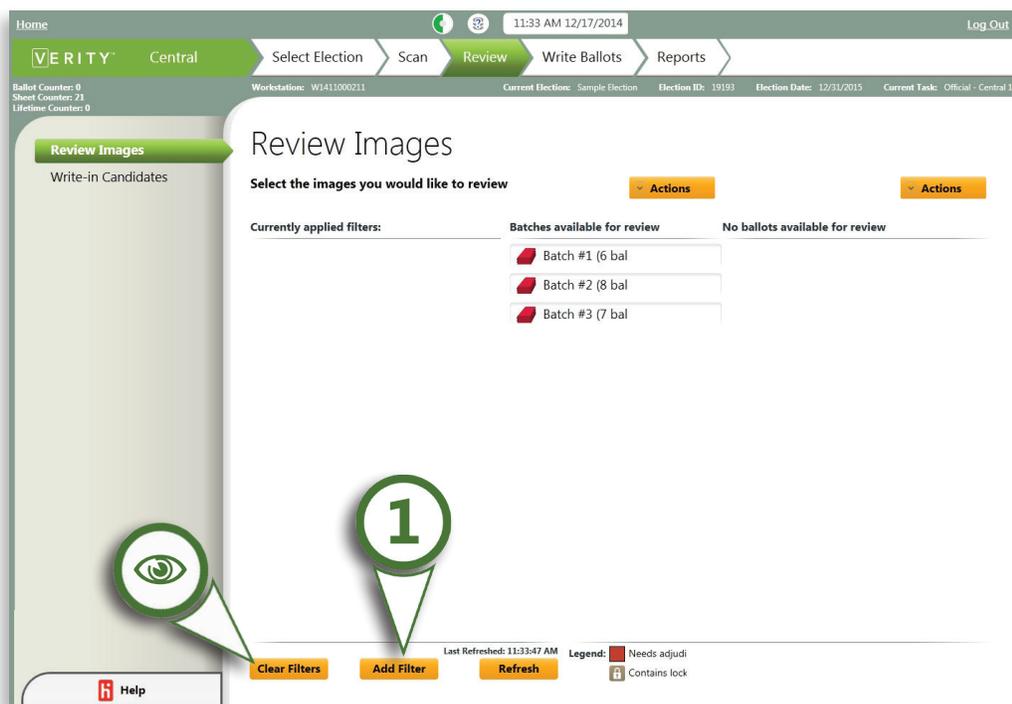
Given federal, state, and local guidelines on ballot resolution and voter intent issues, use the following steps to logically process issues encountered when viewing an unresolved contest in Verity Central:

- 1** Identify the resolution issue for the contest, using the Central contest color coding.
- 2** Identify any voter marks on that contest.
- 3** Identify any green option boxes with a green check mark. These are the options that Verity Central has read as the voter's choice(s).
- 4** Determine voter intent.
- 5** Resolve the contest:
  - Select a choice: click a white (unmarked) selection box to select it.
  - De-select a choice: click a green (marked) selection box to de-select it.
  - Confirm the existing choice(s): Click the Actions menu, and choose Accept contest.

## reviewing images

The **Review Images** menu allows you to filter ballots by criteria, view ballot pages and contests, and resolve contests for voter intent issues and write-ins.

- 1 Click **Add Filter** to open the Add Filter menu begin the ballot review process.



**Note:** You can click **Clear Filters** to remove all previously applied filters.

## reviewing images, *continued*

**2** Use the **Add Filters** menu to create and apply filters.

**A)** Select the filter to be added.

**B)** Select the filter contents.

**C)** Click **Add filter**.

**TIP:**  
Use the **ballot status** filters in conjunction with the **voter intent issues** filters to easily track your progress as you resolve intent issues.

**Add Filters**

**Select a filter type:**

- ▼ **Adjudication Criteria**
  - Ballot Status
  - Voter Intent Issues
  - User Action**
- ▼ **Ballot Criteria**
  - Precinct
  - Unique ID Range
  - Contest(s) Included
- ▼ **Batch Criteria**
  - Scanning Workstation
  - Voting Type
  - Batch ID
  - Batch Status

**Select filter contents:**

- Accepted By User
- Resolved By User
- Not Modified

**Currently applied filters:**

- User Action (1 item)  
Resolved By User

**Cancel** **Add Filter** **Save & Exit**

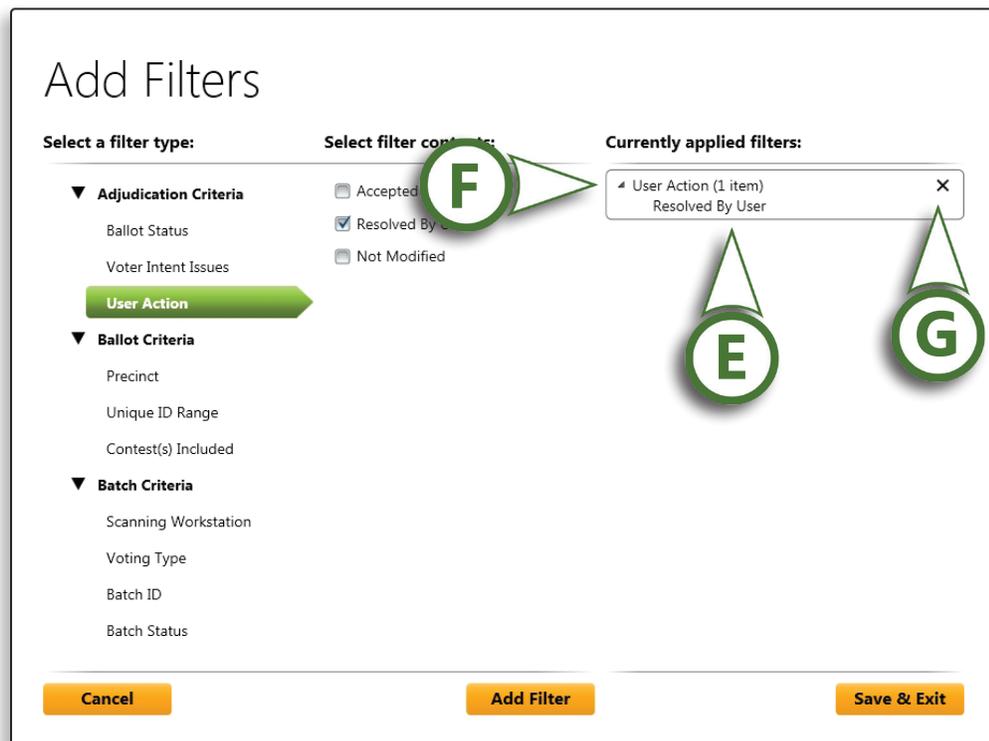
## reviewing images, *continued*

► using the Add Filters menu, *continued*

**E)** Currently applied filters appear on the right; you can click the **X** next to the filter to remove it.

**F)** To view filter items: under Currently applied filters, click the filter category to expand.

**G)** To remove an applied filter: under Currently applied filters, click the **X** next to the filter you want to remove.



## reviewing images, *continued*

### ► using the Add Filters menu, *continued*

**H)** When you have added all desired filters, click **Save & Exit**. You will return to the Review Images menu.

### Add Filters

Select a filter type:	Select filter contents:	Currently applied filters:
<p>▼ <b>Adjudication Criteria</b></p> <ul style="list-style-type: none"><li>Ballot Status</li><li>Voter Intent Issues</li><li><b>User Action</b></li></ul>	<p><input type="checkbox"/> Accepted By User</p> <p><input checked="" type="checkbox"/> Resolved By User</p> <p><input type="checkbox"/> Not Modified</p>	<p>4 User Action (1 item) Resolved By User</p>
<p>▼ <b>Ballot Criteria</b></p> <ul style="list-style-type: none"><li>Precinct</li><li>Unique ID Range</li><li>Contest(s) Included</li></ul>		
<p>▼ <b>Batch Criteria</b></p> <ul style="list-style-type: none"><li>Scanning Workstation</li><li>Voting Type</li><li>Batch ID</li><li>Batch Status</li></ul>		

**Cancel** **Add Filter** **Save & Exit**



## reviewing images, *continued*

**3** Once you have applied your filter, click a batch to view the ballots contained within that batch (A). The batches will be filtered to show only those that contain ballots meeting the filter criteria. The far right column (B) will show the specific *ballots* that meet the filter criteria.

Home 11:34 AM 12/17/2014 Log Out

VERITY Central Select Election Scan Review Write Ballots Reports

Ballot Counters: 0  
Sheet Counters: 21  
Lifetime Counters: 0

Workstation: W1411000211 Current Election: Sample Election Election ID: 19193 Election Date: 12/31/2015 Current Task: Official - Central 1

Review Images  
Write-in Candidates

Review Images

Select the images you would like to review

Currently applied filters: Voter Intent Issues (1 item)

Batches available for review

- Batch #1 (1 ballots)
- Batch #2 (2 ballots)
- Batch #3 (1 ballots)

Batch #1 ballots available for review

- Unique ID7 Ballot 2

Clear Filters Add Filter Refresh

Last Refreshed: 11:34:34 AM

Legend: Needs adjudication Checked out  
Contains locked contests Written to vDrive

## reviewing images, *continued*

### 4 Select a ballot to review.

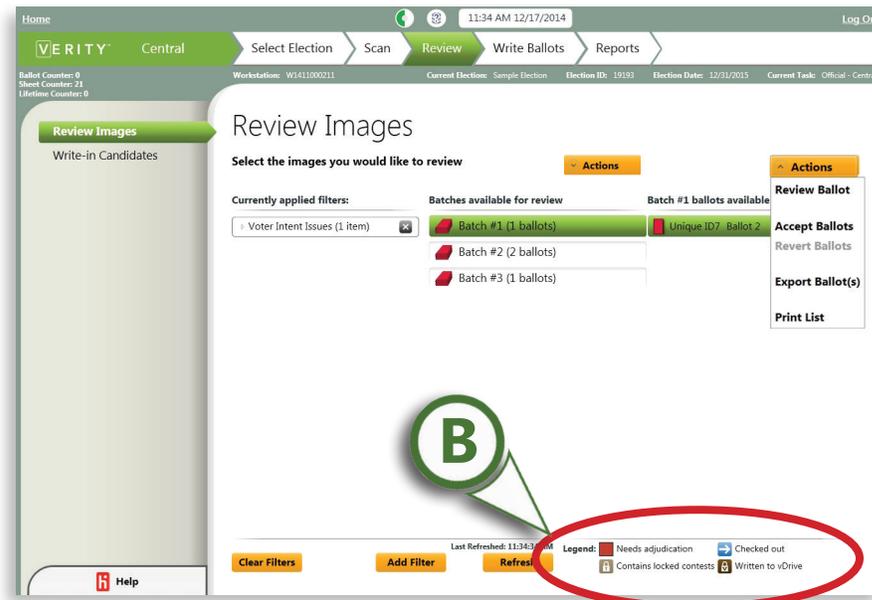
The screenshot shows the 'Review Images' interface in the VERITY system. The top navigation bar includes 'Home', 'Central', and a breadcrumb trail: 'Select Election' > 'Scan' > 'Review' > 'Write Ballots' > 'Reports'. The current time is 11:34 AM on 12/17/2014. The left sidebar has 'Review Images' selected, with 'Write-in Candidates' below it. The main content area is titled 'Review Images' and contains the instruction 'Select the images you would like to review'. Below this, there are two 'Actions' buttons. A filter is applied: 'Voter Intent Issues (1 item)'. The 'Batches available for review' section lists three batches: 'Batch #1 (1 ballots)', 'Batch #2 (2 ballots)', and 'Batch #3 (1 ballots)'. The 'Batch #1 ballots available for review' section shows 'Unique ID7 - Ballot 2'. A green circle with a white 'A' is overlaid on the 'Batch #1 (1 ballots)' entry. At the bottom, there are buttons for 'Clear Filters', 'Add Filter', and 'Refresh', along with a legend for ballot statuses: 'Needs adjudication' (red square), 'Checked out' (blue square), 'Contains locked contests' (lock icon), and 'Written to vDrive' (drive icon). The last refresh time is 11:34:34 AM.

**A)** The symbol next to a ballot indicates the ballot status. Click a ballot to select it for review.

## reviewing images, *continued*

### ► selecting a ballot for review, *continued*

**B)** The different ballot status indicators are described in the legend on the bottom right.



-  **Needs adjudication:** This ballot contains a contest that requires adjudication to determine voter intent.
-  **Checked out:** a user has begun the review process for this ballot. A ballot is checked back in when it is either resolved, or the user leaves the Ballot Review window. The ballot cannot be accessed by other users or written to a vDrive while it is checked out.
-  **Contains locked contests:** A user has manually locked one or more contests on this ballot.
-  **Written to vDrive:** this ballot has been resolved and written to a vDrive for tabulation.

## reviewing images, *continued*

### ► selecting a ballot for review, *continued*

**C)** Click the **Actions** menu.

**D)** Select **Review Ballot**; the Ballot Review window will open.

**E)** If using a configuration with multiple networked Central workstations: select refresh to update status of ballots and batches resolved on other workstations.

The screenshot displays the VERITY Central software interface for reviewing images. The top navigation bar includes 'Home', 'VERITY Central', and a sequence of steps: 'Select Election', 'Scan', 'Review' (highlighted), 'Write Ballots', and 'Reports'. The current time is 11:34 AM on 12/17/2014. The interface shows a sidebar on the left with 'Review Images' selected. The main area is titled 'Review Images' and contains a table of batches available for review. A callout 'C' points to the 'Actions' menu, 'D' points to the 'Review Ballot' option, and 'E' points to the 'Refresh' button at the bottom.

**Review Images**  
Write-in Candidates

Select the images you would like to review

Currently applied filters: Voter Intent Issues (1 item)

Batches available for review

Batch	Ballots
Batch #1	1
Batch #2	2
Batch #3	1

Actions: Review Ballot, Accept Ballots, Revert Ballots, Export Ballot(s), Print List

Clear Filters, Add Filter, Refresh

Legend: Needs adjudication, Checked out, Contains locked contests, Written to vDrive

## resolving pages and contests

In the Ballot Review window, you can manually resolve entire ballot pages or individual contests.

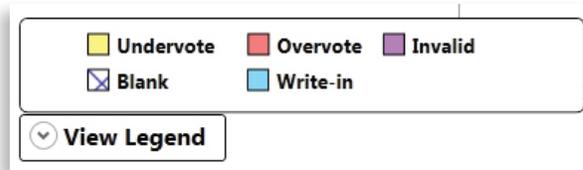
**1** Review ballot pages in the page-level view.

**A)** Contests requiring adjudication are color-coded by the type of issue.

**B)** Click **View Legend** to see the meaning of each color code.

The screenshot shows the 'Ballot Review' application interface. On the left, there is a sidebar with the following information: 'Batch 1', 'Scan order 2', 'Page 1', and 'Unique ID 7'. Below this is a text input field with a note icon and the text 'type here to add notes...'. There are also two small icons representing different ballot types. At the bottom of the sidebar is a 'View Legend' button. The main area is titled 'Select a contest' and displays a preview of an 'Official Ballot' for 'Sample County Ballot'. The ballot is marked as 'Page 1 of 2'. The ballot content includes instructions for voters and a list of candidates for 'President and Vice-President of the United States'. One candidate, 'Joseph Berardi and Joseph Hallaren', is selected with a checkmark. A red box highlights a contest on the ballot, and a green callout with the letter 'A' points to it. At the bottom of the main area are 'Previous' and 'Next' buttons. A green callout with the letter 'B' points to the 'View Legend' button in the sidebar.

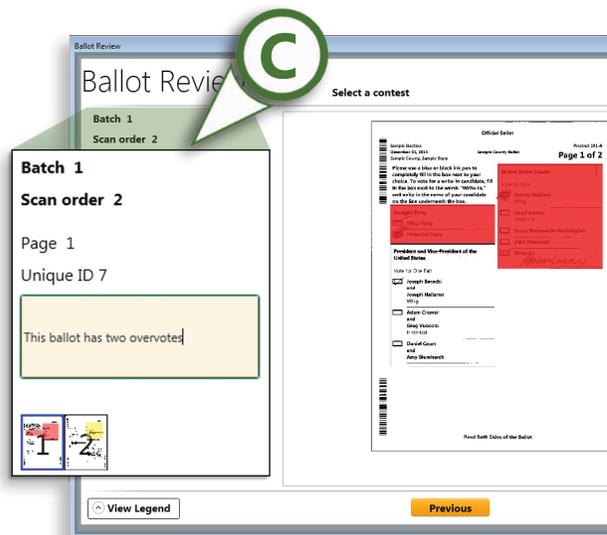
## resolving pages and contests, *continued*



- **Undervote:** The voter has chosen fewer than the allowed number of choices.
- **Overvote:** The voter has chosen more than the allowed number of choices.
- **Invalid:** (Open Primary Elections only) The voter has voted in multiple partisan primaries.
- ☒ **Blank:** The voter has made no choices for the entire ballot page.
- **Write-in:** The voter has entered a write-in candidate for the contest.

**C)** The upper left side of the Ballot Review window displays:

- the batch and ballot information
- a field for entering notes
- thumbnails of the ballot pages



## resolving pages and contests, *continued*

### D) Click Actions. From the Actions menu, you can:

- **Print Page:** Prints the current ballot page image.
- **Export Page:** Exports the current ballot page image to PDF.
- **Hide Annotations/View Annotations:** toggles viewability of the color coding on the page image.
- **Lock Page:** Locks the page for review; useful if you are using multiple stations for ballot review. When a page is locked, it cannot be modified without first unlocking it (see page 209).
- **Accept Page:** Accepts all contests on the page in their current state.
- **Revert Page:** Returns the page to its original scanned state.

### E) Use the zoom slider to magnify a page.

## resolving pages and contests, *continued*

**2** Click a contest to review and resolve it in contest-level view.

**A)** From the Ballot Review page, click an individual contest to enter the Contest View.

**B)** The current active page now appears as a thumbnail in the lower left corner. You can click the maximize button to return to the page view.

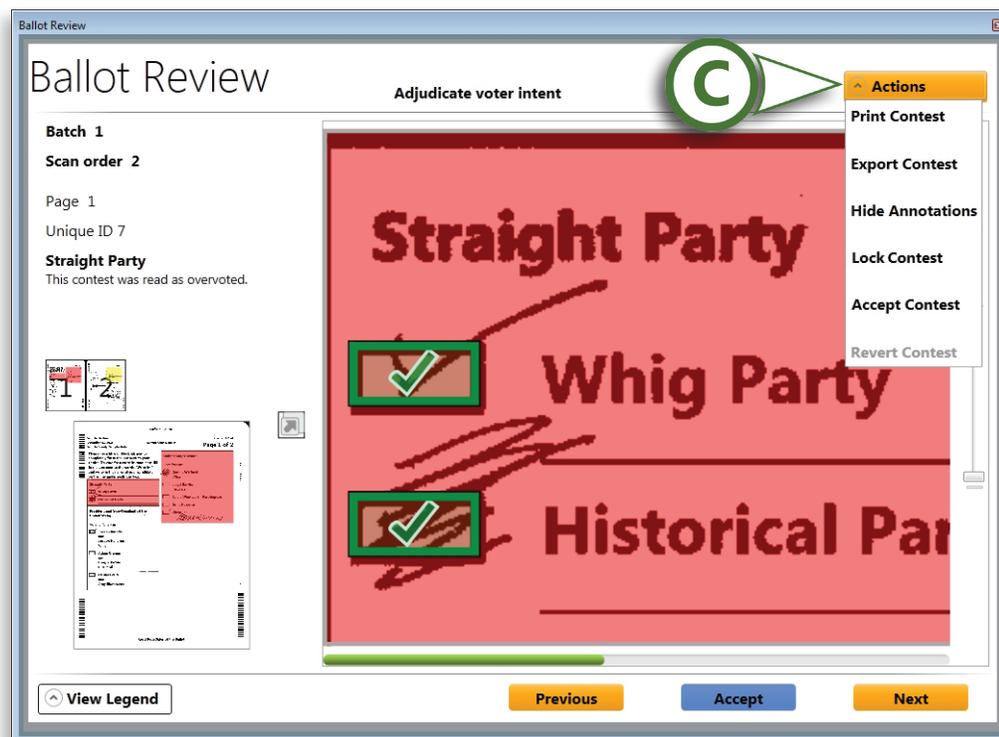
The image shows a software interface for reviewing ballots. On the left, a smaller window displays a scanned ballot with a red circle 'A' pointing to a contest. The main window, titled 'Ballot Review', shows a larger view of the ballot with a red circle 'B' pointing to the same contest. The contest is labeled 'Straight Party' and has a checkmark in a box next to it. The interface includes a 'View Legend' button, 'Previous', 'Accept', and 'Next' buttons, and an 'Actions' dropdown menu.

◀ Click a contest to enter the Contest View. ▼

## resolving pages and contests, *continued*

**C)** Click **Actions**. From the Actions menu, you can:

- **Print Contest:** Prints the current contest image.
- **Export Contest:** Export the current contest image to PDF.
- **Hide Annotations/View Annotations:** toggles visibility of the color coding on the contest image.
- **Lock Contest:** Locks the contest for review; useful if you are using multiple stations for ballot review. When a contest is locked, it cannot be modified without first unlocking it (see page 209).
- **Accept Contest:** Accepts the contest in its current state.
- **Revert Contest:** Returns the contest to its original scanned state.



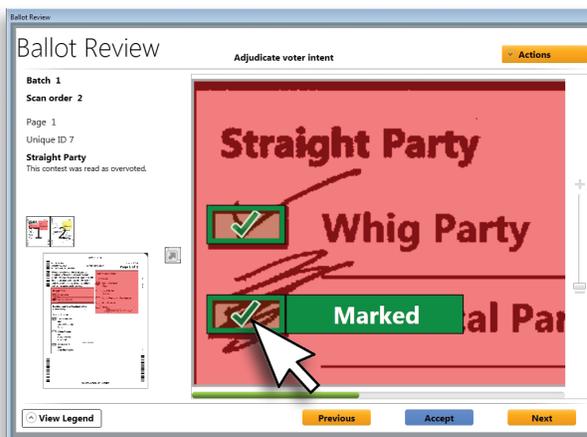
## resolving pages and contests, *continued*

### 3 Resolve the contest for voter intent, if required.

**A)** Click a selection box to mark or unmark a selection.

- A marked box is green with a small check mark; An unmarked box is gray.
- Hovering over a selection box with the mouse reveals the current state of the selection (e.g. "Marked", "Not Marked").

Click a **Marked** selection box to change it to **Not Marked**. ►

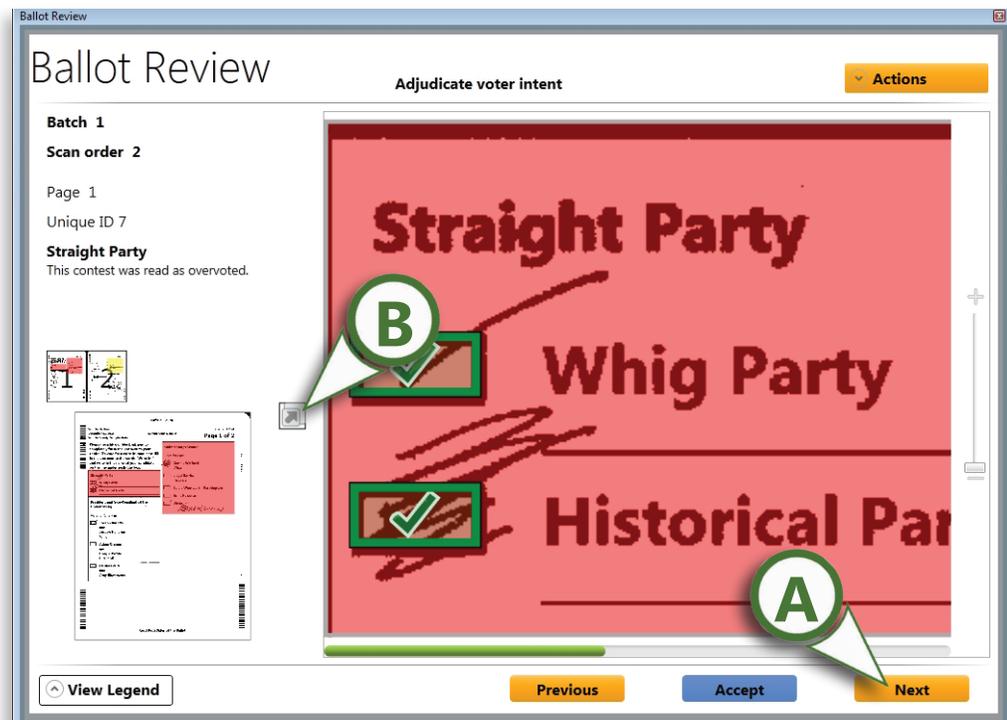


In the examples to the right, clicking the Historical Party selection box changes the selection to **Not Marked**; the vote will now be recorded for Whig Party. ►



## resolving pages and contests, *continued*

**4** Click **Next** to go to the next contest (**A**). You can also click the maximize button (**B**) to return to the page-level view and select a different contest.



## resolving pages and contests, *continued*

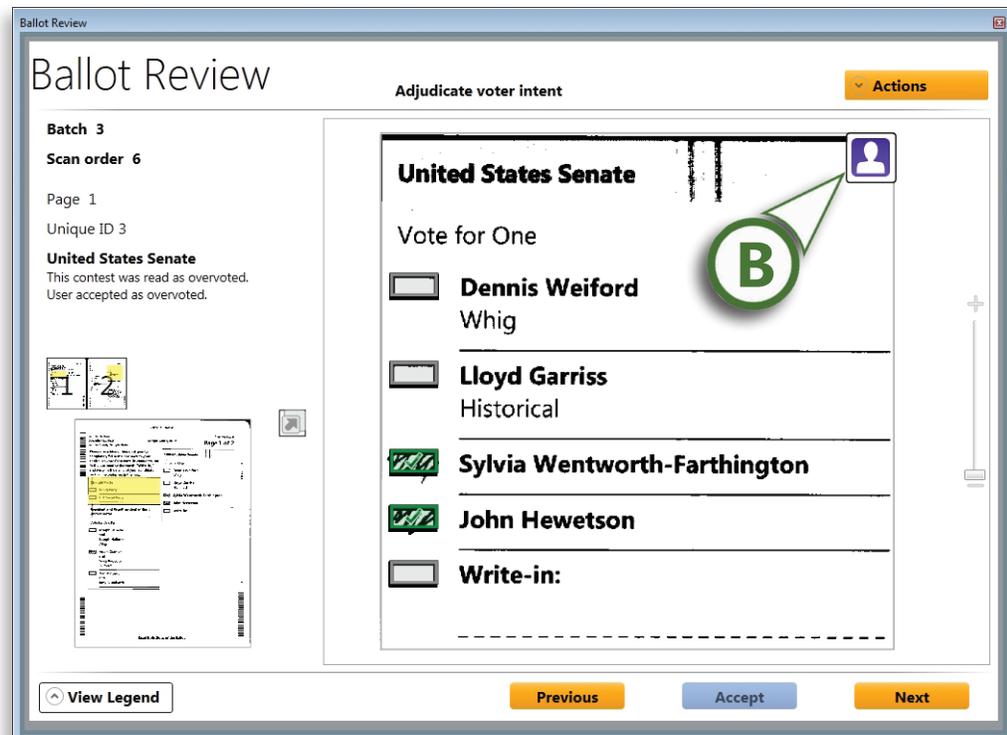
**5** Click **Accept** to accept the existing state of the contest as-is.

**A)** In the example below, clicking **Accept** will record this contest as an overvote (no vote will be recorded for this contest).

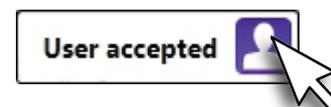
The screenshot displays the 'Ballot Review' software interface. The main window is titled 'Ballot Review' and contains a sidebar on the left with the following information: 'Batch 3', 'Scan order 6', 'Page 1', 'Unique ID 3', and 'United States Senate' with a note 'This contest was read as overvoted.' Below this is a thumbnail of the scanned ballot. The main area is titled 'Adjudicate voter intent' and shows a red-tinted image of a ballot for the 'United States Senate' with the instruction 'Vote for One'. The ballot lists five options: 'Dennis Weiford Whig', 'Lloyd Garriss Historical', 'Sylvia Wentworth-Farthington', 'John Hewetson', and 'Write-in:'. The 'Accept' button at the bottom is highlighted in blue, and a green callout bubble with the letter 'A' points to it. Other buttons include 'Previous', 'Next', and 'View Legend'.

## resolving pages and contests, *continued*

**B)** The icon at the top right of the contest indicates the status of the contest.



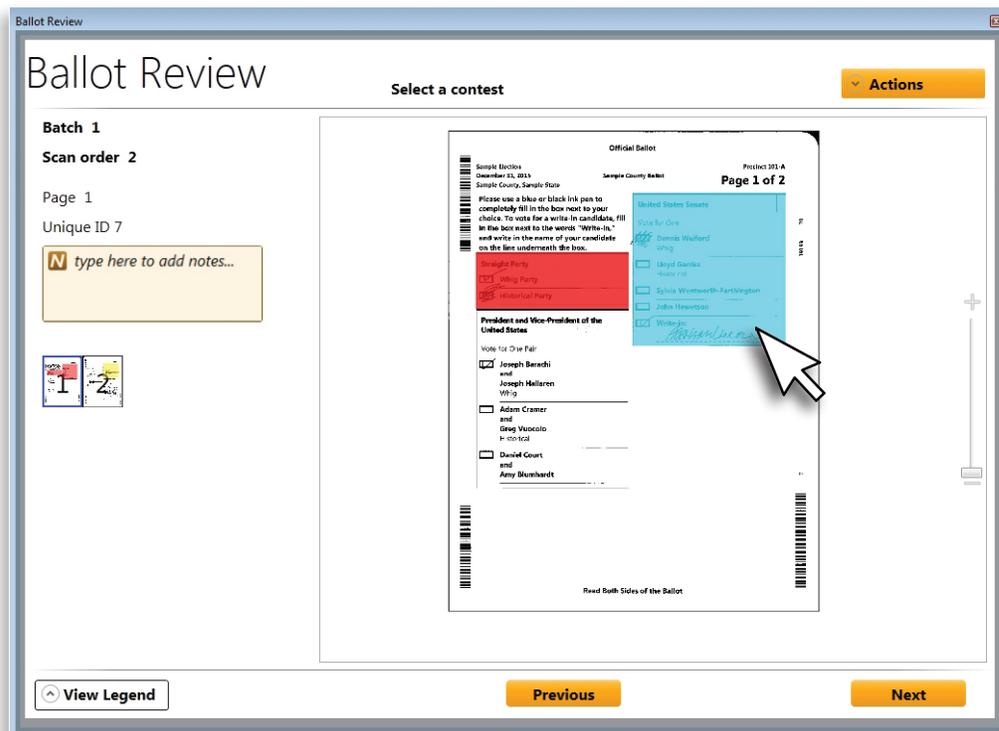
Hovering the mouse pointer over the icon reveals the state of the contest (e.g. "User resolved", "User accepted", "Contest locked"). ►



## resolving write-ins

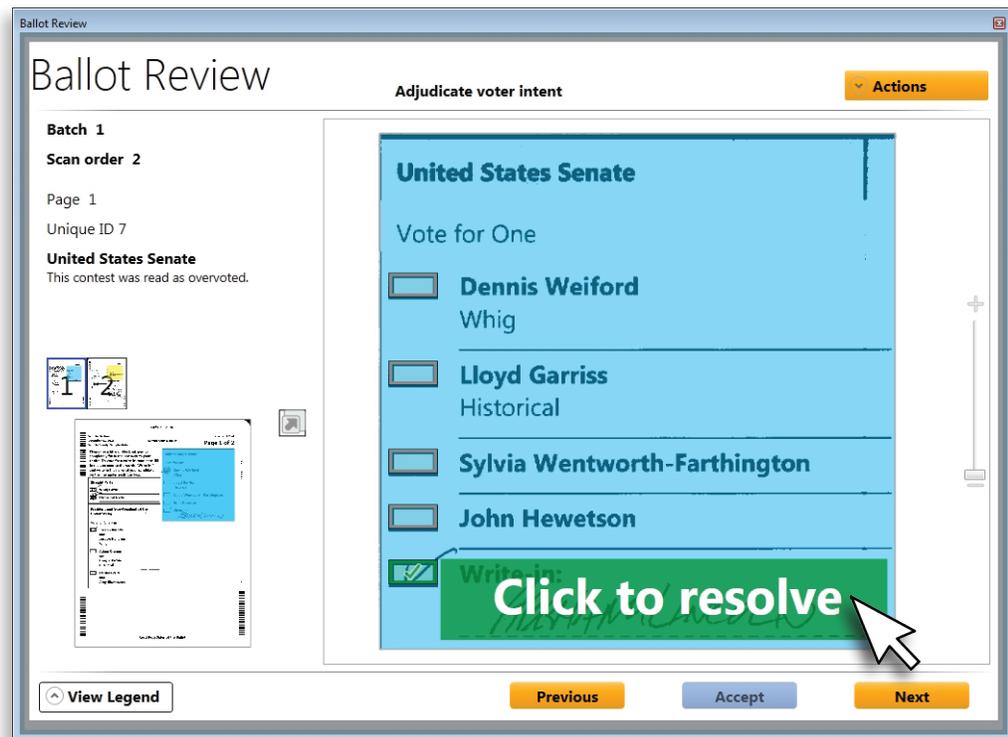
The process for resolving write-in votes is the same as the process for resolving other contests, with the additional step of assigning the vote to a write-in candidate. If you have certified write-in candidates, define those first (see page 211).

**1** In the page level view of the Ballot Review window, click a contest with a write-in vote to open the contest in contest-level view.



## resolving write-ins, *continued*

- 2 Click the write-in name to resolve it.



## resolving write-ins, *continued*

- 3 Choose from the list of certified write-in choices (if applicable). You can also select **Enter a new candidate...** to enter a new write-in name.

The screenshot displays the 'Ballot Review' software interface. The main window is titled 'Ballot Review' and has a sub-header 'Adjudicate voter intent'. On the left side, there is a sidebar with the following information: 'Batch 1', 'Scan order 2', 'Page 1', 'Unique ID 7', and 'United States Senate' with a note 'This contest was read as overvoted.' Below this is a small thumbnail of the scanned ballot. The main area shows a 'Vote for One' section for the 'United States Senate'. A dropdown menu is open over the 'Write-in' field, listing options: 'Enter a new candidate...', 'Reject this write-in', 'Abraham Lincoln', 'Dennis Weiford', 'John Hewetson', 'Lloyd Garriss', and 'Sylvia Wentworth-Farthington'. The 'Write-in' field itself contains a handwritten signature 'ABRAHAM LINCOLN' and is marked with a green checkmark. Below the ballot image are three buttons: 'View Legend', 'Previous', 'Accept', and 'Next'.

## resolving write-ins, *continued*

**4** The entered text will appear superimposed over the write-in. Click **Next** to advance to the next contest requiring review.

The screenshot displays the 'Ballot Review' application window. The main title is 'Ballot Review' and the subtitle is 'Adjudicate voter intent'. On the left, there is a sidebar with the following information: 'Batch 1', 'Scan order 2', 'Page 1', 'Unique ID 7', and 'United States Senate'. Below this, it states 'This contest was read as overvoted. User resolved as properly marked with resolved write-ins.' There are two small images of ballot pages. The main area shows a 'Vote for One' section for the 'United States Senate' with a list of candidates: Dennis Weiford (Whig), Lloyd Garriss (Historical), Sylvia Wentworth-Farthington, and John Hewetson. A green box at the bottom of the list contains the text 'Write-in: Abraham Lincoln' with a green eye icon pointing to it. At the bottom of the window, there are three buttons: 'View Legend', 'Previous', and 'Next'.

## resolving remaining contests

Apply new filters to continue the ballot review process, until all ballots have been resolved.

- ▶ All ballots must be checked in and resolved before they can be written to a vDrive.

## Checking in and checking out ballots and contests

- ▶ A ballot or contest is automatically checked out to the user when they open the ballot or contest in the Ballot Review window.
- ▶ The ballot or contest is automatically checked back in when the ballot or contest is resolved, or when the Ballot Review window is closed, or another batch is chosen.

## Locking ballot pages or contests

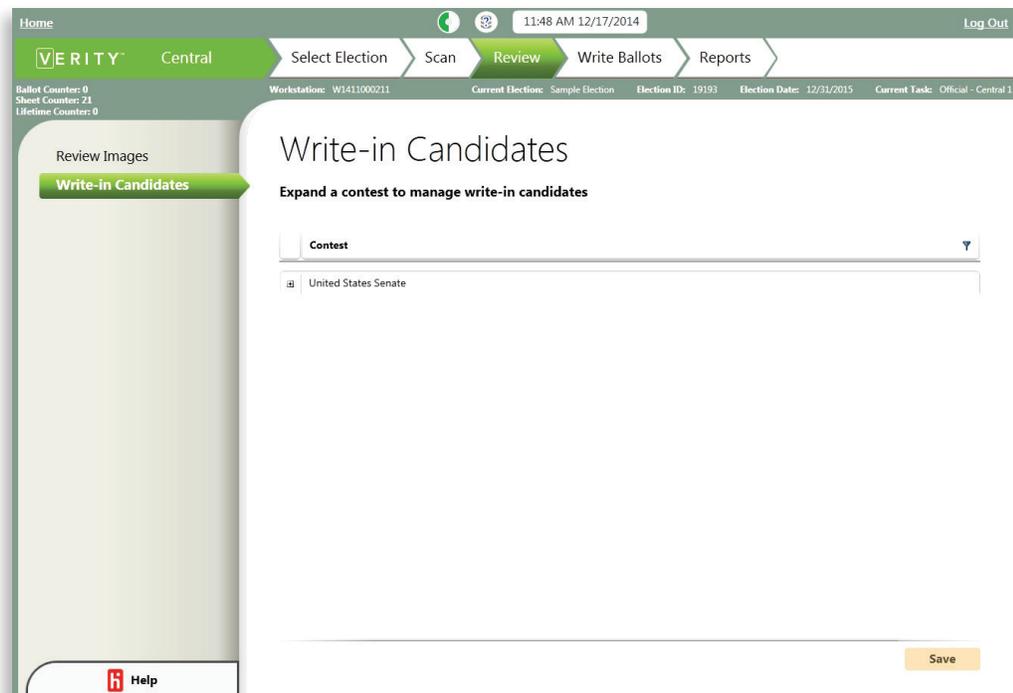
- ▶ A user can manually lock a ballot page or contest to prevent other users from modifying that ballot page or contest.
- ▶ In the Ballot Review window, click **Actions** and choose **Lock Page** (or **Lock Contest**) to lock the current ballot page or contest. To unlock a locked page or contest, choose **Unlock Page** (or **Unlock Contest**).

## managing certified write-ins

The **Write-in Candidates** menu allows you to view, add or delete certified write-in candidates.

### Viewing certified choices for each contest

Click the  symbol to the left of a contest to expand and view certified choices for that contest.

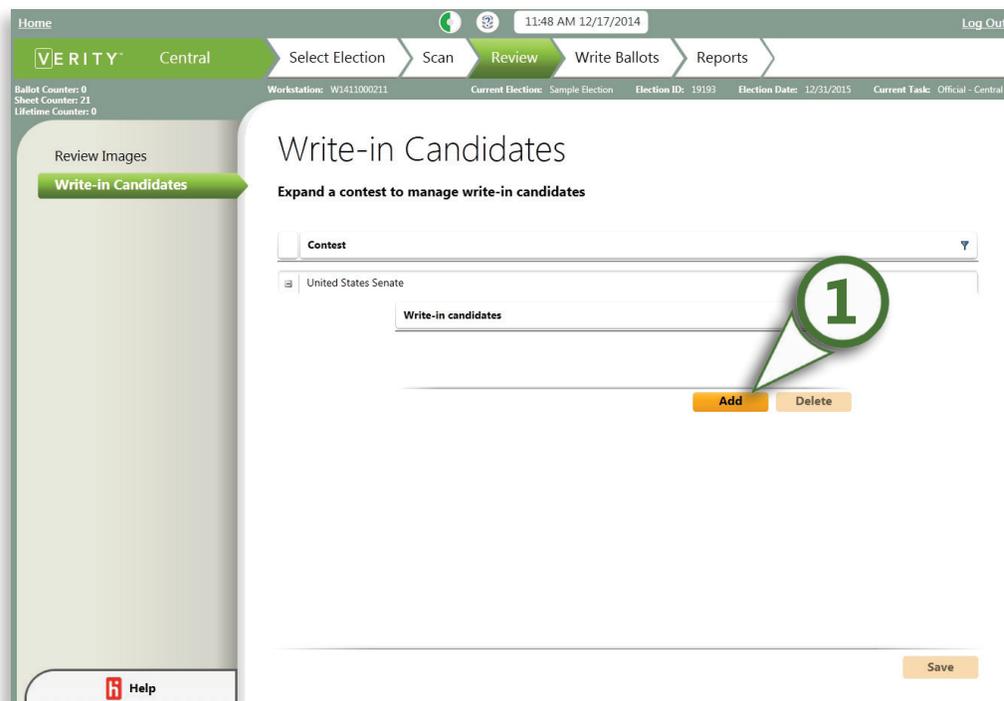


The screenshot displays the VERITY Central application interface. The top navigation bar includes 'Home', 'Log Out', and a breadcrumb trail: 'Select Election' > 'Scan' > 'Review' > 'Write Ballots' > 'Reports'. The 'Review' step is currently active. Below the navigation bar, a status bar shows 'Workstation: W1411000211', 'Current Election: Sample Election', 'Election ID: 19193', 'Election Date: 12/31/2015', and 'Current Task: Official - Central 1'. On the left sidebar, the 'Write-in Candidates' menu item is highlighted. The main content area is titled 'Write-in Candidates' and contains the instruction 'Expand a contest to manage write-in candidates'. Below this instruction is a table with a single row for the 'United States Senate' contest, which is currently collapsed. A 'Save' button is located at the bottom right of the main content area.

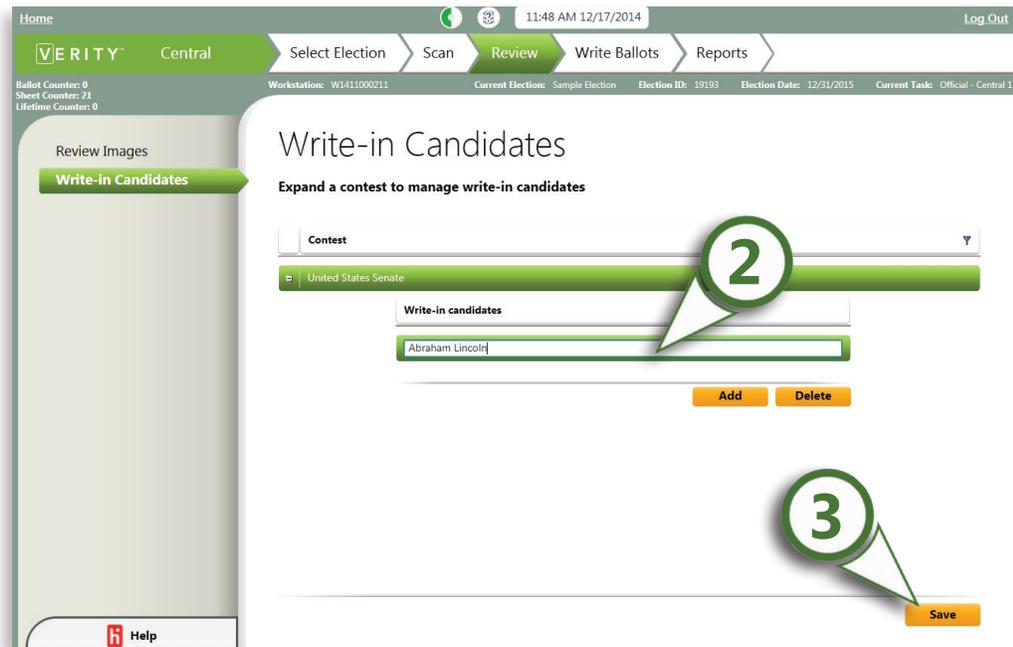
## managing certified write-ins, *continued*

### Adding new certified choices

- 1 Click **Add** to add a new certified choice for the contest.



## managing certified write-ins, *continued*



**2** Type the candidate name.

**3** Click **Save** in the lower right corner.

### Deleting existing certified choices

Select the choice to delete, and then click **Delete** to delete the choice from the list. Click **Save** when done.

## exporting ballot images

You can also use the Review Images menu to export ballot images, singly or in bulk, for auditing purposes.

- 1 Select the **Review Images** menu and choose your desired filter(s).
- 2 Select the ballots you would like to export.
- 3 Under the actions menu, select **Export Ballot(s)**.

Home 11:34 AM 12/17/2014 Log Out

VERITY Central Select Election Scan Review Write Ballots Reports

Ballot Counter: 0  
Sheet Counter: 21  
Lifetime Counter: 0

Workstation: W1411000211 Current Election: Sample Election Election ID: 19193 Election Date: 12/31/2015 Current Task: Official - Central

Review Images  
Write-in Candidates

Select the images you would like to review Actions

Currently applied filters: Voter Intent Issues (1 item)

Batches available for review

- Batch #1 (1 ballots)
- Batch #2 (2 ballots)
- Batch #3 (1 ballots)

Actions

- Review Ballot
- Accept Ballots
- Revert Ballots
- Export Ballot(s)
- Print List

Clear Filters Add Filter Refresh

Last Refreshed: 11:34:34 AM Legend: Needs adjudication Checked out Contains locked contests Written to vDrive

## ballot resolution: a sample scenario

When resolving ballots for voter intent, you must follow the regulations set forth by your jurisdiction and state in regards to how when to adjudicate ballots for voter intent. Following these rules, you should create an adjudication plan that allows you to efficiently resolve all ballots in a timely manner. ***The scenario described below is intended as an example only;*** your adjudication plan may differ.

### Sample County, USA scenario:

In Sample County, USA, regulations state that all overvotes and certified write-in votes must be adjudicated on Election Night. Regulations for Sample County also state that invalid votes, undervotes, and blank ballots can be safely ignored, and that uncertified write-in votes can be rejected. For Sample County, a Verity Central ballot resolution plan would be as follows:

- 1** Create a filter to show only ballots containing overvotes that have not been modified.
- 2** Adjudicate and resolve all overvoted contests.

## ballot resolution: a sample scenario, *continued*

- 3 Define all certified write-in candidates.
- 4 Create a filter to show only ballots containing write-ins that have not been modified.
- 5 Perform ballot resolution to assign all votes for certified write-in candidates to the appropriate certified write-in candidate.
- 6 Any remaining write-in votes not for certified candidates can be rejected.
- 7 Filter the remaining ballots requiring adjudication for undervotes and blank ballots that have not been modified.
- 8 Select the batches from the filter results; click the Batch **Actions** button and select **Accept Batches** to accept all undervotes and blank ballots.
- 9 Remove all filters and verify there are no remaining ballots requiring adjudication.

## Central checklist: the review tab

- 1** Log in to Verity on the Central workstation.
- 2** Open Central and select the Review tab.
- 3** Under the Review Images menu, create filters to manage the ballot review process. You can filter by multiple criteria to access only the ballots you want to review.
- 4** Select a ballot to review by choosing Review Ballot under the Actions menu. The Ballot Review window will open.
- 5** Use the tools in the ballot review window to resolve ballot pages and contests for voter intent according to the rules set forth by your jurisdiction.
- 6** Close the ballot review window to apply new filters in the Review images menu. Repeat steps 4, 5 & 6 until all ballots requiring review have been resolved.
- 7** If you have certified write-in candidates, add and manage them under the Write-in Candidates menu.



## 5

# write ballots

## the write ballots tab



Once you have finished reviewing the ballots, in the **Write Ballots** tab you will write the accepted cast vote records to a vDrive for tabulation in Verity Count. The following menus are available in the Write Ballots tab:

- **Write Ballots:** write batches of ballots to vDrives for tabulation in Count.
- **Recovery vDrive:** create a recovery vDrive from previously written ballot data.

## writing ballots to a vDrive

The **Write Ballots** menu allows you to write batches of ballots to a vDrive for tabulation in Verity Count.

**1** Insert an unused vDrive for your election into an available USB port on the Central workstation. The screen will show whether a vDrive is inserted.

**2** Select the batches to write.

**3** Click **Write**.

Home 11:56 AM 12/17/2014 Log Out

VERITY Central Select Election Scan Review Write Ballots Reports

Ballot Counter: 0  
Sheet Counter: 21  
Lifetime Counter: 0

Workstation: W1411000211 Current Election: Sample Election Election ID: 19193 Election Date: Current Task: Official - Central

**Write Ballots**  
Recovery vDrive

### Write Ballots to vDrive

Select batches to write to a vDrive **1 vDrives currently inserted**

Batch ID	Voting Type	Total ballots	Notes	Workstation
1	Election Day Voting	6	Batch one contains 6 ballots	W1400029012
2	Election Day Voting	8	Batch 2 contains 8 ballots	W1400029012
3	Election Day Voting	7	Batch 3 contains 7 ballots	W1400029012

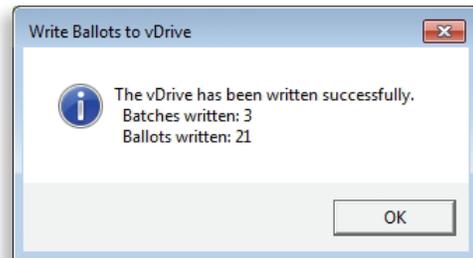
Total ballots written: 0  
Total batches written: 0  
Total vDrives written: 0

**Write** **Close vDrive**

Help

## writing ballots to a vDrive, *continued*

**4** When the batch has finished writing, click **OK**. If desired, you can repeat steps 2-4 to write additional batches to the vDrive. ►



**5** Once you have finished writing batches to the vDrive, click **Close vDrive**. Once you have closed the vDrive, no additional batches can be written to that vDrive.

Home 11:56 AM 12/17/2014 Log Out

VERITY Central Select Election Scan Review Write Ballots Reports

Ballot Counter: 0 Workstation: W1411000211 Current Election: Sample Election Election ID: 19193 Election Date: 12/31/2015 Current Task: Official - Central  
Sheet Counter: 21  
Lifetime Counter: 0

Write Ballots  
Recovery vDrive

### Write Ballots to vDrive

Select batches to write to a vDrive **1 vDrives currently inserted**

Batch ID	Voting Type	Total ballots	Notes	Workstation
1	Election Day Voting	6	Batch one contains 6 ballots	W1400029012
2	Election Day Voting	8	Batch 2 contains 8 ballots	W1400029012
3	Election Day Voting	7	Batch 3 contains 7 ballots	W1400029012

Total ballots written: 0  
Total batches written: 0  
Total vDrives written: 0

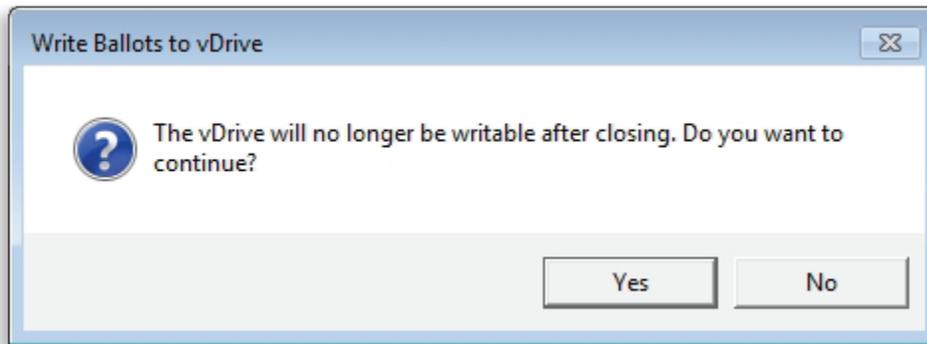
**5**

Write Close vDrive

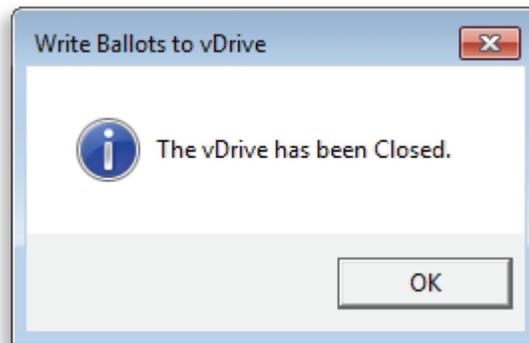
Help

## writing ballots to a vDrive, *continued*

- 6** Click Yes. Once you have closed the vDrive, no additional batches can be written to that vDrive.



- 7** The vDrive has been closed. Click OK.



## creating a Recovery vDrive

The **Recovery vDrive** menu allows you to create a replacement for a damaged or lost vDrive using backup data from a previously written vDrive.

**1** Select the Recover vDrive menu.

**2** Insert an a vDrive not previously used for the current election into an available USB port on the Central workstation.

Home 11:57 AM 12/17/2014 Log Out

VERITY Central Select Election Scan Review Write Ballots Reports

Ballot Counter: 21  
Sheet Counter: 21  
Lifetime Counter: 21

Workstation: W1411000211 Current Election: Sample Election Election ID: 19193 Election Date: 12/31/2015 Current Task: Official - Central 1

Write Ballots  
Recovery vDrive

1

Create Recovery vDrive 2

Select vDrive data to recover

1 vDrives currently inserted

vDrive ID	Number of batches	Number of ballots	Workstation
6	3	21	W1411000211

Help Recover

## creating a Recovery vDrive, *continued*

- 3 Select the vDrive data from the list that you would like to recover.
- 4 Click **Recover**. The new vDrive will be written with the data selected.

Home 11:57 AM 12/17/2014 Log Out

VERITY Central Select Election Scan Review Write Ballots Reports

Ballot Counter: 21  
Sheet Counter: 21  
Lifetime Counter: 21

Workstation: W1411000211 Current Election: Sample Election Election ID: 19193 Election Date: 12/31/2015 Current Task: Official - Central 1

Write Ballots  
Recovery vDrive

### Create Recovery vDrive

Select vDrive data to recover 1 vDrives currently inserted

vDrive ID	Number of batches	Number of ballots	Workstation
6	3	21	W1411000211

Help

Recover

## Central checklist: the write ballots tab

- 1** Log in to Verity on the Central workstation.
- 2** Open Central and select the Write Ballots tab.
- 3** Insert a blank vDrive for the current election.
- 4** Under the Write Ballots menu, select batches of ballots and click Write to write them to the vDrive.
- 5** When you have finished writing batches to the vDrive, click Close vDrive. Once a vDrive has been closed, no additional batches can be written to that vDrive.
- 6** You can use the Recover vDrive menu to create a replacement for a lost or damaged vDrive.





## reports

### the reports tab



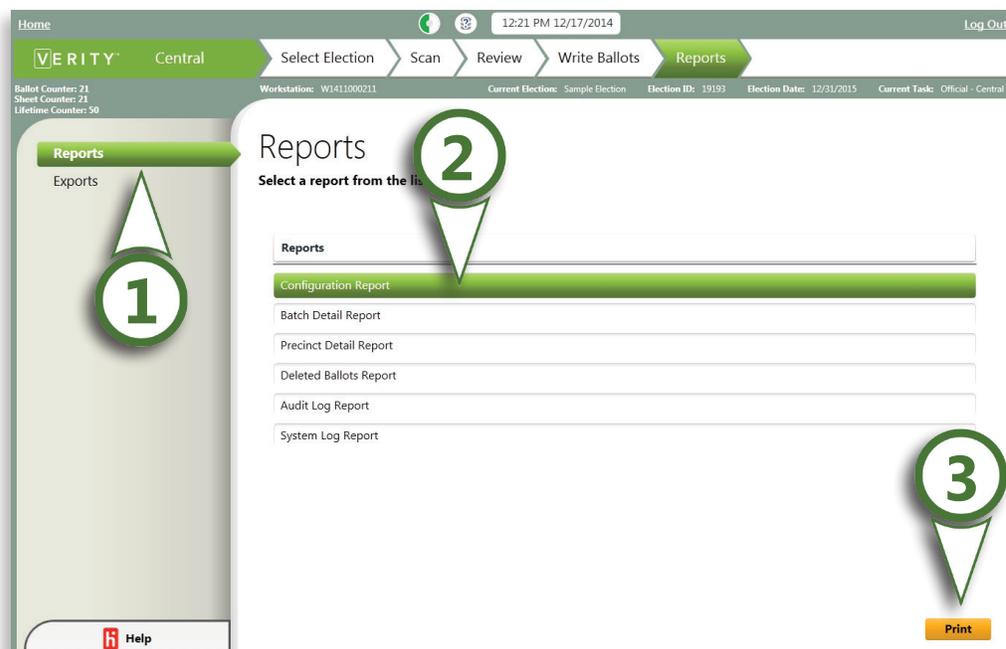
In the **Reports** tab, you can create reports for batches, precincts, and more. You can also export data including provisional ballot status and registered voter information. The following menus are available in the Report tab:

- **Reports:** view and print election reports from Verity Central
- **Exports:** export data from Verity Central.

# reports

The **Reports** menu allows you to print a variety of reports; a list of each available report with descriptions is located on page 229.

- 1 Select the **Reports** menu.
- 2 Select the desired report from the list.
- 3 Click **Print**.



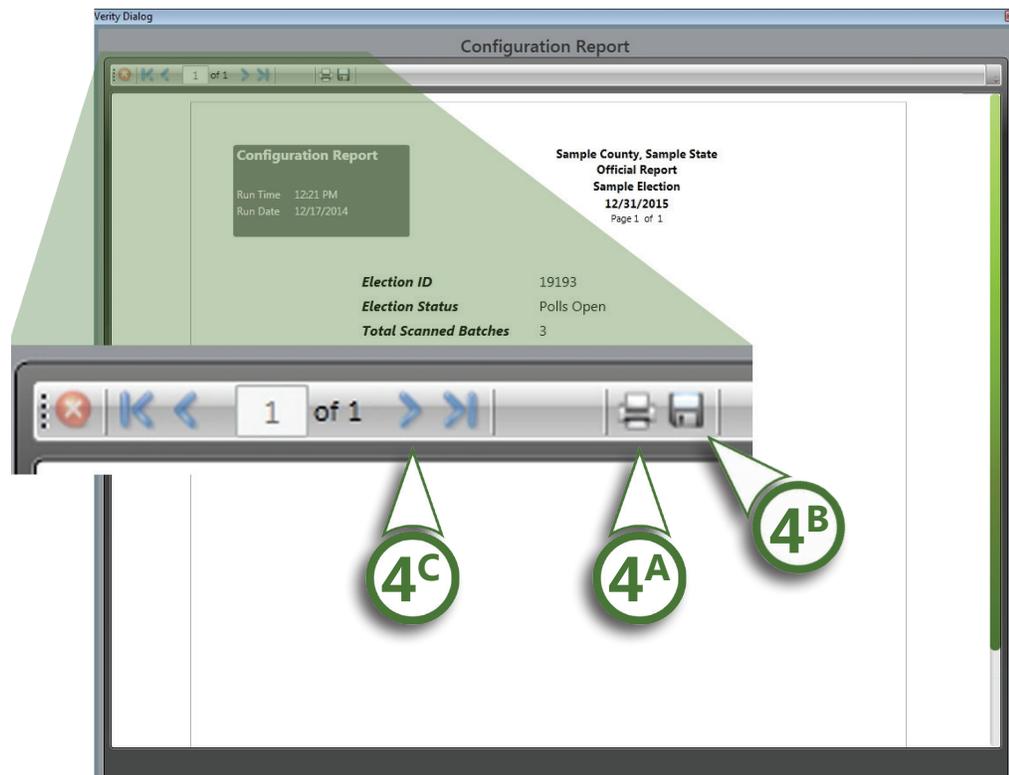
**reports**, *continued*

**4** View, Print or Save the report.

**A)** To Print, click the Printer icon.

**B)** To Save to file, click the Disk icon.

**C)** You can view additional pages of the report using the blue arrow buttons.



## available reports: Central

The following reports are available in Central; the contents of each report are listed below. These reports cannot be deleted or edited by the user. All Central reports contain the following information in their header:

- Report title
- Election title
- Election date
- Current task's report label
- Jurisdiction name
- Date and time the report was generated
- Page numbering

### Audit Log report

The Audit log report is a comprehensive log of all activity that has occurred in the Central application on that workstation. Each entry includes the following detail:

- Date/time of event
- User logged in at time of event
- Application name and full version number
- Device serial number or workstation ID
- Event name (in plain text)
- Event detail data (in plain text)
- Election ID
- Tags

### System Log report

The System log report is a comprehensive log of all activity that has occurred on the workstation or network that is not election-specific. Each entry includes the same details as the audit log, listed above.

**available reports: Central, *continued*****Configuration report**

Contains the following election information:

- Task status
- Election ID
- Total number of batches scanned
- Total number of batches written to vDrives
- Public (election) count
- Private (lifetime) count
- Sheet count

**Scanned Batch report**

Contains the following information for a single scanned batch:

- All batch data
- A list for each scanned image in the batch that displays:
  - Scan sequence number
  - Precinct or precinct split name
  - Page number
  - Unique identifier
  - Variation number
  - Language
  - Party (if this is a closed primary election)
  - Scan status (accepted or rejected)
  - If scan status is rejected, the reason for the rejection
- Totals for the batch:
  - Total images scanned
  - Total images accepted
  - Total images rejected
  - Total ballots scanned
  - Total ballots accepted
  - Total ballots rejected

## available reports: **Central**, *continued*

### Batch Detail report

Contains the following information for each batch:

**Note:** *The Batch Detail report is sorted by Batch ID, and then by Scan Sequence Number.*

- Batch ID
- Date and time batch was scanned
- User who scanned the batch
- Workstation where the batch was scanned
- Voting type (Election Day, Absentee, etc.)
- Number of ballots scanned in the batch
- Number of ballots deleted from the batch
- Current number of ballots in the batch
- Number of ballots with unresolved voter intent issues
- Number of ballots without unresolved voter intent issues
- Number of ballots written to a vDrive
- Batch notes
- For each batch, the following information for each ballot image scanned:
  - Scan sequence number
  - Precinct or precinct split name
  - Page number
  - Unique identifier
  - Variation number
  - Language
  - Party (if this is a closed primary election)
  - Status (accepted or rejected)
  - If the status is rejected, the reason for rejection
  - Whether ballot has been deleted
  - Whether ballot contains unresolved voter intent issues
  - vDrive ID, if the ballot has been written to a vDrive

**available reports: Central, *continued*****Precinct Detail report**

Contains the following information for each precinct or precinct split:

- Precinct or precinct split name
- Batch IDs that contain ballots from this precinct or precinct split
- Date and time the batches were scanned
- Workstation where the batches were scanned
- Number of ballots scanned in the batch
- Number of ballots deleted from the batch
- Current number of ballots in the batch
- Number of ballots with unresolved voter intent issues
- Number of ballots without unresolved voter intent issues
- Number of ballots written to a vDrive
- Information for each ballot image scanned in the batch:
  - Scan sequence number
  - Precinct or precinct split name
  - Page number
  - Unique identifier
  - Variation number
  - Language
  - Party (if this is a closed primary election)
  - Status (accepted or rejected)
  - If the status is rejected, the reason for rejection
  - Whether if ballot has been deleted
  - Whether ballot contains unresolved voter intent issues
  - vDrive ID, if the ballot has been written to a vDrive

## available reports: **Central**, *continued*

### Deleted Ballot report

Contains the following information for each ballot that has been deleted after scanning:

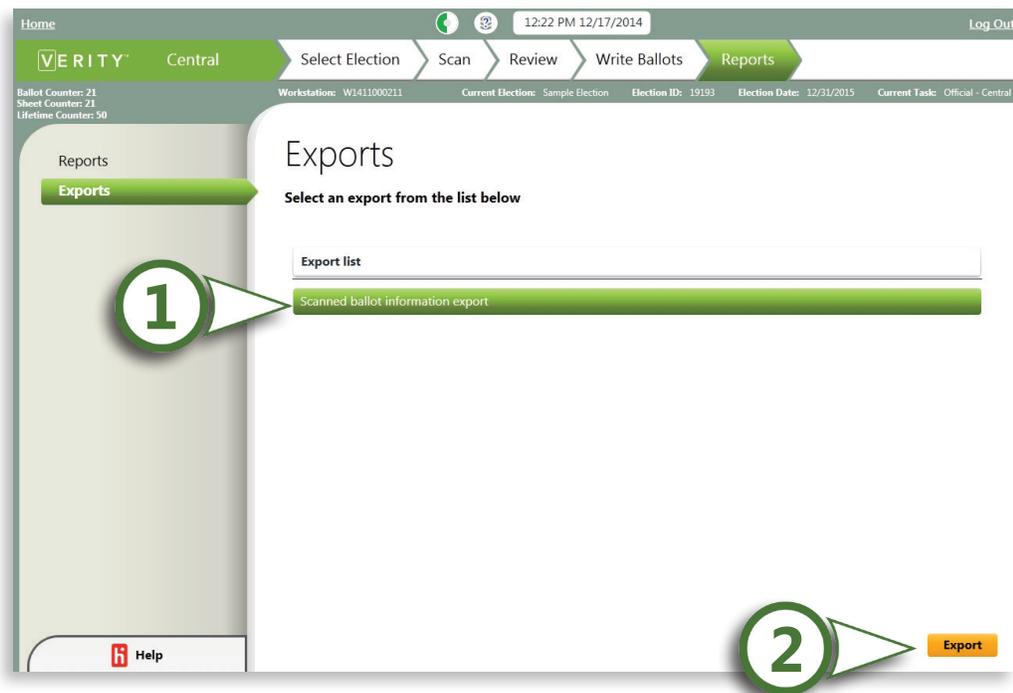
**Note:** *the Deleted Ballot Report is grouped by Batch ID, and sorted by Unique Identifier*

- Unique identifier
- Batch ID
- Voting type (Election Day, Absentee, etc.)
- Date and time the ballot was deleted
- User who deleted the ballot
- Workstation where the ballot was deleted
- Precinct or precinct split name
- Party (if this election is a closed primary)
- The following totals for each batch:
  - Total number of ballots scanned in the batch
  - Number of ballots deleted from the batch
  - Current number of ballots in the batch

## exports

The **Exports** menu allows you to export selected data from Central to a removable drive. A list of available exports with descriptions is located on page 235.

- 1 Select the **Exports** menu, and then select the data to be exported from the Export List.
- 2 Click **Export**. You will be prompted to choose an export location.



## available exports: Central

The following exports are available in Central; the contents of each export are listed below. These exports cannot be deleted or edited by the user:

### Scanned ballot information export

Contains the following information for each ballot image:

- Scan sequence number
- Precinct or precinct split name
- Page number
- Unique identifier
- Variation number
- Language
- Party (if this is a closed primary election)
- Status (accepted or rejected)
- If the Status is rejected, the reason for rejection
- Whether ballot contains unresolved voter intent issues
- vDrive ID, if the ballot has been written to a vDrive

## Central checklist: the reports tab

- 1** Log in to Verity on the Central workstation.
- 2** Open Central and select the Reports tab.
- 3** Under the Reports menu, you can view and print election reports from the Central workstation.
- 4** The Exports menu allows you to export scanned ballot information for each scanned image.





# verity count



---

**version 1.0**

# verity count

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## 1

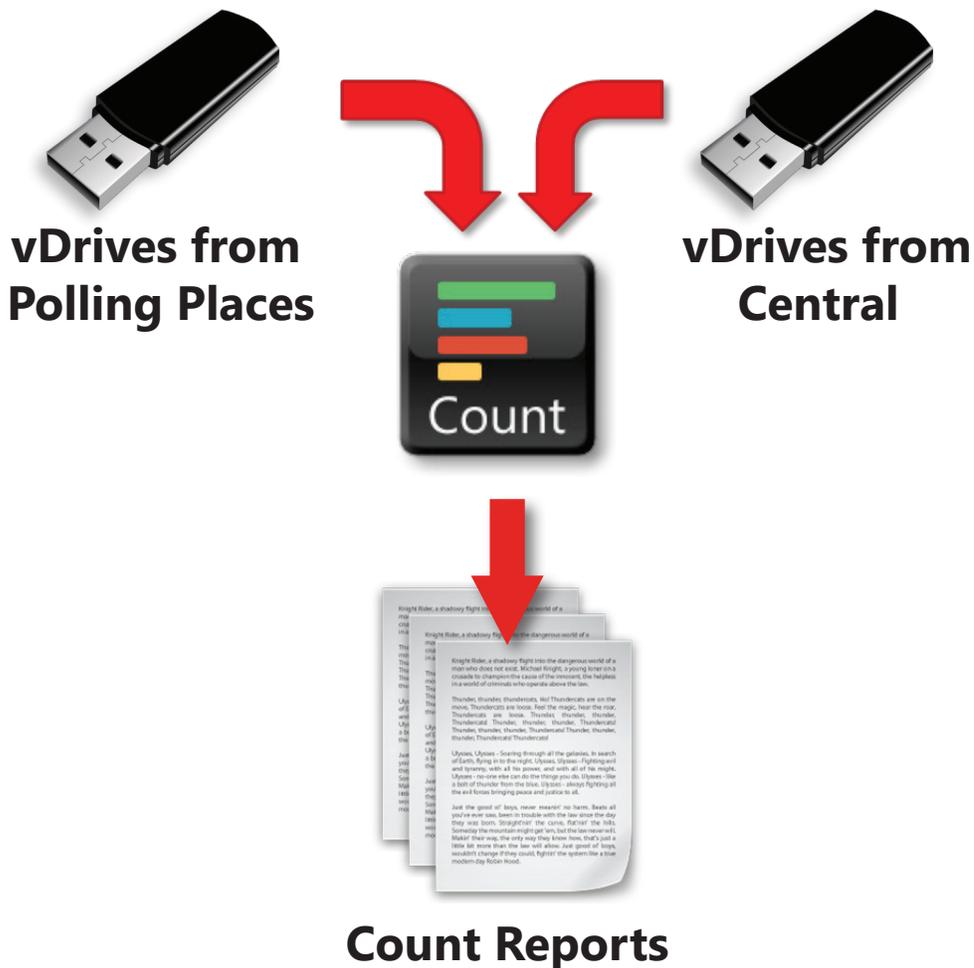
# getting started

## **Verity Count: an overview**

In Verity Count, you will create tasks to manage instances of a particular election (such as Logic and Accuracy tests and official elections), read and tabulate vDrives, resolve write-in votes, print reports, and export data.

## Verity Count: an overview, *continued*

# Verity Count workflow



## importing a signed election on the Count workstation

To open an election in Verity Count, you first must import the election in the Manage application on that workstation.

**Note:** Before importing any elections, you can first set basic election preferences for Count, if desired (see page 253). These preferences will be applied as defaults to any imported election.

- 1 Insert a Verity Key (created in Build) for the election.



- 2 Insert the removable media (USB) containing the signed election from Build into an available USB port on the Count workstation computer.

- 3 Log in to the Verity Count workstation.

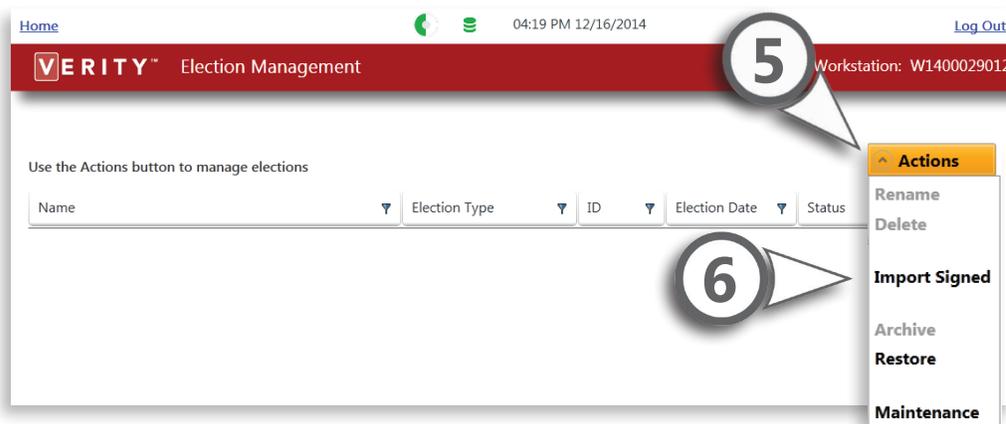
A login form with two input fields: 'Username:' containing 'user' and 'Password:' containing a series of dots. Below the password field is a blue link that says 'Change password...'. At the bottom are two yellow buttons: 'OK' and 'Clear'.

- 4 On the Verity home page, click the **Manage** tile.



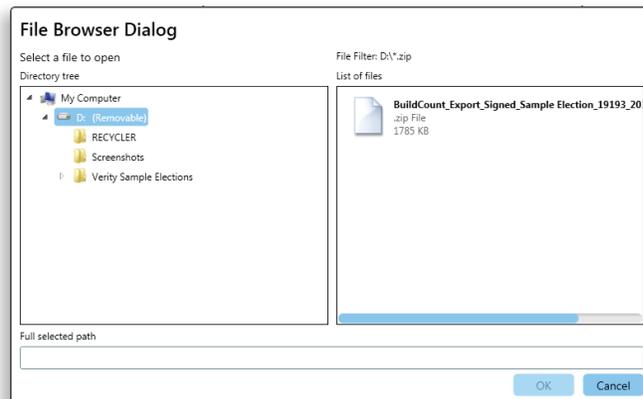
## importing a signed election on the Count workstation, *continued*

**5** In the Manage application, click **Actions**.



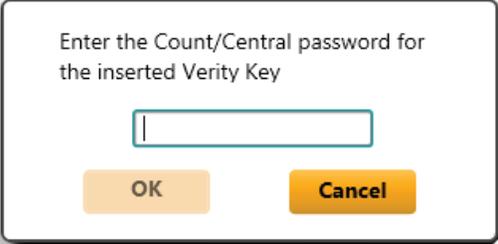
**6** Select **Import Signed** from the Actions drop-down menu.

**7** Browse to the location of the removable media and select the election to import. Click **OK**. ▼



## importing a signed election on the Count workstation, *continued*

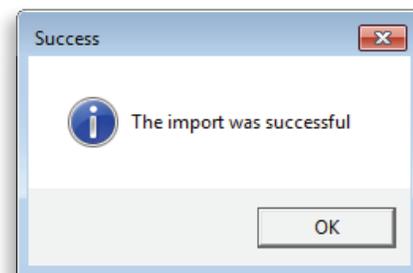
**8** Enter the Verity Key application password for Count, and then click **OK**.



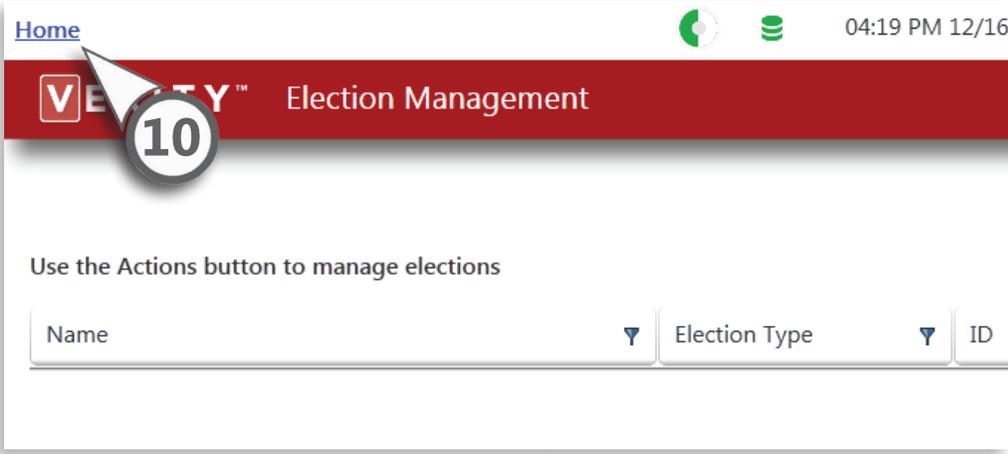
Enter the Count/Central password for the inserted Verity Key

**OK** **Cancel**

**9** Click **OK**.



**10** Click **Home** in the upper left corner to return to the Verity Home screen.



Home

04:19 PM 12/16

**VERITY™ Election Management**

**10**

Use the Actions button to manage elections

Name	Election Type	ID
------	---------------	----

## about election status

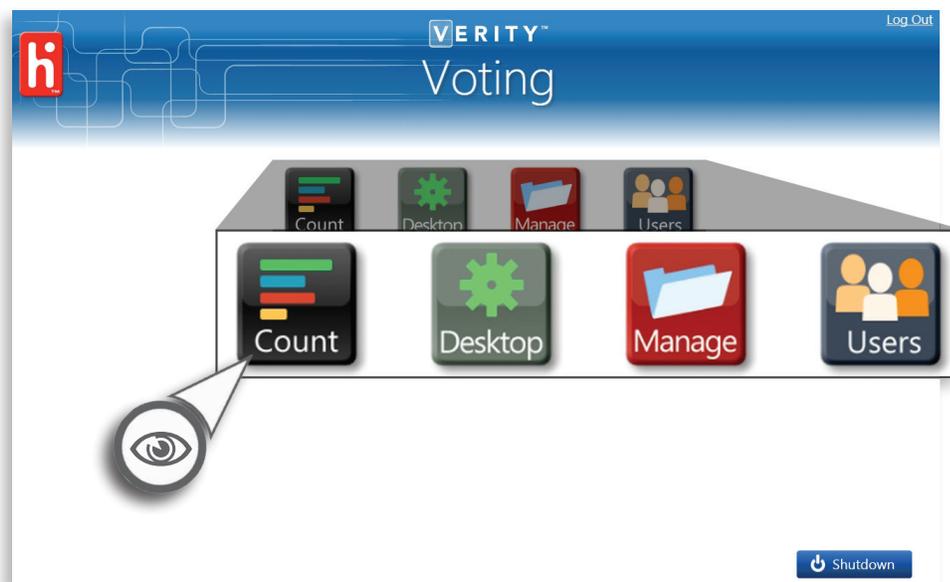
The status given for each election in the Manage application indicates at what point the election is in the election definition process.

- ▶ **Open for Editing:** The election is in the process of being created and can be edited in Verity Layout.
- ▶ **Locked for Export:** The election has been created using Verity Layout (or other election definition software) and is now ready to import into Verity Build.
- ▶ **Accepted:** The election has been proofed in Verity Build and you can now print ballots and create vDrives and Keys. Election is now ready for export to Verity Central or Verity Count. An election that has been accepted in Build is also termed a “signed” election.

A **signed** election has been accepted in Verity Build. Importing a signed election on a separate Verity Central or Count workstation requires the user to insert a Verity Key for that election (created in Build) and also enter the Verity Key application password.

## opening the Count application

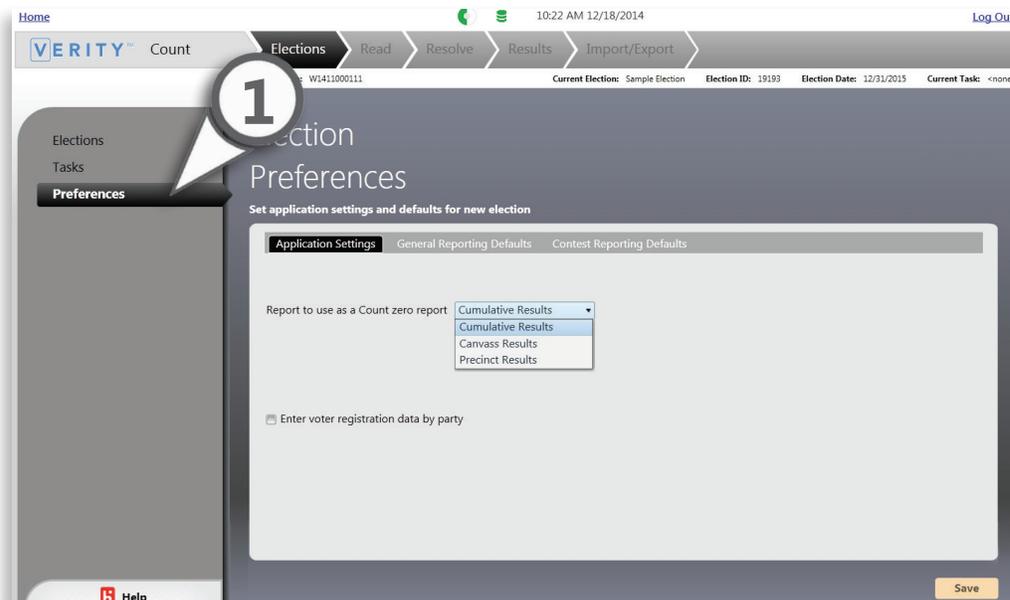
Log in to the Verity Count workstation. On the Verity home screen, click the Count application tile to open Count. The Count application contains five tabs: Elections, Read, Resolve, Results, and Import/Export.



# setting preferences

The **Preferences** menu allows you to set default preferences for all elections in Verity Count. You can set preferences at any time, however, with the exception of Application settings (the first tab), preferences set here only affect elections that have not yet been imported in Manage; the first time you open Count you should set preferences before importing your first election onto the workstation. You can change settings for an election you have already imported on the Count workstation under the Results tab, in the Reporting Options menu (page 308).

## 1 Select the **Preferences** menu.

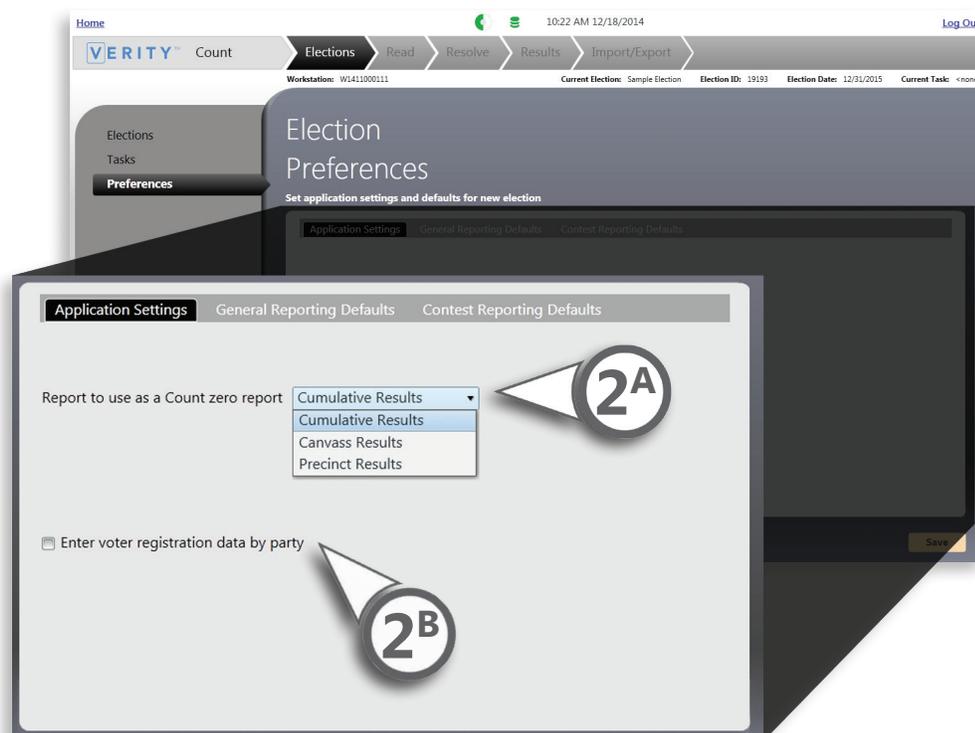


## setting preferences, *continued*

**2** Select the **Application Settings** tab. Unlike other preferences, changing these settings will also apply to currently loaded elections.

**A)** Choose which type of report you will be using as a basis for Count zero reports, so that the application can validate that a Zero report has been printed.

**B)** Check the box if you would like to enter voter registration by party.



## setting preferences, *continued*

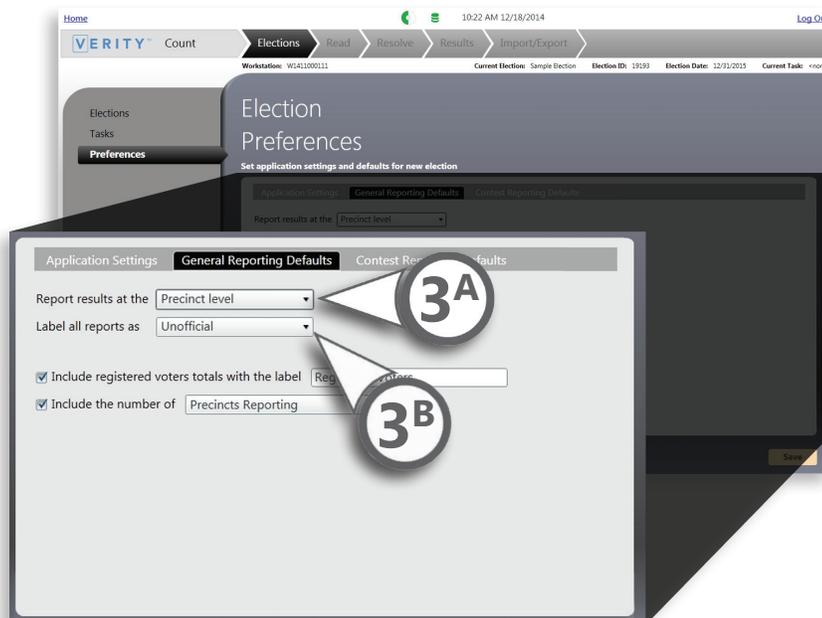
**3** Select the **General Reporting Defaults** tab to set your basic reporting preferences.

**A)** Choose how to report results, at the precinct or at the precinct split level.

- **At the precinct level**
- **At the precinct split level** (**Note:** if you choose this option, your precinct reports will be at the precinct split level.)

**B)** Choose whether to label reports **Unofficial** or **Official**.

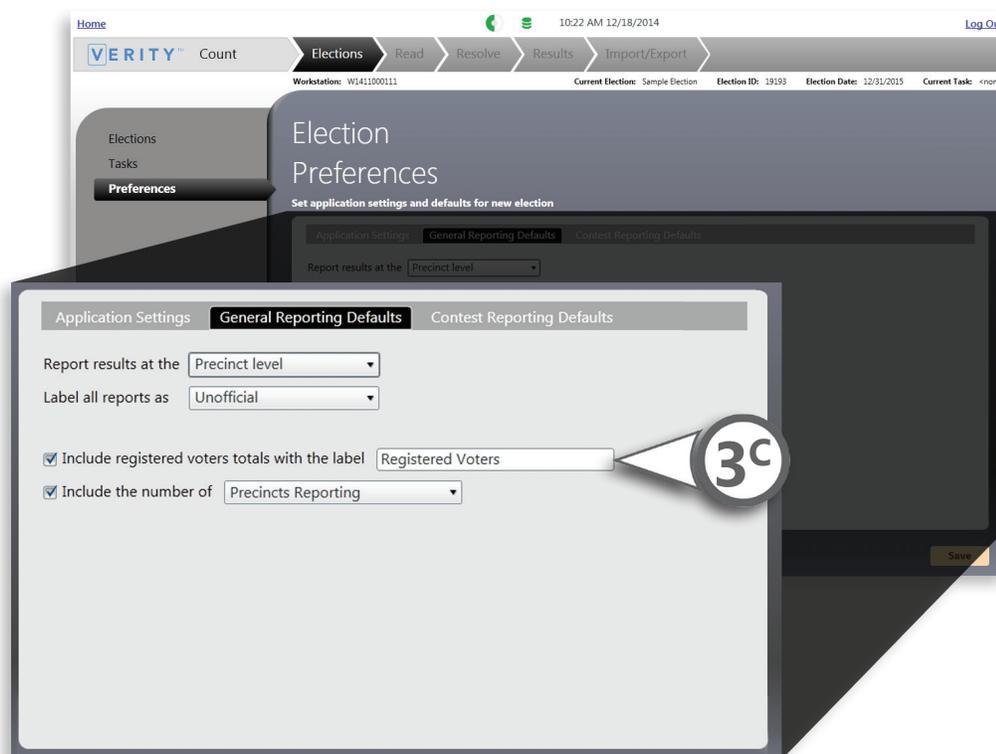
- Typically, reports are labeled Unofficial until the completion of final canvassing.



## setting preferences, *continued*

**C)** Check the box if you would like to include registered voter totals on report headers, and then enter a reporting label for registered voter totals.

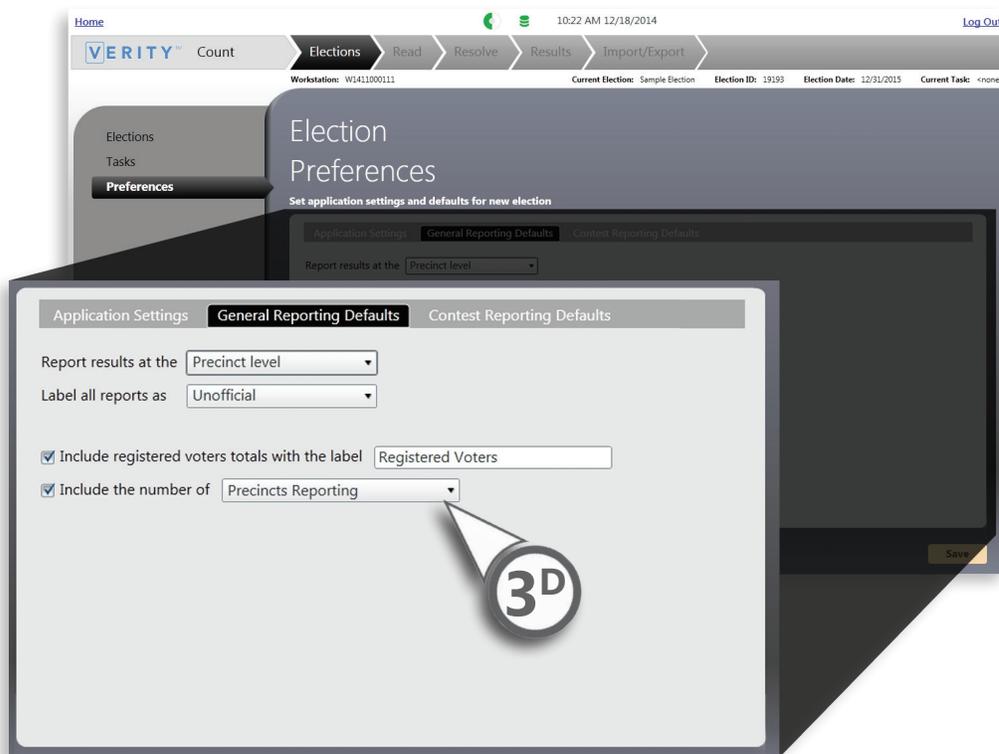
- If checked, registered voter totals (turnout) will appear on reports where applicable.
- If you choose this option, you should enter your registered voter totals (page 348) before generating reports.



## setting preferences, *continued*

**D)** Check the box if you would like to include either the number of precincts reporting or the number of polling places reporting on report headers.

- If checked, the number/percentage of precincts reporting (or polling places reporting) will appear in reports where applicable.
- For instructions on setting reporting status for Precincts and Polling Places, see page 248 and page 342.

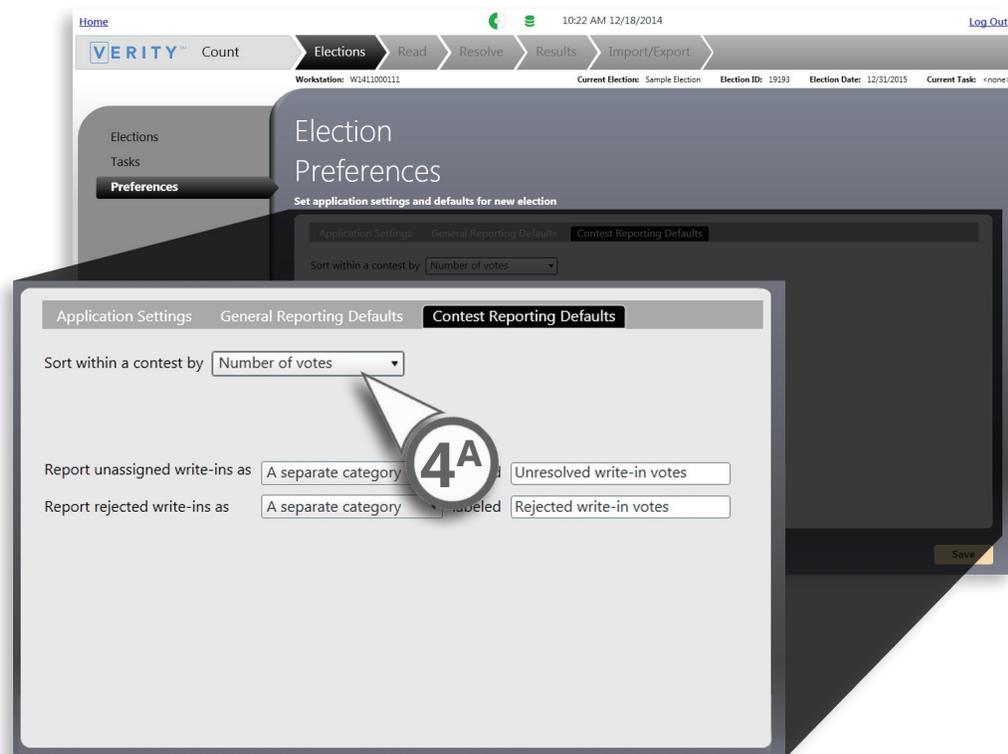


## setting preferences, *continued*

**4** Set reporting defaults for contests.

**A)** Choose how to sort contest results. The available options are:

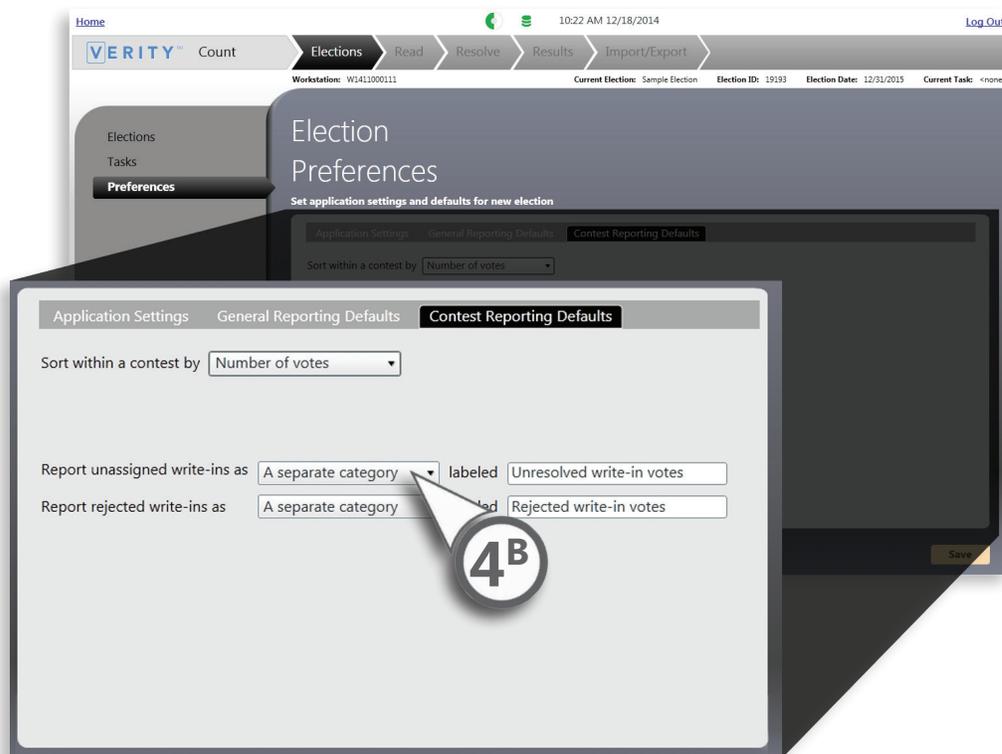
- By ballot order
- By number of votes



## setting preferences, *continued*

**B)** Choose how to report unassigned write-in votes, and enter a reporting label. The available options are:

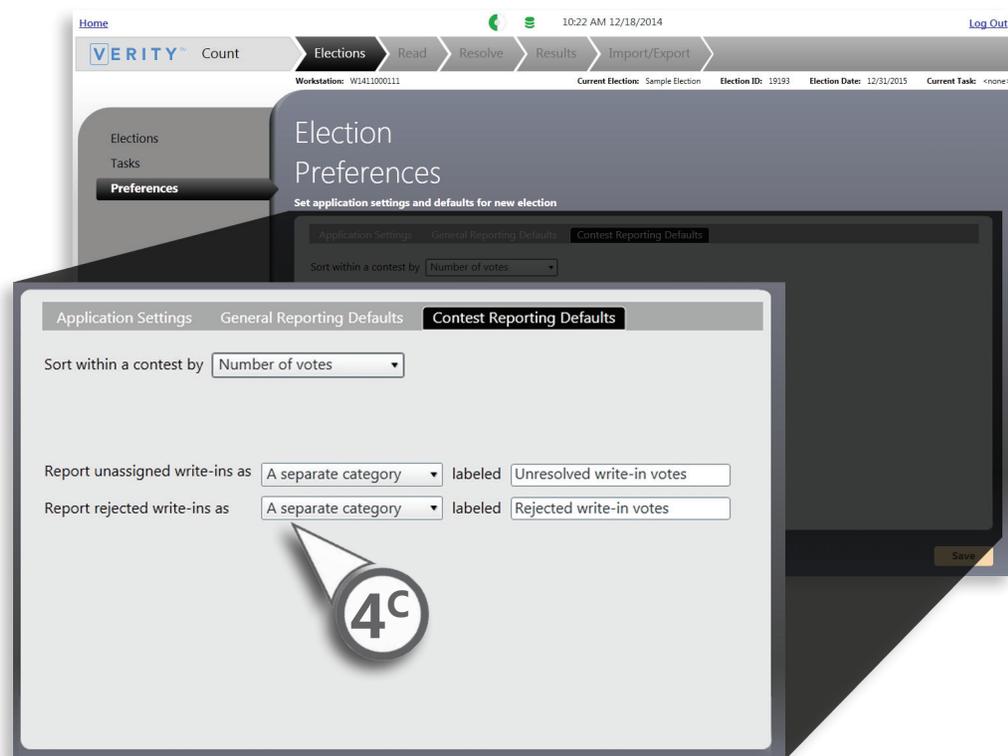
- **A separate category:** unassigned write-ins will be reported as a separate category, in which case you can define a label for that category.
- **Undervotes:** unassigned write-ins will be reported as undervotes.



## setting preferences, *continued*

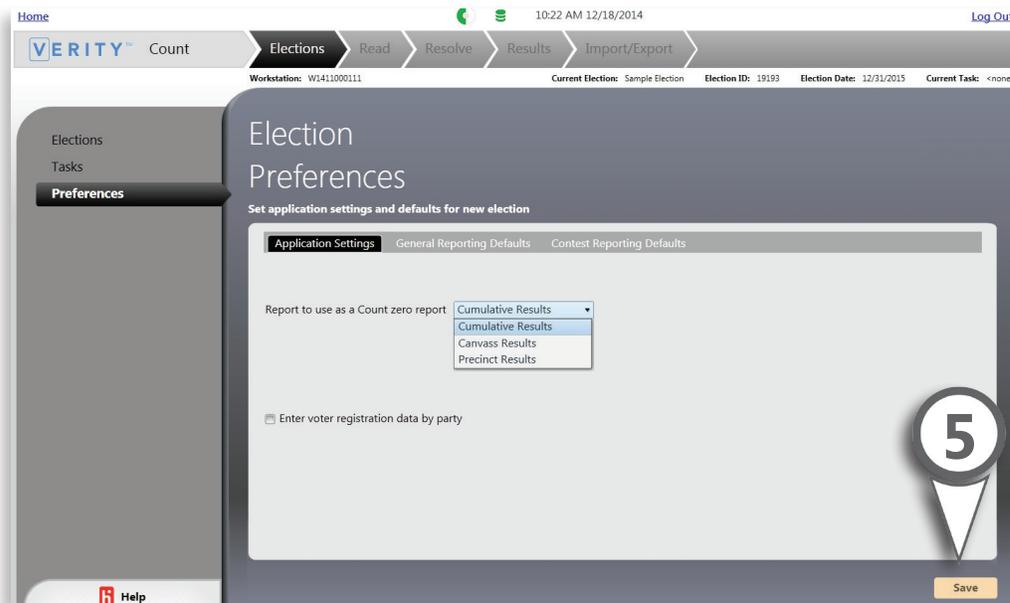
**C)** Choose how to report rejected write-in votes, and enter a reporting label. The available options are:

- **A separate category:** rejected write-ins will be reported as a separate category, in which case you can define a label for that category.
- **Undervotes:** rejected write-ins will be reported as undervotes.



## setting preferences, *continued*

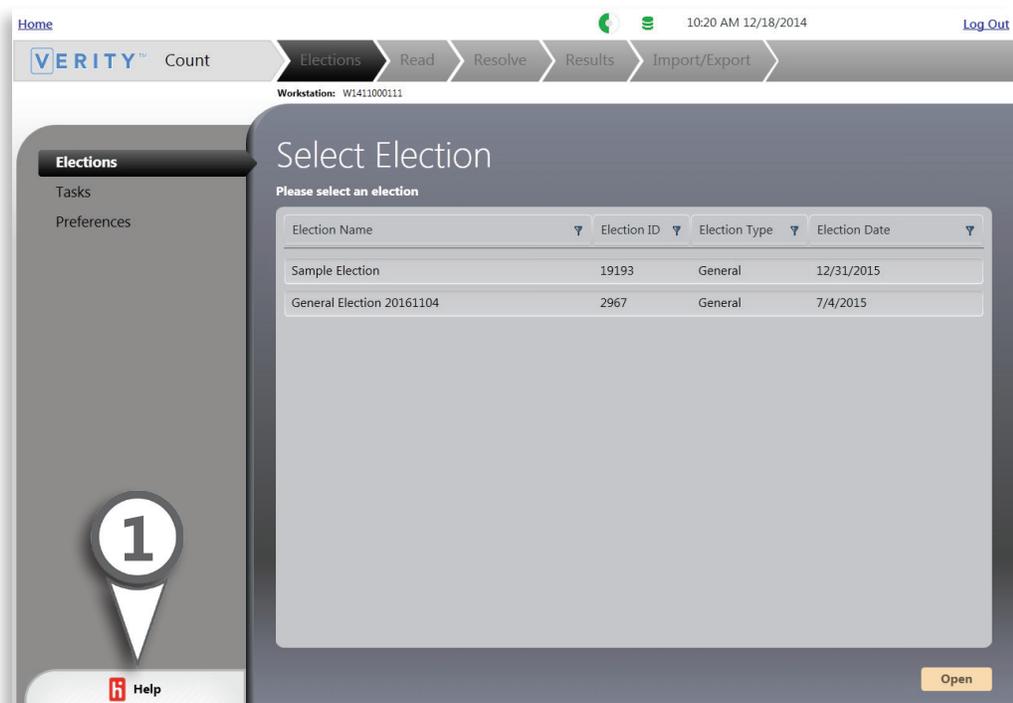
- 5 Click **Save** on the bottom right to save any changes you have made.



## using on-screen help

Help is available on every screen of the Count application; it will contain information related to the current screen, including instructions, notes, and important information regarding the steps you must complete on that screen.

- 1 Click the tab labeled **Help** at the bottom left of the screen to expand the help tab. ▼



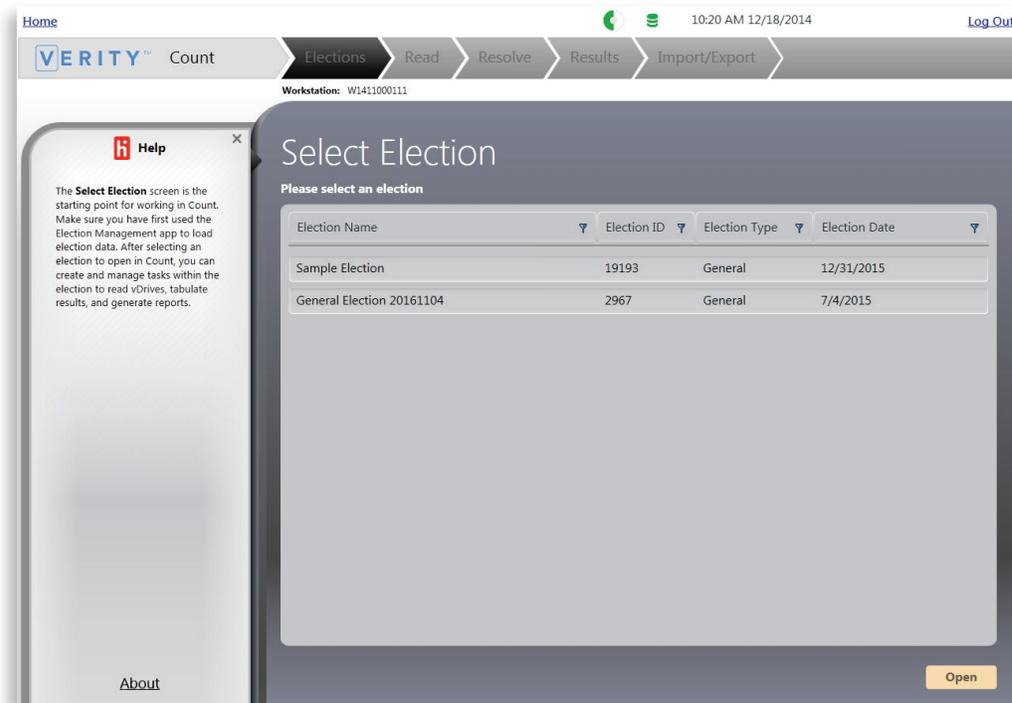
The screenshot shows the VERITY Count application interface. The top navigation bar includes 'Home', 'Log Out', and the time '10:20 AM 12/18/2014'. The main navigation tabs are 'Elections', 'Read', 'Resolve', 'Results', and 'Import/Export'. The 'Elections' tab is active, and the 'Workstation: W1411000111' is displayed below it. The main content area is titled 'Select Election' and contains a table with the following data:

Election Name	Election ID	Election Type	Election Date
Sample Election	19193	General	12/31/2015
General Election 20161104	2967	General	7/4/2015

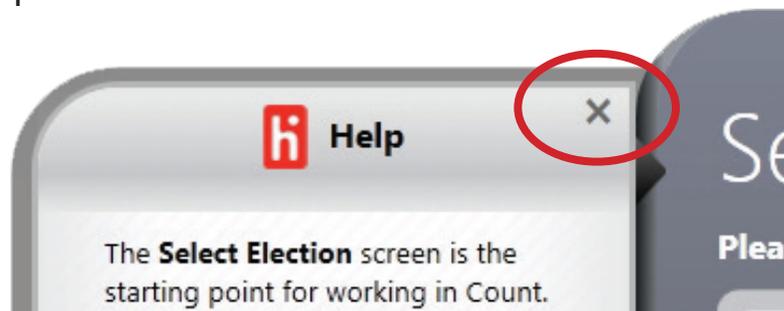
A callout bubble with the number '1' points to the 'Help' button in the bottom left corner of the sidebar. The 'Open' button is visible in the bottom right corner of the main content area.

## using on-screen help, *continued*

- 2 The help tab will display information about the current screen. ▼



- 3 Click the **X** in the upper right corner to close the help tab. ▼



## Count checklist: getting started

- 1** Log in to Verity.
- 2** Open Build and set default election preferences, if you have not already done so.
- 3** Insert the removable USB media containing the signed election from Build into an available port on the Count workstation.
- 4** Click Home to return to the Verity home screen.
- 5** Open the Manage application.
- 6** Under the Actions menu in Manage, choose Import signed. Browse to and select the election to be imported from the removable USB media.
- 7** Click Home to return to the Verity home screen.



## 2

# elections

## the elections tab



Under the **Elections** tab, you will open the election, create tasks for tabulation, and set your basic preferences for reporting and exporting. The following menus are available in the Elections tab:

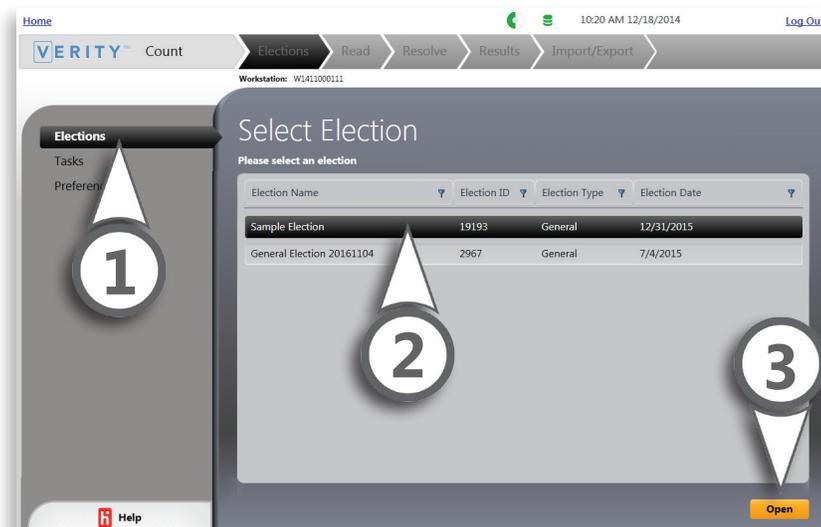
- **Elections:** select and open an election.
- **Tasks:** create and manage tasks in Official or Test mode.
- **Preferences:** set default preferences for elections before importing them into the Count workstation.

## selecting and opening an election

The **Elections** menu lets you select and open an election that you have imported from the Build workstation.

**Note:** *if this is the first time you are using Count, set default preferences before importing an election. See page 253.*

- 1 Select the **Elections** menu.
- 2 Select the election you would like to work on.
- 3 Click **Open** in the bottom right of the screen.



## what is a task?

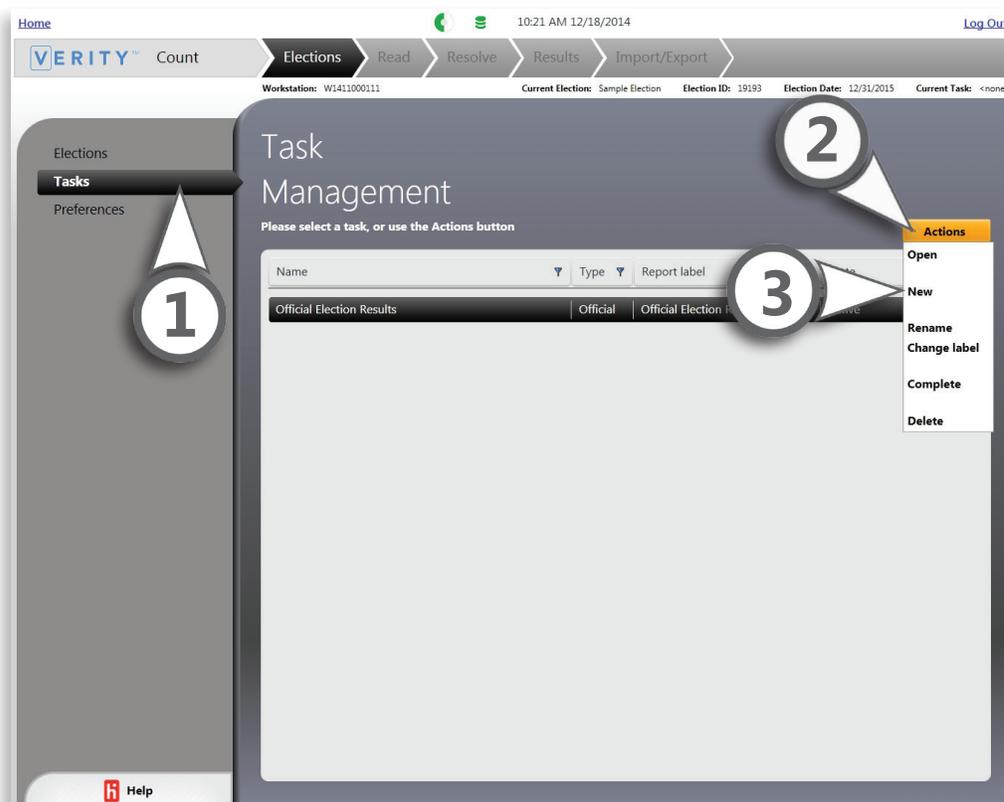
- ▶ A task is a new instance of a particular election.
- ▶ Each task can be created in Test or Official mode. The election mode of the selected task and the election mode of the vDrive(s) must match in order to read the vDrives under the selected task.
- ▶ You can create a new task for a selected election at any time.
- ▶ For example, for General Election 2014 you may have the following tasks:
  - General Election 2014 LAT1 – Test
  - General Election 2014 LAT2 – Test
  - General Election 2014 Official – Election results

# managing tasks

The **Tasks** menu allows you to open and create tasks for the selected election.

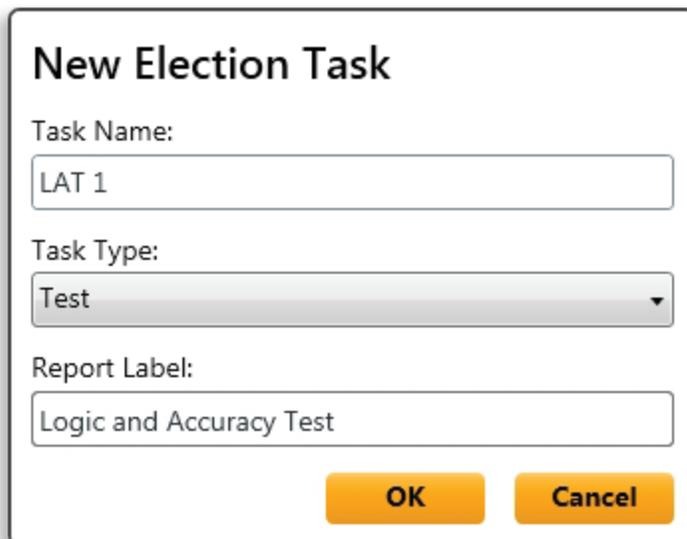
## Creating a new task

- 1 Select the **Tasks** menu.
- 2 Click **Actions**.
- 3 Select **New**.



**managing tasks**, *continued*

4 Enter a task name, choose the task type (Test or Official) and enter a report label. Task name is used to identify the task within the application; the report label will appear on all reports printed from that task. The first time you create a task, you will also have the opportunity to select the Voting Types for the election and the tabulation date and time. ▼



**New Election Task**

Task Name:  
LAT 1

Task Type:  
Test ▼

Report Label:  
Logic and Accuracy Test

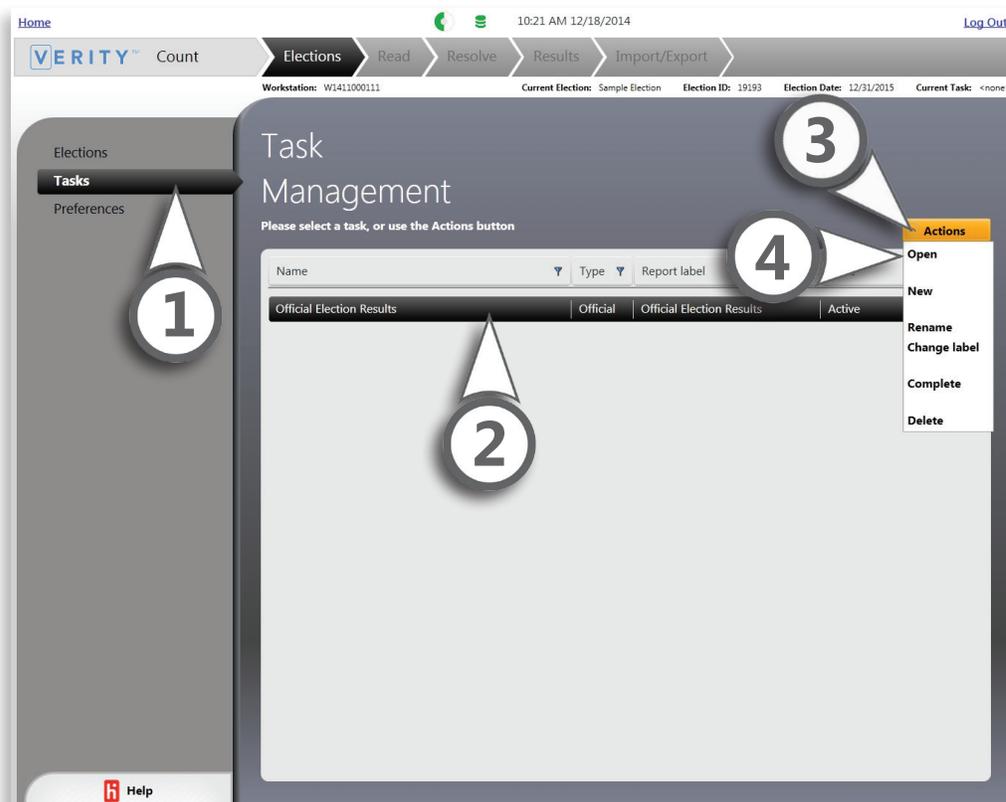
OK Cancel

**!IMPORTANT:** The Task Type you choose must match the vDrives you will be reading into Count for that task. The vDrive type is set for each vDrive when they are created in Build (see page 130). For instance, to read in Official vDrives, you will need a task with the Task Type "Official".

## managing tasks, *continued*

### Opening an existing task

- 1 Select the **Tasks** menu.
- 2 Select the task to open.
- 3 Click **Actions**.
- 4 Select **Open**.



## managing tasks, *continued*

### Renaming an existing task

- 1 Select the **Tasks** menu.
- 2 Select the task to open.
- 3 Click **Actions**.
- 4 Select **Rename**.
- 5 Enter the new Task Name and click **OK**.

A screenshot of a dialog box titled "Rename Task". It features a text input field containing the text "Official Election Results". Below the input field are two buttons: "OK" and "Cancel", both with a yellow background and black text.

Rename Task

OK Cancel

### Changing a task report label

- 1 Select the **Tasks** menu.
- 2 Select the task to open.
- 3 Click **Actions**.
- 4 Select **Change label**.
- 5 Enter the new report label and click **OK**.

A screenshot of a dialog box titled "Change Report Label". It features a text input field containing the text "Official Election Results". Below the input field are two buttons: "OK" and "Cancel", both with a yellow background and black text.

Change Report Label

OK Cancel

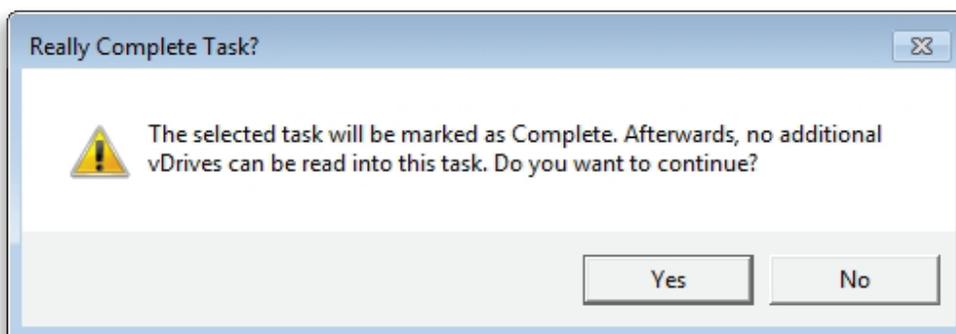
## managing tasks, *continued*

### Completing a task

- 1 Select the **Tasks** menu.
- 2 Select the task to open.
- 3 Click **Actions**.
- 4 Select **Complete**.

**!IMPORTANT:** Once you have marked a task Complete, no additional vDrives can be read into that task.

- 5 Click **Yes** to mark the task as complete. Once a task is marked as Complete, no additional vDrives can be read into that task. ▼



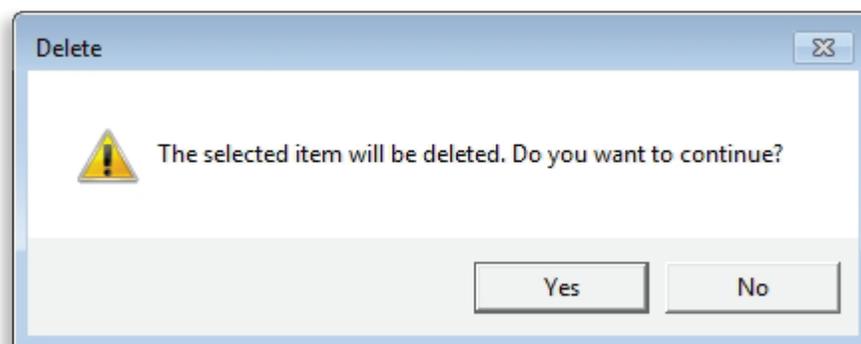
## managing tasks, *continued*

### Deleting a task

- 1 Select the **Tasks** menu.
- 2 Select the task to open.
- 3 Click **Actions**.
- 4 Select **Delete**.

**!IMPORTANT:** Once you have deleted a task, it cannot be restored. If you accidentally delete a task, any vDrives read under that task will need to be re-read in a new task.

- 5 Click **Yes** to delete the task. Once a task is deleted, it cannot be restored. ▼



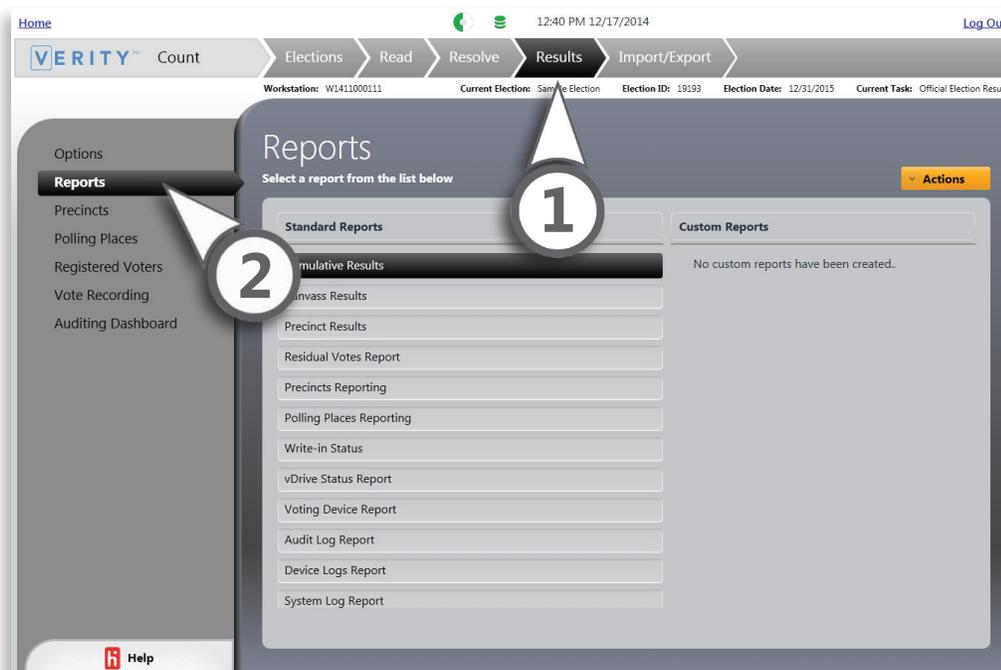
## preferences

The **Preferences** menu allows you to set default preferences for all elections in Verity Count. You can set preferences at any time, however preferences set here only affect elections that have not yet been imported in Manage; the first time you open Count you should set preferences before importing your first election onto the workstation. For instructions on choosing Application settings and setting default preferences, see page 253. You can change reporting options for an election you have already imported on the Count workstation under the Results tab, in the Reporting Options menu (page 308).

## printing a zero report

Before reading in and tabulating any vDrives, you must print a zero report. The zero report is used to verify that no votes were tabulated on the Count workstation prior to the reading in of the first vDrive.

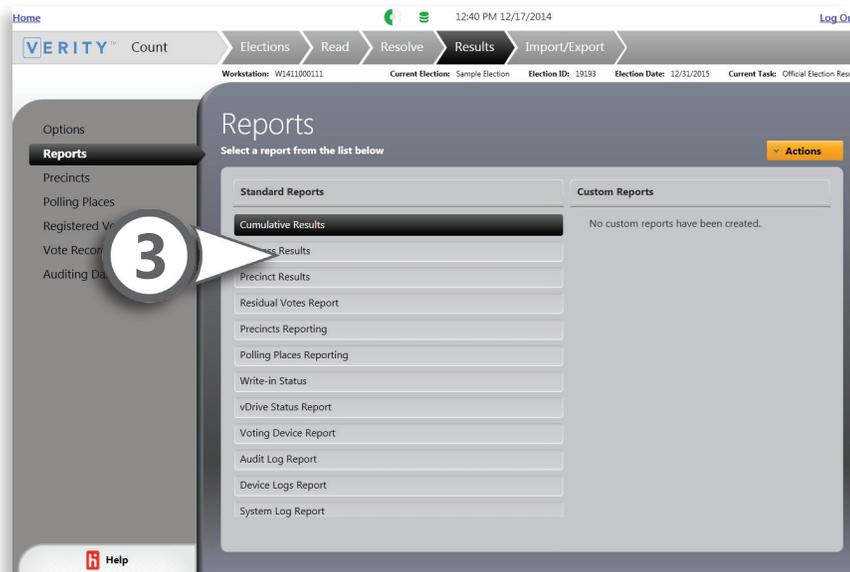
### 1 In Count, select the Results Tab



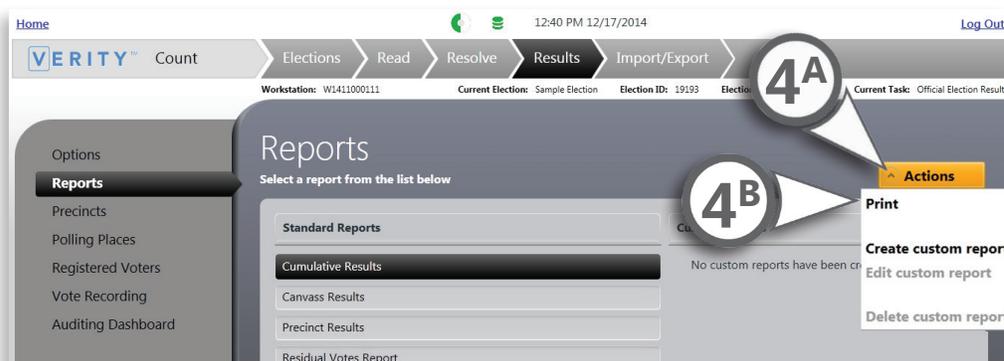
### 2 Select the Reports menu. If desired, you can set your reporting options first. For details on setting reporting options, see page 308.

## printing a zero report, *continued*

**3** From the list of standard reports, choose the report you indicated for Zero Reporting (see **Application settings**, page 254). In most cases this will be the Cumulative Results report.



**4** Click **Actions (A)** and choose **Print (B)**.



## printing a zero report, *continued*

### 5 Choose your report filters.

**A)** Use the drop-down menu to include all voting types, or filter the report by a combination of individual voting types. In most cases, this should be set to “All” for zero reports.

**B)** Check the boxes to include overvotes or undervotes; uncheck the boxes to exclude overvotes or undervotes. For zero reports these settings can be ignored, since no ballots should be read at this time.

**C)** Select **Show Report** to display the report for viewing, printing, or saving to file.

**Report Settings**  
Cumulative Results Report

Voting Types Filter: All

Overvotes

Undervotes

**Show Report** **Cancel**

## printing a zero report, *continued*

**6** Click the printer icon to print a copy of the report (**A**); click the disk icon to save a copy of the report to file (**B**). When saving the report, include the words “Zero Report” in the file name.

**Cumulative Results Report**

Sample County, Sample State  
Sample Election  
12/31/2015  
Page 1 of 3

**Unofficial results**  
Registered Voters  
0 of 226 = 0.00 %  
Precincts Reporting  
0 of 4 = 0.00 %

**Straight**

Choice	Party	Absentee Voting	Early Voting	Election Day Voting	Total
Historical Party	HIS	0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Whig Party	WHI	0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Cast Votes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Undervotes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Overvotes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Rejected write-in votes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Unresolved write-in votes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %

**President and Vice-President of the United States - Vote for One Pair**

Choice	Party	Absentee Voting	Early Voting	Election Day Voting	Total
Adam Cramer and Greg Vuocolo	HIS	0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Joseph Barachi and Joseph Hallaren	WHI	0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Daniel Court and Amy Blumhardt		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Cast Votes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Undervotes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Overvotes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Rejected write-in votes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Unresolved write-in votes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %

**United States Senate - Vote for One**

Choice	Party	Absentee Voting	Early Voting	Election Day Voting	Total
--------	-------	-----------------	--------------	---------------------	-------

**7** Verify that the vote count for all contests is zero. File the Zero Report as per local jurisdiction guidelines.

## Count checklist: the elections tab

- 1** Log in to Verity on the Count workstation.
- 2** Open Count.
- 3** In the Elections tab, select the election you need to work on from the list, then click Open.
- 4** Under the Tasks menu, create and manage tasks for your election. Each task will have a task type (Official or Test).
- 5** Select the task you need to work on, and then choose Open under the Actions menu.
- 6** Print a Zero report: Select the Results tab, and then under the Reports menu choose the report you use as a basis for Count Zero reports. Print this report and/or export to PDF.
- 7** Click the Read tab to resume the Count process and begin reading in vDrives.
- 8** Under the Select Election tab, select the Preferences menu to review the default preferences for Count, if desired. With the exception of Application settings, changes made here will not affect elections that have already been imported in the Manage application.



## 3

# read

## the read tab



In the **Read** tab, you will read and tabulate vDrives and monitor progress using the election Dashboard. The Dashboard provides a high-level look at Election Night progress. Depending on the user level, one of the following menus will be available:

- **Dashboard:** ability to read drives, tabulate, monitor, and report.
- **Media Reading:** ability to read in vDrives only.

## using the dashboard

**! IMPORTANT:** You must print a Zero Report before reading any vDrives into Count on Election Night. See page 276 for instructions on printing a Zero Report in Count.

The **Dashboard** is available to users with Count Administrator and Operator roles.

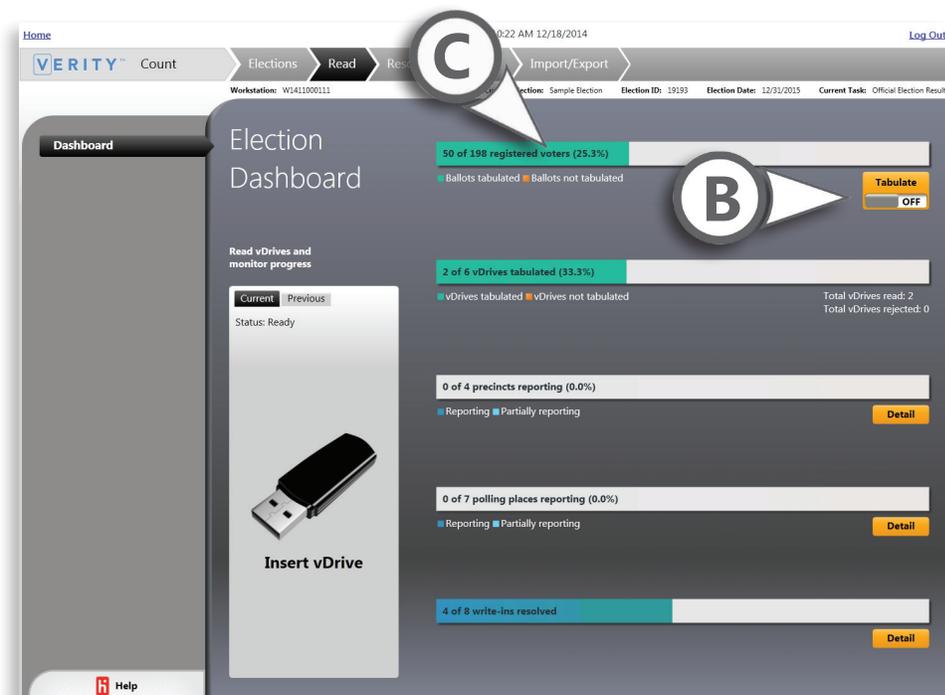
**Note:** users with the Media Reader role will see the **Media Reading** menu instead. See page 49 for instructions on setting application user roles. The Media Reading menu is discussed on page 292.

The screenshot displays the VERITY Election Dashboard. The interface includes a navigation menu at the top with options like Home, Count, Elections, Read, Resolve, Results, and Import/Export. The main content area is titled 'Election Dashboard' and features several progress bars and status indicators:

- Registered Voters:** 50 of 198 registered voters (25.3%)
- vDrives Tabulated:** 2 of 6 vDrives tabulated (33.3%)
- Precincts Reporting:** 0 of 4 precincts reporting (0.0%)
- Polling Places Reporting:** 0 of 7 polling places reporting (0.0%)
- Write-ins Resolved:** 4 of 8 write-ins resolved

On the left side, there is a section titled 'Read vDrives and monitor progress' with a 'Current' tab and 'Status: Ready'. Below this is a callout box labeled 'A' pointing to an 'Insert vDrive' icon, which is a USB drive. A 'Help' button is visible at the bottom left of the dashboard.

**A)** On the left side, the vDrive window allows you to monitor the reading of vDrives for the current session.

using the dashboard, *continued*

**B)** The right side of the Election Dashboard contains the tabulation slider, which allows you to start and stop tabulation of vDrives that have been read. If the tabulation slider is ON, Verity will automatically tabulate vDrives as they are read.

**C)** The dashboard also provides progress bars for monitoring the progress of tabulation. The progress bars are, from top to bottom:

- ballots tabulated (based on registered voters/turnout)
- vDrives tabulated (based on the number of vDrives created in Build)
- precincts reporting
- polling places reporting
- write-ins resolved

## using the dashboard, *continued*

The screenshot shows the VERITY Election Dashboard. The top navigation bar includes 'Home', 'Count', 'Elections', 'Read', 'Resolve', 'Results', and 'Import/Export'. The current election is 'Sample Election' with ID 19193, dated 12/31/2015. The dashboard displays several progress bars and status indicators:

- Registered Voters:** 50 of 198 registered voters (25.3%).
- vDrives:** 2 of 6 vDrives tabulated (33.3%). Total vDrives read: 2, Total vDrives rejected: 0.
- Precincts:** 0 of 4 precincts reporting (0.0%).
- Polling Places:** 0 of 7 polling places reporting (0.0%).
- Write-ins:** 4 of 8 write-ins resolved.

On the left, there is a 'Read vDrives and monitor progress' section with a 'Status: Ready' indicator and an 'Insert vDrive' button. On the right, there are 'Detail' buttons next to the precincts, polling places, and write-ins progress bars, labeled D, E, and F respectively.

**D)** Click **Detail** next to precincts reporting to manually update precincts reporting status (see page 338). Click the Read tab to return to the dashboard.

**E)** Click **Detail** next to polling places reporting to manually update polling places reporting status or set the number of vDrives expected for each Polling Place (see page 342). Click the Read tab to return to the dashboard.

**F)** Click **Detail** next to write-ins resolved to view and print reports and resolve unassigned write-ins (see page 296). Click the Read tab to return to the dashboard.

## reading vDrives

**! IMPORTANT:** You must print a Zero Report before reading any vDrives into Count on Election Night. See page 276 for instructions on printing a Zero Report in Count.

### Reading vDrives: Count administrator and Count operator users

**1** Count is ready to read vDrives when you see the message shown below. ▼ Insert the **Verity Key** into an available USB port on your Count computer. ►



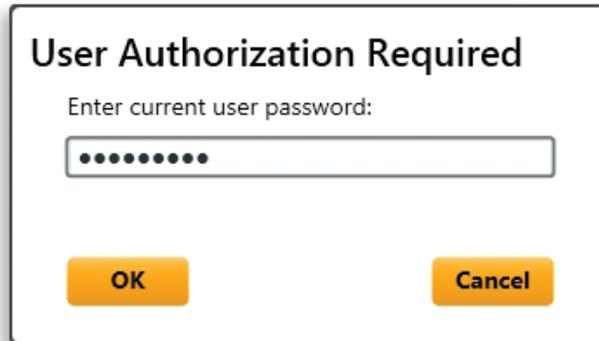
The screenshot shows the VERITY Count software interface. The top navigation bar includes 'Home', 'Count', 'Elections', 'Read', 'Resolve', 'Results', and 'Import/Export'. The current election details are: Workstation: WS411000111, Current Election: Sample Election, Election ID: 19189, Election Date: 12/31/2015, and Current Task: Official Election Results. The dashboard displays the following progress bars:

- 50 of 198 registered voters (25.3%)
- 2 of 6 vDrives tabulated (33.3%)
- 0 of 4 precincts reporting (0.0%)
- 0 of 7 polling places reporting (0.0%)
- 4 of 8 write-ins resolved

A callout box with an eye icon and the text 'Insert vDrive' points to a USB drive icon. The callout box also shows 'Status: Ready' and 'Current Previous' tabs.

## reading vDrives, *continued*

- 2 Enter your user name and password for the Count workstation, and then click **OK**.



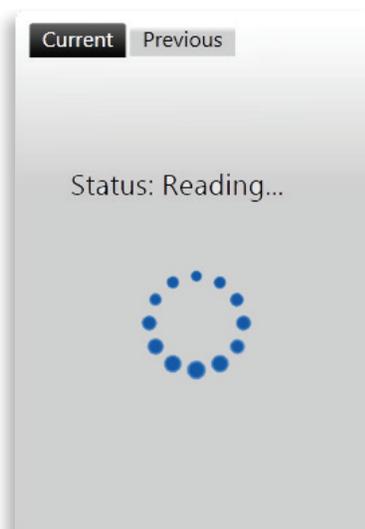
- 3 Insert a vDrive into an available USB port on the Count computer.



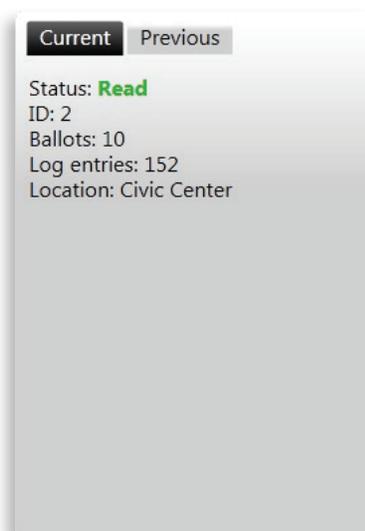
**! IMPORTANT:** If the tabulation slider is ON, Verity will automatically tabulate vDrives as they are read. Please note that this may take somewhat longer. If you have many vDrives to read, you may wish to read vDrives with the tabulation slider in the OFF position, and then tabulate after the vDrives have been read.

## reading vDrives, *continued*

**A)** The vDrive window will display the **Reading...** message while a vDrive is being read. Do not remove the vDrive while it is being read. ►



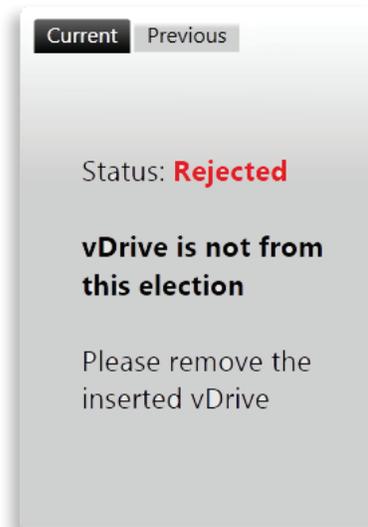
**B)** Once reading is complete, Count will display the vDrive status as **Read**, and show the ID and the number of ballots it contains. ►



**! IMPORTANT:** Do not remove a vDrive until you see the "Status: **Read**" message.

## reading vDrives, continued

**C)** If you insert a vDrive that is not for the current election, Count will reject the vDrive. ►



**D)** Select **Previous** to see a list of vDrives previously read.

**E)** Select **Current** to return to the currently inserted vDrive.

**Note:** *the Previous tab will only show vDrives read during the current session. For a list of all vDrives read in all sessions, see the vDrive Status report (page 327).*

A screenshot of the 'Previous' tab interface. At the top, there are two tabs: 'Current' and 'Previous' (selected). Below the tabs is a table with three columns: 'ID', 'Ballots', and 'Status'. The table contains two rows of data. Callout boxes labeled 'E' and 'D' point to the 'Current' and 'Previous' tabs respectively.

ID	Ballots	Status
3	11	Read
2	10	Read

## reading vDrives, *continued*

**F)** If you attempt to read a vDrive that was not properly closed on the device it came from, you will see the message below. An administrator's user name and password for the Count workstation is required. Enter the administrator user name and password and click OK. Count will close the vDrive and read it automatically.

### Administrator authorization required

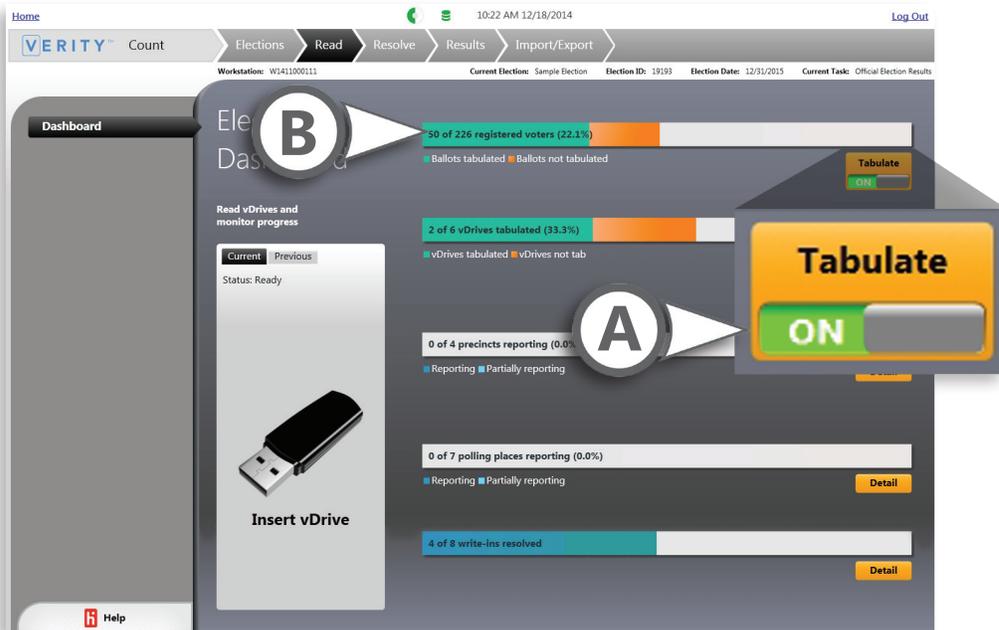
The inserted vDrive was not properly closed on the device that it came from. To continue, administrator authorization is required.

Username:

Password:

## reading vDrives, *continued*

- 4** Move the Tabulate slider to the **ON** position to begin tabulation.



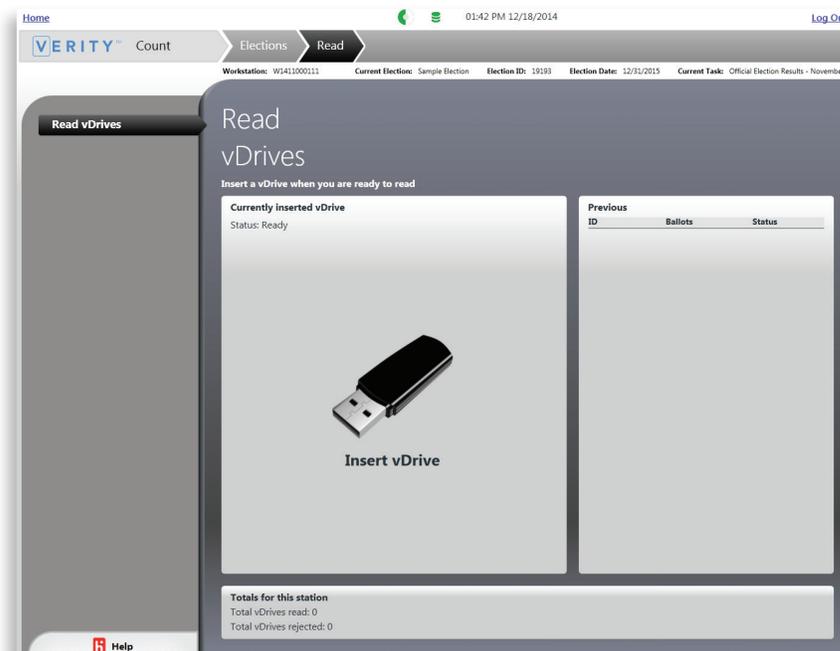
- A)** Change the tabulate slider at any time to start and stop tabulation.
- B)** If vDrives are read in while the tabulation is OFF, they will be reflected as “not tabulated” in the vDrives Tabulated progress bar.
- C)** Tabulation must be OFF in order to resolve write-ins.

## reading vDrives, *continued*

### Reading vDrives: Media Reader users

Users with the role of Election Media Reader have more limited access to Verity Count features; Media Reader users can perform the following:

- Open elections and create/ manage tasks (see page 266).
- Read (but not tabulate) vDrives. The Read tab for Media Reader users is shown below; the left panel (A) displays the status of the currently inserted vDrive. The right panel (B) displays previously read vDrives. The bottom panel (C) lists total vDrives read and rejected for the workstation.



## reading vDrives, *continued*

To read vDrives when logged in as a Media Reader user:

- 1** Insert the **Verity Key** into an available USB port on the workstation.
- 2** Enter the user name and password for the workstation, and then click **OK**.
- 3** Insert the first **vDrive** to be read into an available USB port on the workstation.
- 4** As Count finishes reading each vDrive, the information for each vDrive read will display in the right hand panel.
- 5** An Administrator- or Operator-level user must log in to perform **tabulation**. (If using multiple networked workstations, tabulation can be performed on a separate workstation by an Administrator- or Operator-level user.)

## Count checklist: the read tab

- 1** Monitor election progress using the dashboard.
- 2** Read vDrives.
- 3** Turn the tabulate slider on to tabulate vDrives at any time.



## 4

# resolve

## the resolve tab



Under the **Resolve** tab, you will manage certified write-in candidates as well as review and resolve any unassigned write-in votes from scanned ballots. The following menus are available in the Resolve tab:

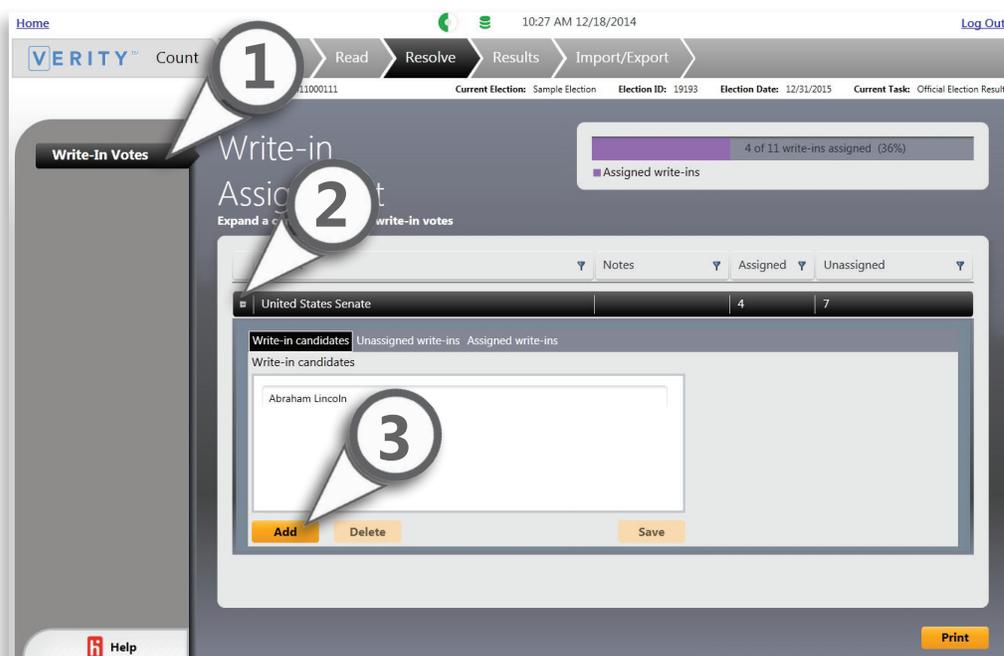
- **Write-in Votes:** Manage write-in candidates and resolve unassigned write-ins from scanned ballots.

**! IMPORTANT:** You cannot resolve write-in votes while the tabulation slider on the Dashboard is set to **ON** (see page 291). Change the tabulation slider to **OFF** to resolve write-in votes.

# managing write-in candidates

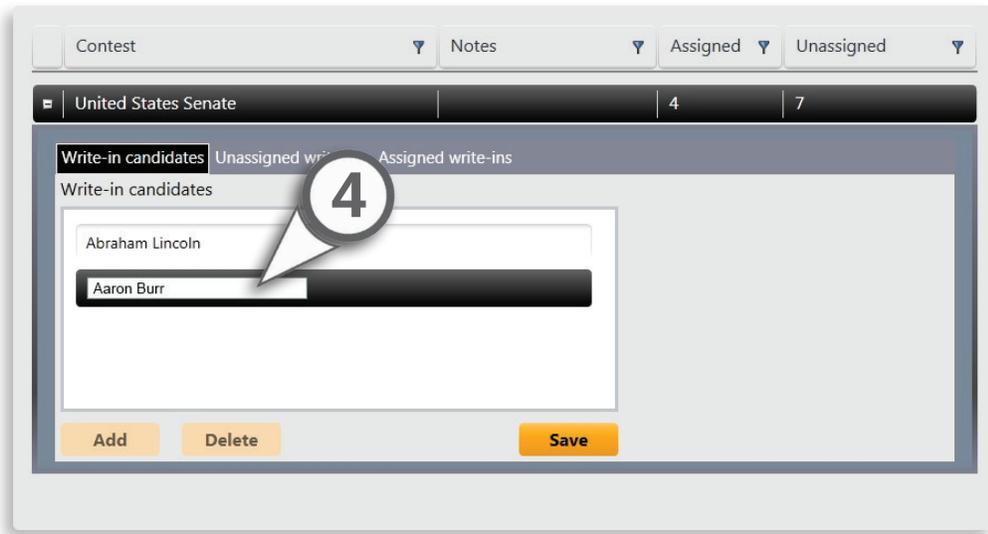
## Adding write-in candidates

- 1 Select the **Write-in Votes** menu.
- 2 Click the **+** sign to the left of the contest name to expand the contest and view the current write-in candidates for that contest.
- 3 Click **Add** to add a new write-in candidate.



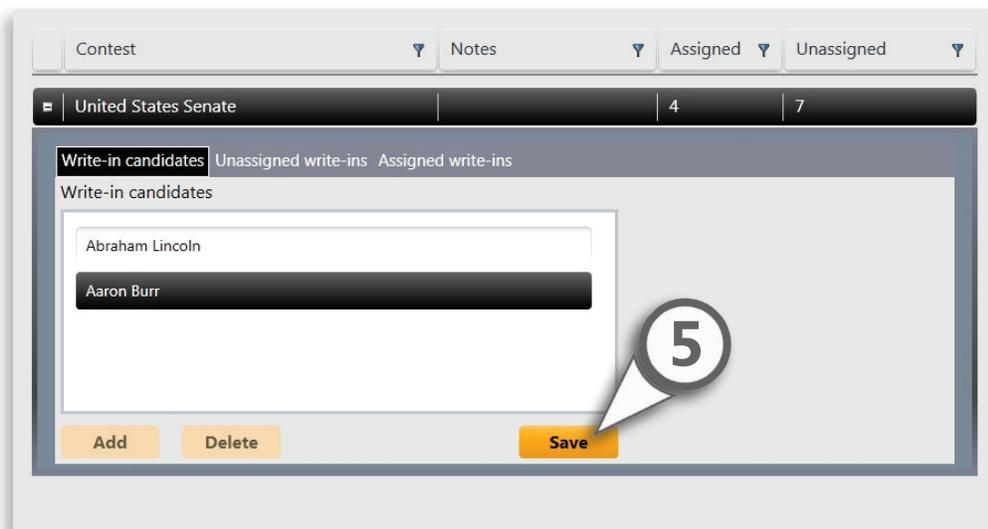
**managing write-in candidates, *continued***

**4** Type the candidate name.



The screenshot shows a web interface for managing write-in candidates. At the top, there are tabs for 'Contest', 'Notes', 'Assigned', and 'Unassigned'. Below these is a header for 'United States Senate' with counts of 4 and 7. The main area is titled 'Write-in candidates' and has three sub-tabs: 'Write-in candidates', 'Unassigned write-ins', and 'Assigned write-ins'. The 'Write-in candidates' tab is active. It contains a text input field with 'Abraham Lincoln' and a dropdown menu with 'Aaron Burr' selected. A callout bubble with the number '4' points to the dropdown menu. Below the input field are three buttons: 'Add', 'Delete', and 'Save'.

**5** Click Save.

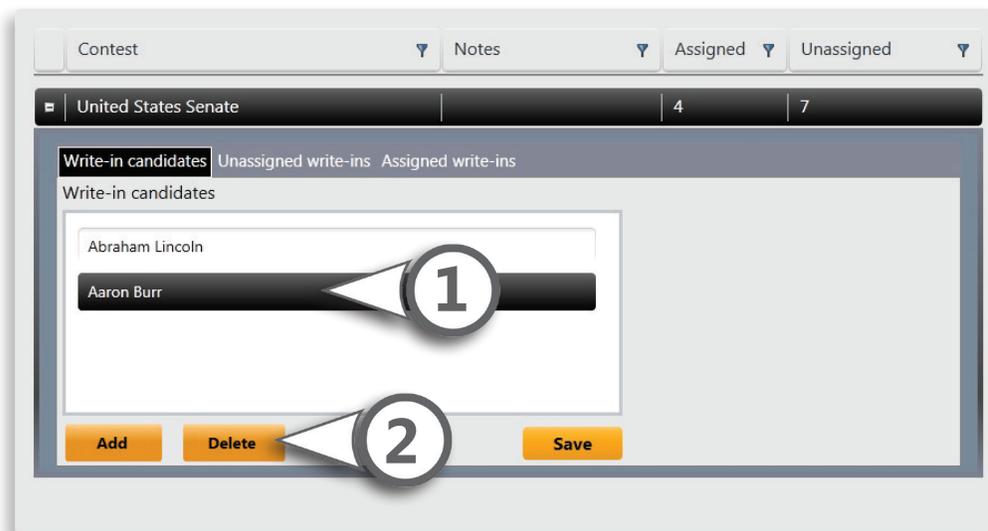


The screenshot shows the same web interface as the previous one. The 'Write-in candidates' tab is still active. The text input field now contains 'Abraham Lincoln' and 'Aaron Burr' is no longer selected in the dropdown menu. A callout bubble with the number '5' points to the 'Save' button. The 'Add' and 'Delete' buttons are still visible.

## managing write-in candidates, *continued*

### Deleting write-in candidates

- 1 Select the candidate you would like to delete.
- 2 Click Delete.



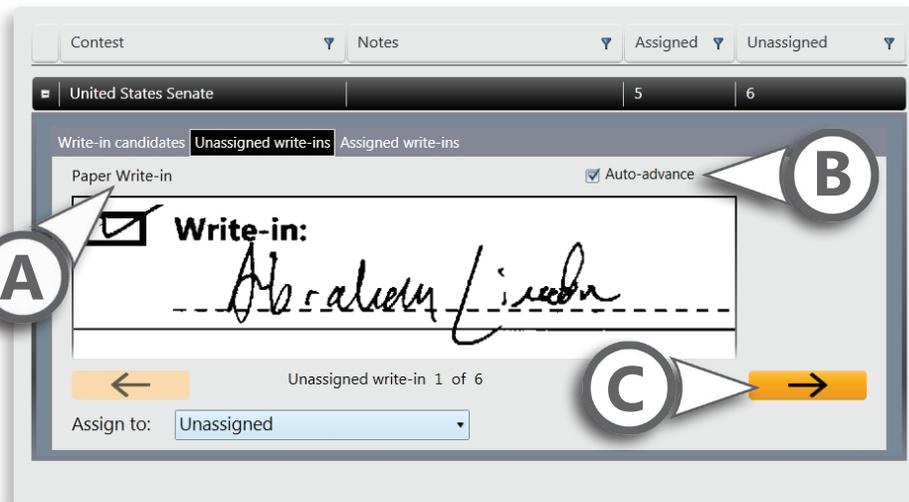
## resolving unassigned write-in votes

If you have certified write-in candidates, you can define them first before proceeding (see page 297).

### 1 Select the **Unassigned Write-ins** tab.

**TIP:**

Check the Auto-advance box on the upper right of the Unassigned write-ins window and Count will automatically advance to the next unassigned write-in vote. You can also manually scroll through the write-ins using the yellow arrow buttons.



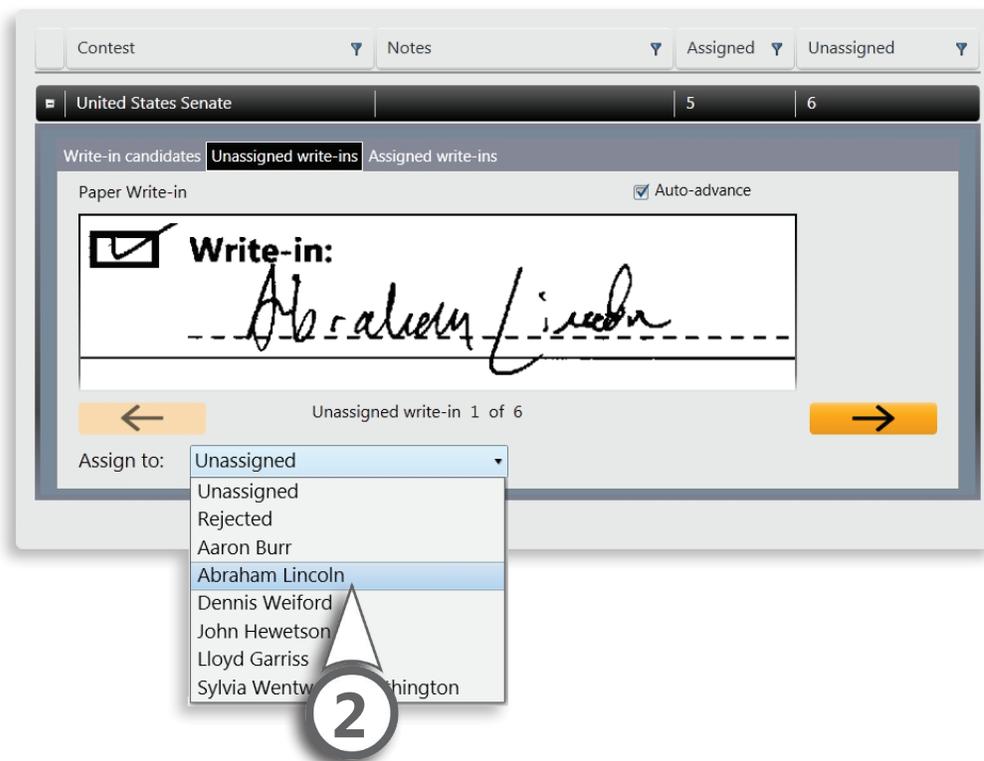
**A)** The voting type (Electronic or Paper) is indicated in the top left corner.

**B)** Check the box next to **Auto-advance** in the top right corner to automatically advance to the next unassigned write-in after you resolve the first one.

**C)** Use the yellow arrows to manually navigate back and forth through the unassigned write-ins.

## resolving unassigned write-ins, *continued*

**2** To assign the write-in, click the **Assign to** drop-down and choose the correct candidate from the list. All write-in assignments you make are automatically saved.



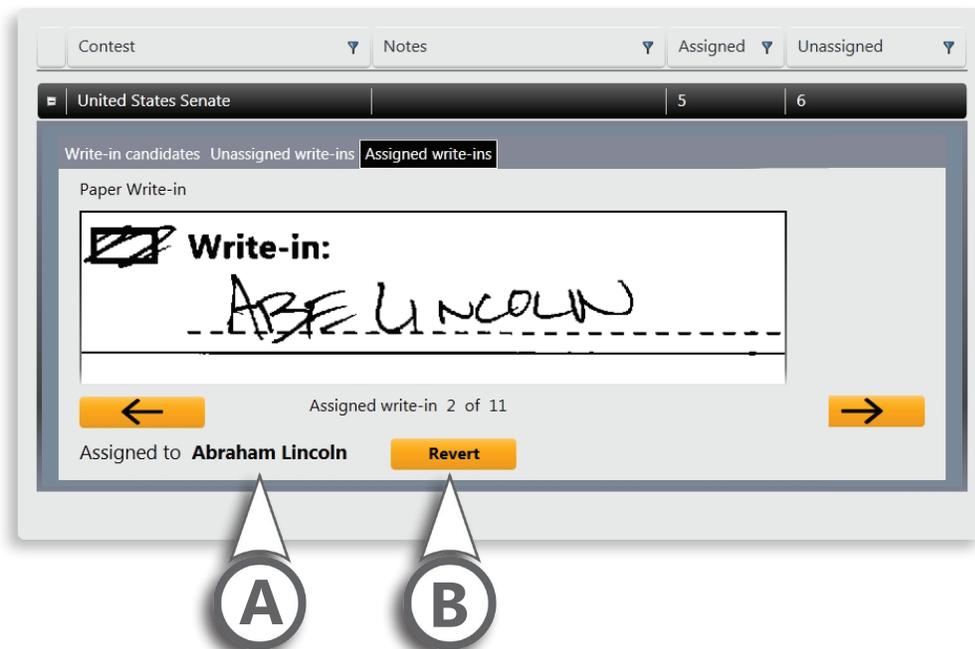
Using the **Assign To** drop-down menu, You can assign a write-in vote to any candidate already on the ballot for that contest, or to any write-in candidate already defined (to define new write-in candidates, see page 297). You can also choose to leave the write-in as Unassigned, or mark it as Rejected. Unassigned and Rejected write-ins can be reported as separate categories in reports (see pages 313-314).

## viewing assigned write-in votes

To view assigned write-in votes, select the **Assigned Write-ins** tab.

**A)** The current assignment is indicated in the lower left-hand corner.

**B)** You can change previously assigned write-ins by clicking **Revert**; the assignment will be removed and the write-in will now appear under the **Unassigned Write-ins** tab.



## printing write-in assignments

When you have finished assigning write-ins, click **Print** in the bottom right corner to view and print a report of write-in assignments.

The screenshot shows the VERITY system interface. The top navigation bar includes 'Home', 'Count', 'Elections', 'Read', 'Resolve', 'Results', and 'Import/Export'. The status bar displays 'Workstation: W1411000111', 'Current Election: Sample Election', 'Election ID: 19193', 'Election Date: 12/31/2015', and 'Current Task: Official Election Results'. The main content area is titled 'Write-in Assignment' and shows a progress bar indicating '11 of 11 write-ins assigned (100%)'. Below this, there is a table with columns for 'Contest', 'Notes', 'Assigned', and 'Unassigned'. The table contains one row for 'United States Senate' with 11 assigned and 0 unassigned write-ins. The interface also includes a 'Paper Write-in' section with an 'Auto-advance' checkbox and a 'Print' button in the bottom right corner.

Contest	Notes	Assigned	Unassigned
United States Senate		11	0



## Count checklist: the resolve tab

- 1 Add certified write-in candidates, if any.
- 2 Resolve unassigned write-ins.
- 3 Print reports of assigned and unassigned write-ins.



## 5

# results

## the results tab



Under the **Results** tab, you will set your reporting options for the current election and create, view, and print reports. You will also manage precincts and polling places reporting, set registered voter totals, perform manual vote recording if necessary, and export cast vote records for auditing purposes.

The following menus are available in the Results tab:

- **Options:** set your reporting options for Count. Settings made in the Reporting Options menu affect all tasks for the current election.
- **Reports:** generate reports from the list of available options or create a custom report, and create reporting runs.
- **Precincts:** view reporting precincts and manually change precinct reporting status.
- **Polling Places:** view reporting polling places, set the number of vDrives expected per polling place, and manually change polling place reporting status.
- **Registered Voters:** set the number of registered voters for reporting voter turnout.
- **Vote Recording:** perform manual vote recording.
- **Auditing Dashboard:** filter ballot data to review and export cast vote records.

The screenshot shows the VERITY Count web application interface. The top navigation bar includes 'Home', 'Elections', 'Read', 'Resolve', 'Results', and 'Import/Export'. The 'Results' tab is active. Below the navigation bar, the current election details are displayed: Workstation: W2411000111, Current Election: Sample Election, Election ID: 19193, Election Date: 12/31/2015, and Current Task: Official Election Results. The main content area is titled 'Reporting Options' and contains a form for setting reporting options for the election. The form has tabs for 'General', 'Contests', 'Voting Types', 'Precinct Groups', and 'Aliases'. The 'General' tab is selected. The form includes the following fields and options:

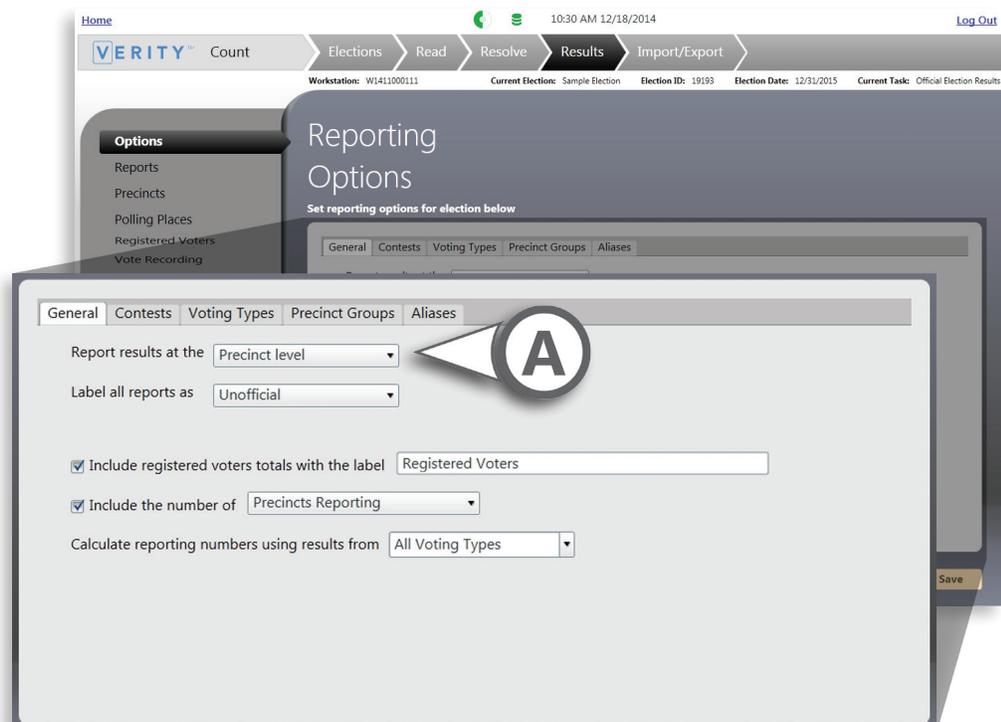
- Report results at the: Precinct level (dropdown)
- Label all reports as: Unofficial (dropdown)
- Include registered voters totals with the label: Registered Voters (text input)
- Include the number of: Precincts Reporting (dropdown)
- Calculate reporting numbers using results from: All Voting Types (dropdown)

A 'Save' button is located at the bottom right of the form. A 'Help' icon is visible in the bottom left corner of the interface.

## setting reporting options

**1** Select the **General** tab under Reporting Options.

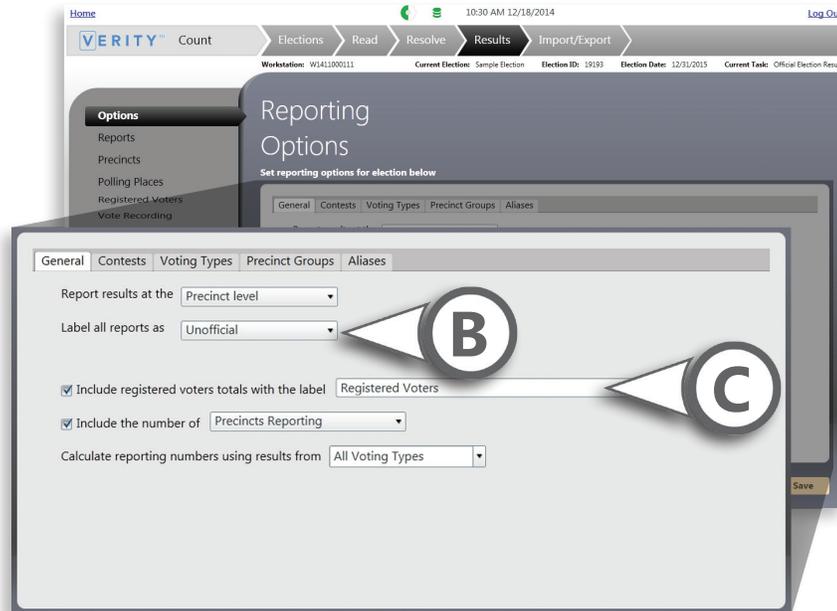
**Note:** Settings made in the Reporting Options menu affect all tasks for the current election. If you have set your general preferences under the elections tab before you imported the election, you do not need to set them again; you can proceed to the Contests tab.



**A)** Choose whether to report results at the precinct or at the precinct split level.

- **At the precinct level**
- **At the precinct split level** (Note: if you choose this option, your precinct reports will be at the precinct split level.)

## setting reporting options, *continued*



► General tab, *continued*

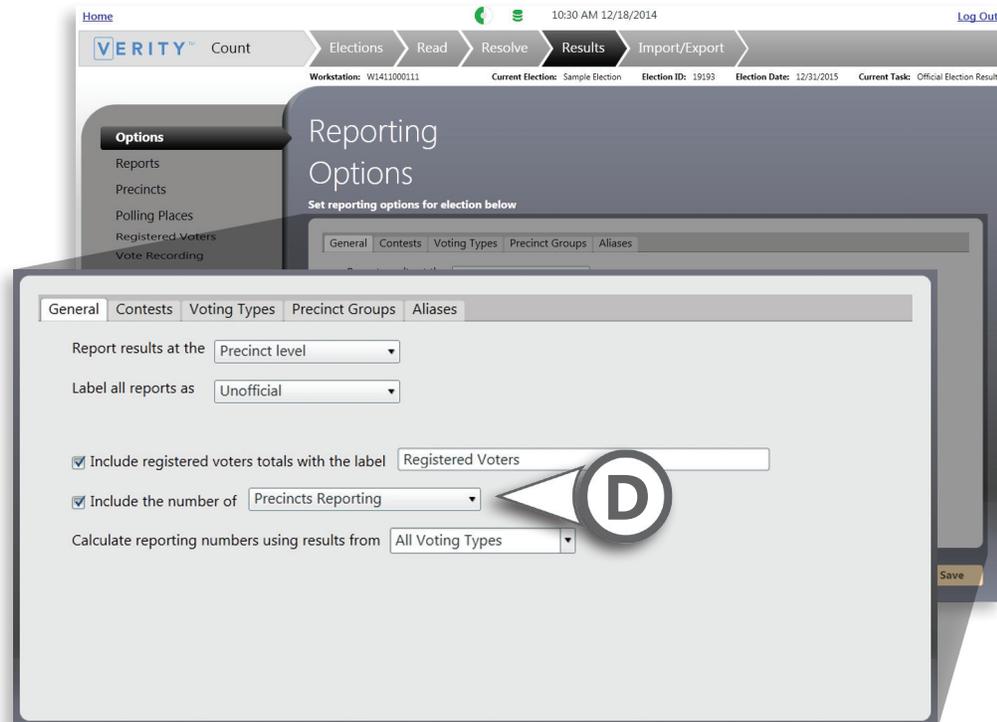
### **B)** Choose whether to label reports **Unofficial** or **Official**.

- Typically, reports are labeled Unofficial until the completion of final canvassing.

### **C)** Check the box if you would like to include registered voter totals on report headers, and then enter a reporting label for registered voter totals.

- If checked, registered voter totals (turnout) will appear on reports where applicable.
- If you choose this option, you should enter your registered voter totals (page 348) before generating reports.

## setting reporting options, *continued*

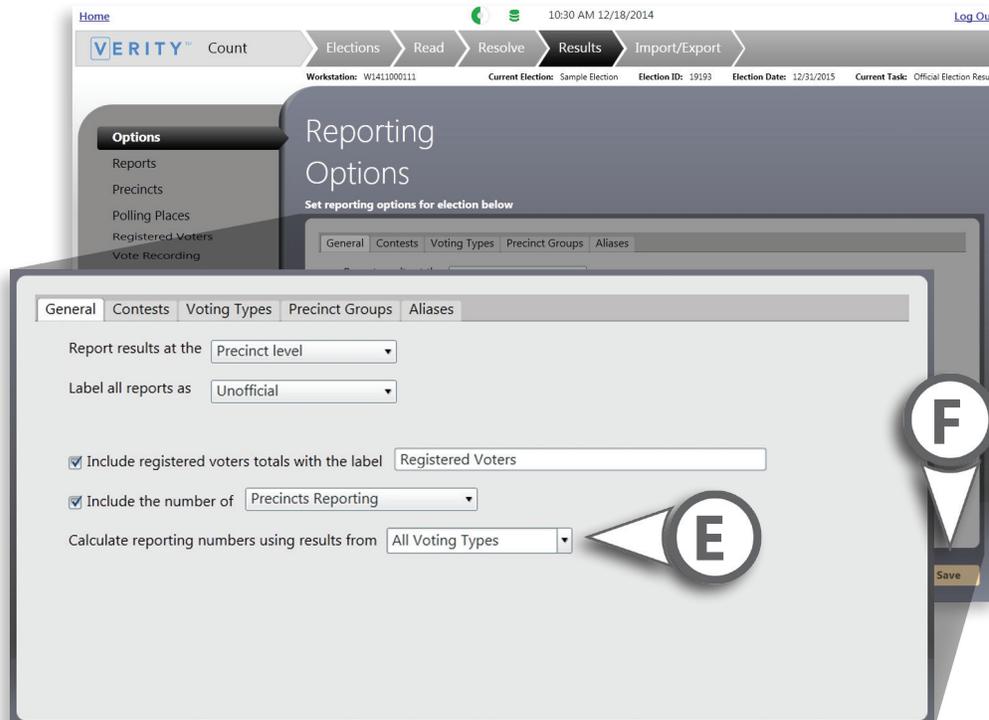


### ► General tab, *continued*

**D)** Check the box if you would like to include either the number of precincts reporting or the number of polling places reporting on report headers.

- If checked, the number/percentage of precincts reporting (or polling places reporting) will appear in reports where applicable.
- For instructions on setting reporting status for Precincts and Polling Places, see page 338 and page 342.

## setting reporting options, *continued*



► General tab, *continued*

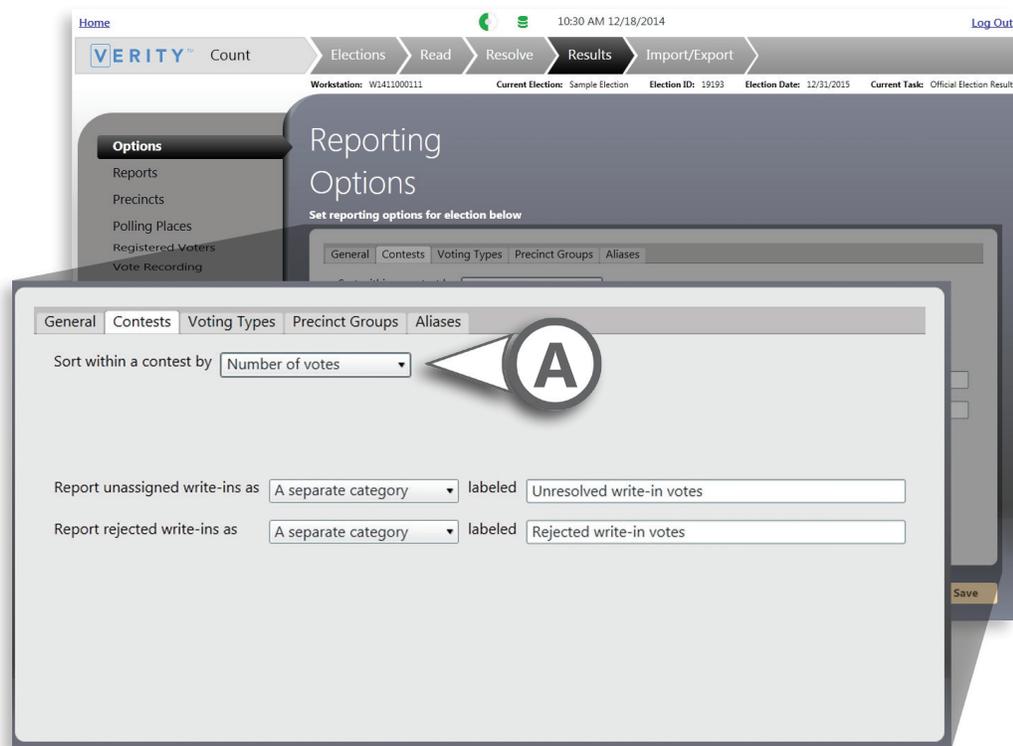
**E)** Choose how you would like to calculate reporting numbers. Typically this is set to **All Voting Types**.

**F)** Click **Save** in the lower right corner.

## setting reporting options, *continued*

**2** Select the **Contests** tab under Reporting Options.

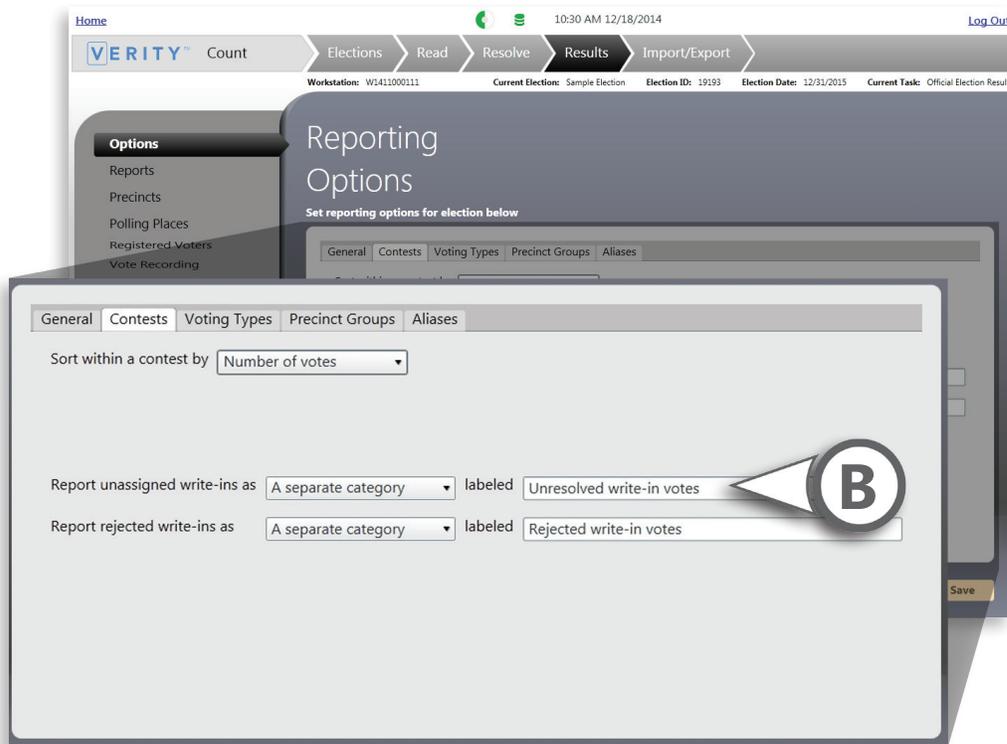
**Note:** *if you have set your contests preferences under the elections tab, you do not need to set them again; you can proceed to the Voting Types tab.*



**A)** Choose how to sort contest results. The available options are:

- By number of votes
- By ballot order

## setting reporting options, *continued*

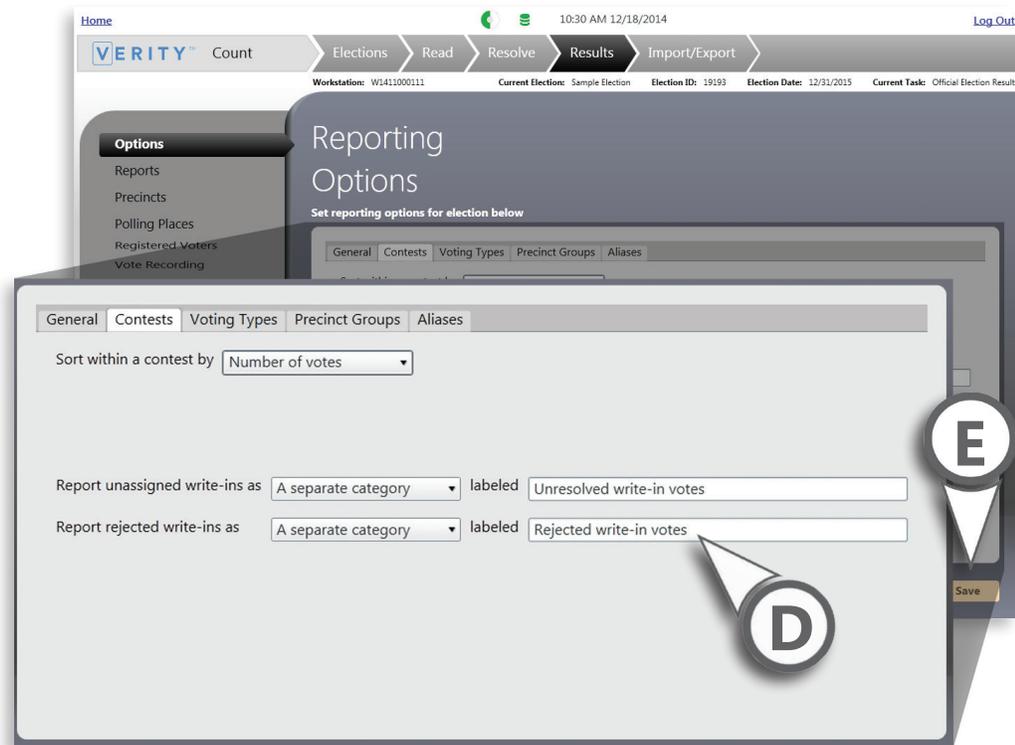


► Contests tab, *continued*

**B)** Choose how to report unassigned write-in votes, and enter a reporting label. The available options are:

- **A separate category:** unassigned write-ins will be reported as a separate category, in which case you can define a label for that category.
- **Undervotes:** unassigned write-ins will be reported as undervotes.

## setting reporting options, *continued*



### ► Contests tab, *continued*

**D)** Choose how to report rejected write-in votes, and enter a reporting label. The available options are:

- **A separate category:** rejected write-ins will be reported as a separate category, in which case you can define a label for that category.
- **Undervotes:** rejected write-ins will be reported as undervotes.

**E)** Click **Save** in the lower right corner.

## setting reporting options, *continued*

- 3 Select the **Voting Types** tab under Reporting Options.



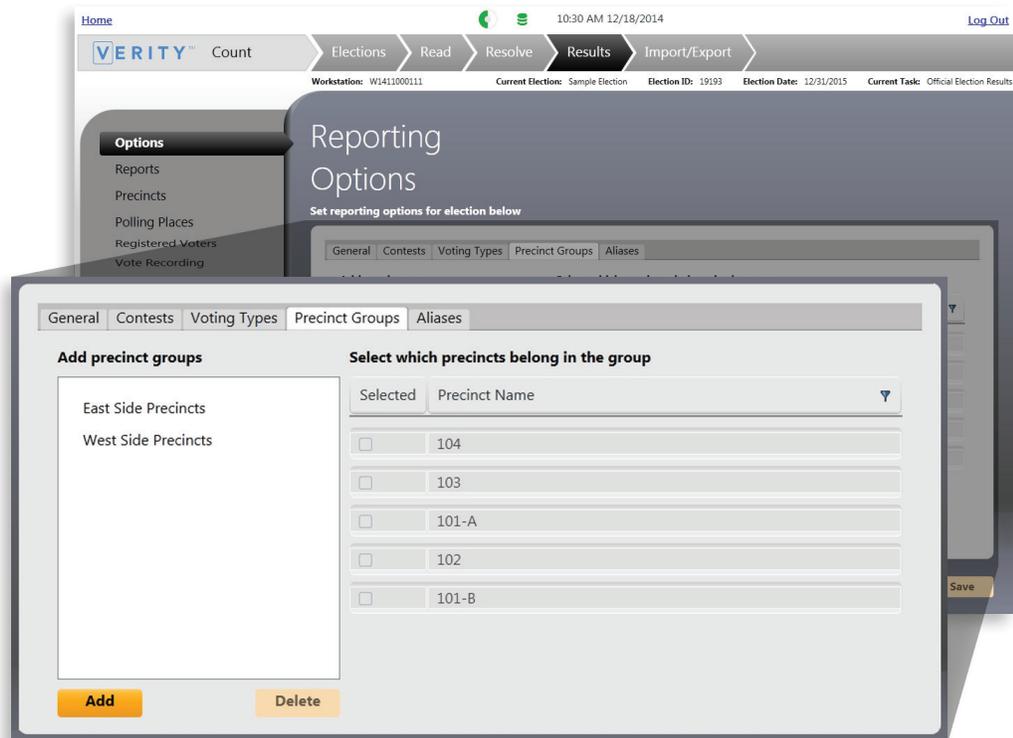
**A)** Use the drop downs to choose whether to report Election Day, Early Voting or Absentee results separately (“As it own category”) or combined.

**B)** Click **Save** in the lower right corner.

## setting reporting options, *continued*

**4** (optional) Select the **Precinct Groups** tab under Reporting Options to create precinct groups (such as districts, etc.) and assign precincts to the groups you have created.

**Note:** *Items under this tab are optional, for creating and managing precinct groups not created during the original election definition process.*



**A)** Click **Add** to add a new precinct group, or select an existing group.

## setting reporting options, *continued*

► Precinct Groups tab, *continued*

**B)** Enter the new precinct group name, and then click **OK**.

**Set new name**

New precinct group name

The screenshot shows the VERITY reporting options interface. The 'Reporting Options' window is open, and the 'Precinct Groups' tab is selected. A dialog box titled 'Add precinct groups' is displayed, showing a list of precinct groups: 'East Side Precincts', 'West Side Precincts', and 'South Side Precincts'. The 'East Side Precincts' group is selected. Below the list, there is a table with columns for 'Select which precincts belong in the group' and 'Precinct Name'. The table contains the following rows:

Select which precincts belong in the group	Precinct Name
<input checked="" type="checkbox"/>	104
<input type="checkbox"/>	103
<input type="checkbox"/>	101-A
<input checked="" type="checkbox"/>	102
<input type="checkbox"/>	101-B

At the bottom of the dialog box, there are 'Add' and 'Delete' buttons. A 'Save' button is located in the lower right corner of the dialog box. Callout C points to the checkbox for precinct 104, and callout D points to the Save button.

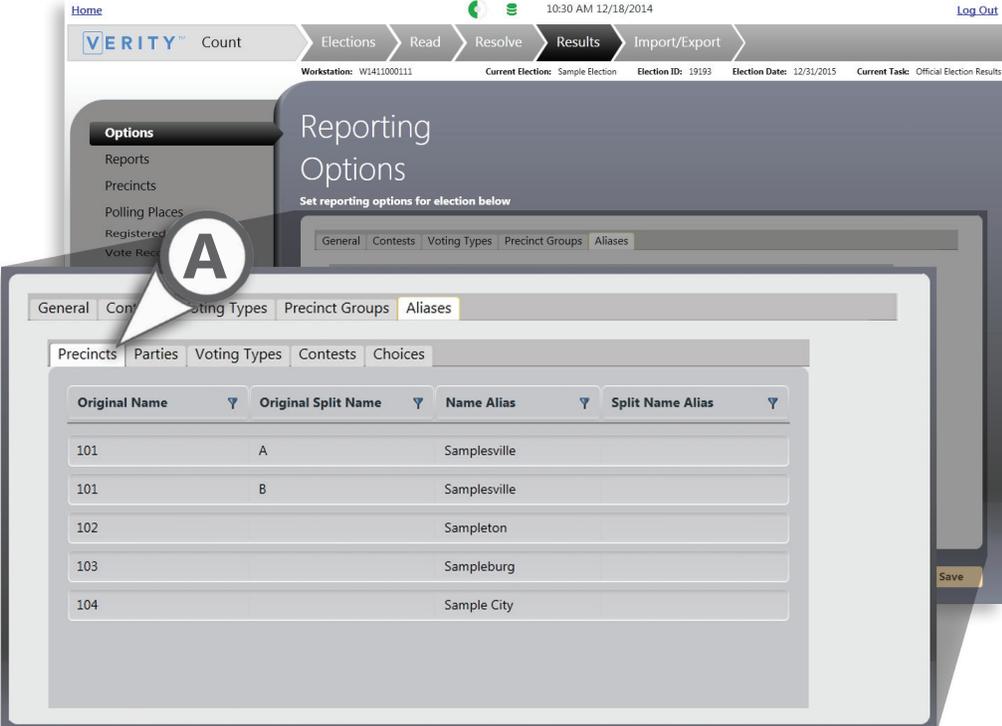
**C)** Check the box next to a precinct to assign that precinct to the selected group.

**D)** Click **Save** in the lower right corner.

## setting reporting options, *continued*

**5** Select the **Aliases** tab under Reporting Options to change the name that displays on reports for various elements (i.e., precincts, districts, parties, voting types, contests, or choices).

**Note:** *Aliases are applied only to the cumulative, precinct, and canvass reports.*



The screenshot shows the VERITY Reporting Options interface. The top navigation bar includes 'Home', 'Count', 'Elections', 'Read', 'Resolve', 'Results', and 'Import/Export'. The current election is 'Sample Election' with ID '19193' and date '12/31/2015'. The 'Reporting Options' window is open, showing the 'Aliases' tab selected. A callout box labeled 'A' points to the 'Aliases' tab. The table below shows the original names and their corresponding aliases.

Original Name	Original Split Name	Name Alias	Split Name Alias
101	A	Samplesville	
101	B	Samplesville	
102		Sampleton	
103		Sampleburg	
104		Sample City	

**A)** To create an Alias, first select the desired tab to display the original names. Locate the name that needs to be changed on reports.

## setting reporting options, *continued*

Home 10:30 AM 12/18/2014 Log Out

VERITY™ Count Elections Read Resolve Results Import/Export

Workstation: W1411000111 Current Election: Sample Election Election ID: 19193 Election Date: 12/31/2015 Current Task: Official Election Results

Options

- Reports
- Precincts
- Polling Places
- Registered Voters
- Vote Recording

### Reporting Options

Set reporting options for election below

General Contests Voting Types Precinct Groups Aliases

General Contests Voting Types Precinct Groups Aliases

Precincts Parties Voting Types Contests Choices

Original Name	Original Split Name	Name Alias	Split Name Alias
101		Samplesville	
101	B	Samplesville	
102		Sampleton	
103		Sampleburg	
104		Sample City	

Save

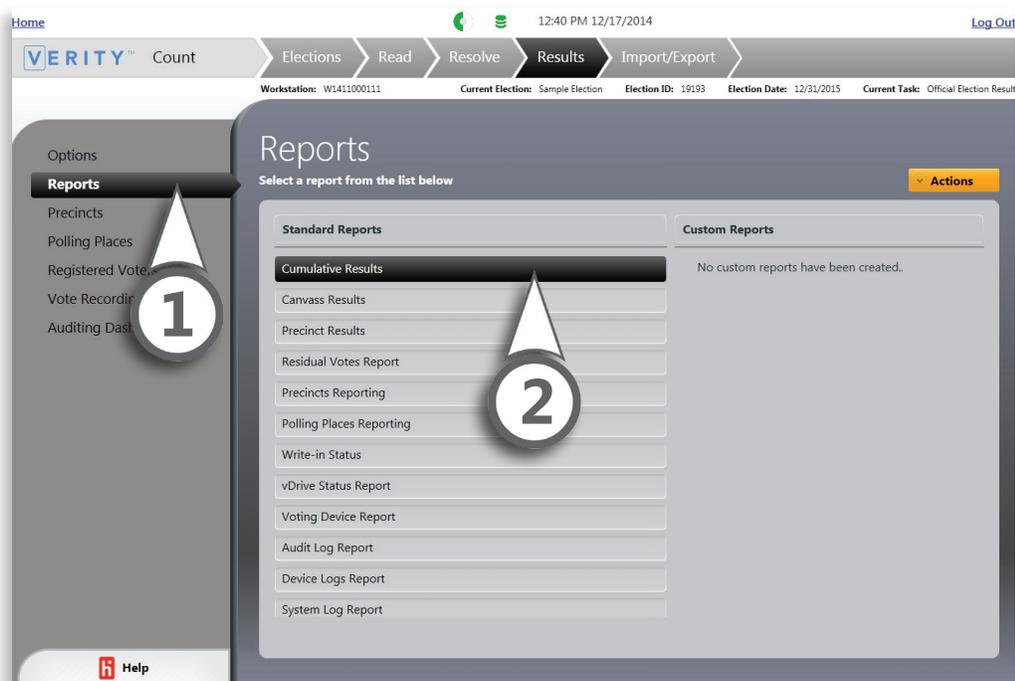
► Aliases tab, *continued*

**B)** Click in the Alias column for the corresponding item and type the updated name in the Alias column.

**C)** Click **Save** in the lower right corner.

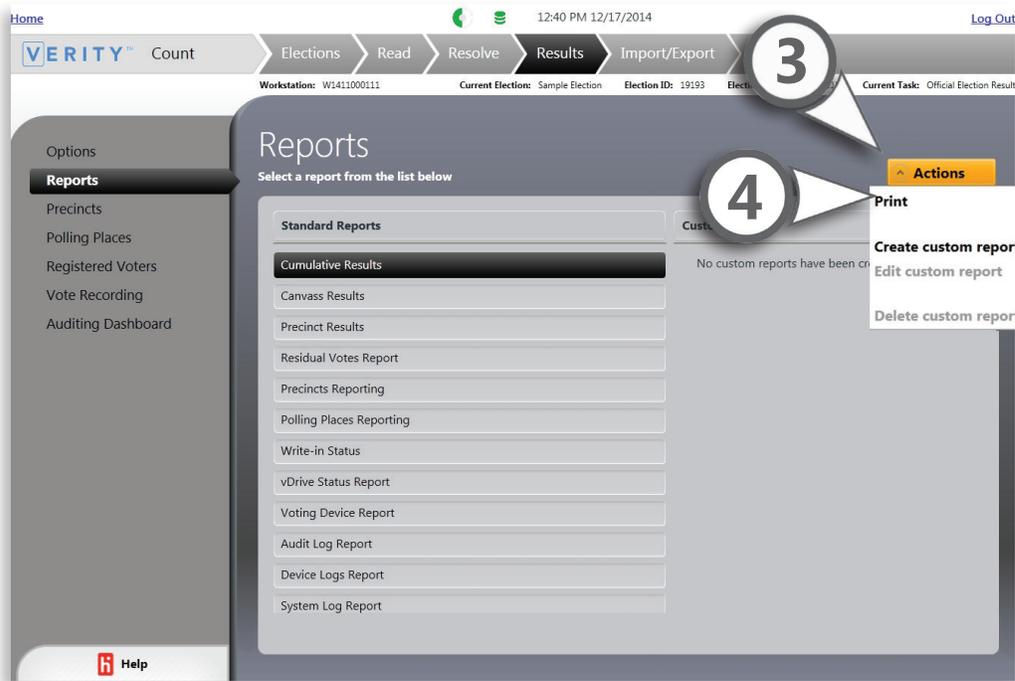
## viewing and printing standard reports

**1** Select the **Reports** menu to view available reports. Standard reports are located in the left-hand column; custom reports (if any) are located in the right-hand column. See page 323 for a list of available reports.



**2** Select one of the standard reports from the left-hand column that you would like to view/print.

## standard reports, *continued*



**3** Click the **Actions** menu.

**4** Select **Print**, and the print report menu for that report will appear. You can also double-click the report name to bring up the menu. Options in the print report menu will vary for each report; choose view report to view the report for printing or export to PDF.

## standard reports, *continued*

### 5 View, Print or Save the report.

A) To Print, click the Printer icon.

B) To Save to file, click the Disk icon.

C) You can view additional pages of the report using the blue arrow buttons.

**Cumulative Results Report**  
Sample County, Sample State  
Election 1/2015  
1 of 3

**Unofficial results**  
Registered Voters  
73 of 226 = 32.30 %  
Precincts Reporting  
4 of 4 = 100.00 %

Party	Absentee Voting	Early Voting	Election Day Voting	Total
Party	2 25.00 %	4 23.53 %	9 18.75 %	15 20.55 %
Party	0 0.00 %	3 17.65 %	5 10.42 %	8 10.96 %
Party	2 25.00 %	7 41.18 %	14 29.17 %	23 31.51 %
Party	6 60.00 %	10 58.82 %	34 70.83 %	50 68.49 %
Overvotes:	0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Rejected write-in votes:	0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Unresolved write-in votes:	0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %

**President and Vice-President of the United States - Vote for One Pair**

Choice	Party	Absentee Voting	Early Voting	Election Day Voting	Total
Adam Cramer and Greg Vuocolo	HIS	5 62.50 %	7 41.18 %	22 45.83 %	34 46.58 %
Joseph Barachi and Joseph Hallaren	WHI	2 25.00 %	6 35.29 %	16 33.33 %	24 32.88 %
Daniel Court and Amy Blumhardt		1 12.50 %	3 17.65 %	3 6.25 %	7 9.59 %
Cast Votes:		8 100.00 %	16 94.12 %	41 85.42 %	65 89.04 %
Undervotes:		0 0.00 %	1 5.88 %	6 12.50 %	7 9.59 %
Overvotes:		0 0.00 %	0 0.00 %	1 2.08 %	1 1.37 %
Rejected write-in votes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %
Unresolved write-in votes:		0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %

**United States Senate - Vote for One**

Choice	Party	Absentee Voting	Early Voting	Election Day Voting	Total
Lloyd Garriss	HIS	6 75.00 %	4 23.53 %	17 35.42 %	27 36.99 %
Dennis Weiford	WHI	0 0.00 %	4 23.53 %	11 22.92 %	15 20.55 %
Sylvia Wentworth-Farthington		0 0.00 %	5 29.41 %	3 6.25 %	8 10.96 %

## available reports: Count

The reports listed below are available in Count; the contents of each report are listed below. These reports cannot be deleted or edited by the user. All Count reports contain the following information in their header:

Report title	Total tabulated ballots
Election title	Turnout percentage <i>(optional)</i>
Election date	<i>One of the following:</i>
Report label	• Total precincts/splits reporting, <i>or</i>
Jurisdiction name	• Total polling places reporting
Official/Unofficial label	<i>One of the following:</i>
Date/time the report was generated	• Total precincts/splits in the election, <i>or</i>
Total registered voters in the election (optional)	• Total polling places in the election
	Reporting percentage

### Audit log report

The Audit log report is a comprehensive log of all activity that has occurred in the Count application on that workstation. Each entry includes the following detail:

- Date/time of event
- User logged in at time of event
- Application name and full version number
- Device serial number or workstation ID
- Event name (in plain text)
- Event detail data (in plain text)
- Election ID
- Tags

### System log report

The System log report is a comprehensive log of all activity that has occurred on a workstation or network. Each entry includes the same details as the audit log, listed above.

## available reports: **Count**, *continued*

### Device Logs

Device logs display all information contained in the voting device application and system log entries. The device log can be filtered by polling place, by device, and by date/time range.

**Note:** *Entries are sorted by date/time.*

### Cumulative report

**Note:** *the Cumulative report lists each contest in ballot sequence order. It includes one results column for each voting type (Early Voting, Absentee, Election Day).*

- Contest details:
  - Contest title
  - Contest party affiliations (if the election is an open or closed primary)
  - Number of valid choices for that contest
- Contest choice/candidate details
  - Choice/candidate name
  - Choice/candidate party affiliations (if the election is a general election)
  - Vote counts for each voting type
- Write-in details:
  - Certified write-in name
  - Vote counts for each voting type
  - Number of unresolved write-ins in this contest for each voting type (if "report unresolved write-ins as a separate category" is enabled)
  - Number of rejected write-ins in this contest for each Voting Type (if "report rejected write-ins as a separate category" is enabled)
- Contest overvote total for each voting type (optional)
- Contest undervote total for each voting type (optional)
- Contest undervote total for each voting type (optional) (if election is an open primary)
- Sum total of vote counts for each contest

## available reports: **Count**, *continued*

### **Precinct report**

The Precinct report displays the same information and as the Cumulative report, with the exception that results for each precinct are displayed in separate sections for each precinct or precinct split

**Note:** *Precinct sections are in sequence order, with each precinct appearing on a separate page. All contests, counts, and totals are based only on the contests available and votes cast in that precinct or precinct split.*

### **Canvass report**

The Canvass report lists each contest in the election in ballot order. For each contest, the report displays the following information for each precinct or precinct split.

- Precinct or precinct split details (for each contest):
- Number of ballots cast for each voting type
- Total ballots cast
- Number of registered voters (by party, if it is a primary election and "Register voters by party" was chosen)
- Turnout percentage (based on number of ballots cast and number of registered voters)
- Vote totals for each contest choice/candidate (including party, if it is a general election)
- Vote totals for each certified write-in candidate
- Overvotes (optional)
- Undervotes (optional)
- Invalid votes (optional) (if election is an open primary)
- Number of unresolved write-ins (if "report unresolved write-ins as a separate category" is enabled)
- Number of rejected write-ins (if "report rejected write-ins as a separate category" is enabled)

**available reports: Count**, *continued***Voting Device report**

The Voting Device report provides the following information about the voting devices used in the election.

**Note:** *This report includes both polling place voting devices and Verity Central scanning workstations. If a device was used in multiple polling places or voting types during the election, this report will contain multiple entries for the device.*

- Device type
- Device serial number or Verity Central workstation ID
- Device firmware version
- Polling place
- Voting type
- Number of cast vote records recorded on this device
- Number of audits recorded on this device

**Precincts reporting**

The Precincts report provides the following information for each precinct or precinct split:

**Note:** *This report is sorted by precinct or precinct split*

- Precinct or precinct split name
- Registered Voters in this precinct or precinct split
- Reporting Status
- Total ballots read for this precinct or precinct split
- Turnout percentage for this precinct or precinct split
- Total number of precincts or precinct splits reporting
- Total number of precincts or precinct splits not reporting
- Total number of ballots read

## available reports: **Count**, *continued*

### Polling Places Reporting report

The Polling Places Reporting report provides the following information for each Polling Place:

- Polling place name
- Reporting status
- Party associations (if the election is a closed primary)
- Total ballots read for this polling place
- Polling place totals
  - Total number of Polling Places reporting
  - Total number of Polling Places partially reporting
  - Total number of Polling Place not reporting

### vDrive Status report

The vDrive Status report provides the following details for each vDrive created for the current election.

**Note:** *this report is sorted by polling place*

- vDrive ID
- Polling Place Name/Verity Central Workstation ID
- Status (read, read and tabulated, or rejected)
- If the vDrive was rejected, the reason for the rejection
- Total number of ballots read from the vDrive
- Voting type assigned to the vDrive
- Voting device type the vDrive was used with (Touch Writer, Scan, or Central workstation)
- Voting device serial number
- Total ballots read (by polling place)
- Total vDrives read (by polling place)
- Total vDrives written in Build
- Total vDrives read
- Percentage of vDrives read
- Total number of ballots read

**available reports: Count, continued****Write-in report**

The Write-in report provides the following information:

**Note:** *This report is sorted by contest in ballot order, and then by certified write-in name.*

- Contest details (for each contest that includes a write-in ballot option)
- Contest title
- Certified write-in names entered for this contest
- Vote total for each certified write-in
- Number of unresolved write-ins for the Contest
- Number of rejected write-ins for the Contest
- Total votes assigned to certified write-ins
- Total unresolved write-ins
- Total rejected write-ins

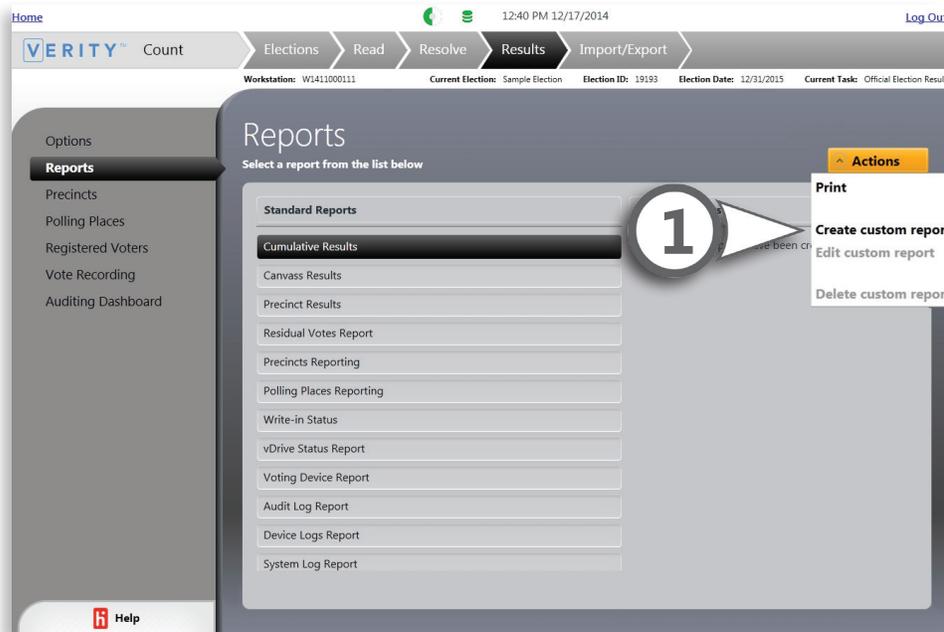
**Residual Votes report**

The Residual Votes report displays the following information for each contest in the election:

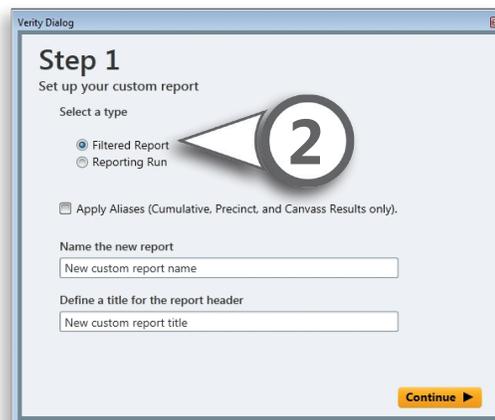
- Total number votes counted for all ballot options combined
- Total number of undervotes
- Percentage of undervotes
- Total number overvotes
- Subtotals for each specific overvote pattern that exists in this contest
- Percentage of overvotes
- Total number of invalid votes
- Percentage of invalid votes

# creating and managing custom reports

- 1 Under the actions menu, choose **Create Custom Report**. The custom report wizard will open.



- 2 In the custom report wizard, select **Filtered Report** and choose settings.



**custom reports**, *continued*

Verity Dialog

## Step 1

Set up your custom report

Select a type

Filtered Report  
 Reporting Run

Apply Aliases (Cumulative, Precinct, and Canvass Results only).

Name the new report

New custom report name

Define a title for the report header

New custom report title

Continue ►

**A)** Check the box if you would like to use aliases on the report.

**B)** Create a name for the custom report.

**C)** Define a title for the report to appear on the report header.

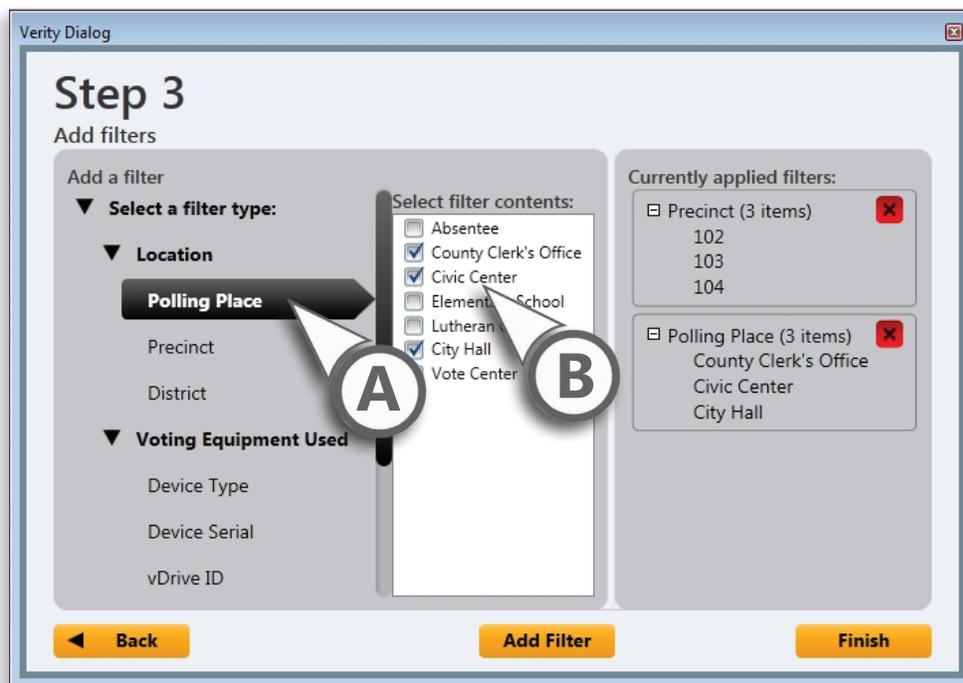
**D)** Click **Continue**.

## custom reports, *continued*

- 3 Select a standard report to use it as a basis of the custom report.



- A) Select a base report from the list.
- B) Click **Continue** to proceed.
- C) You can also click **Back** to go back to Step 1 of the custom report wizard.

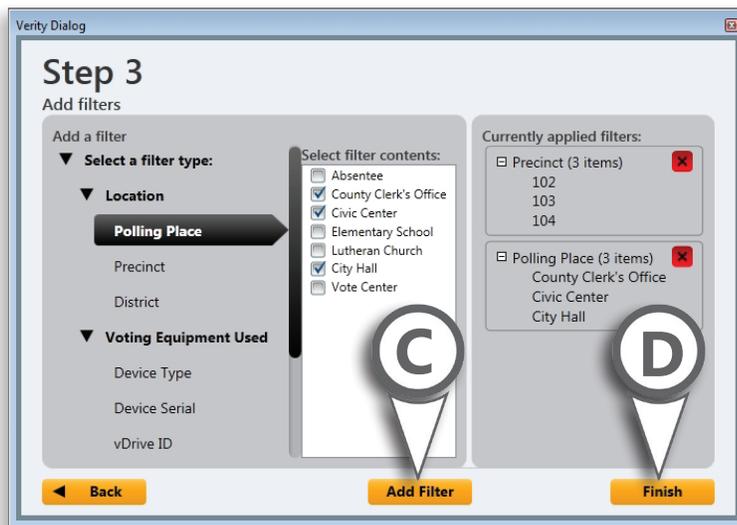
**custom reports, continued****4** Set filters for your custom report.

**A)** Select a filter type.

**B)** Choose the filter contents.

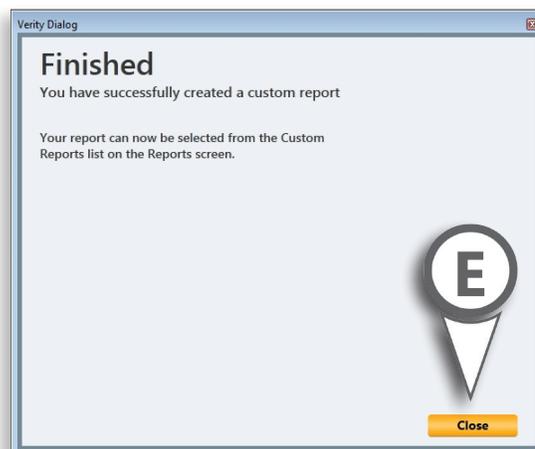
## custom reports, *continued*

**C)** Click **Add Filter**. Currently applied filters display on the right. Click the small arrow to expand an applied filter. Click the red **X** to remove an applied filter.



**D)** Click **Finish**. A confirmation message will display.

**E)** Click **Close**. The new custom report will now display in the Custom Reports list on the Reports screen.



## custom reports, *continued*



## Editing or deleting a custom report

- 1 On the main Reports screen, select the custom report in the right-hand column.
- 2 Click the **Actions** menu.
- 3 Select **Edit Custom Report**. The custom report wizard will open.

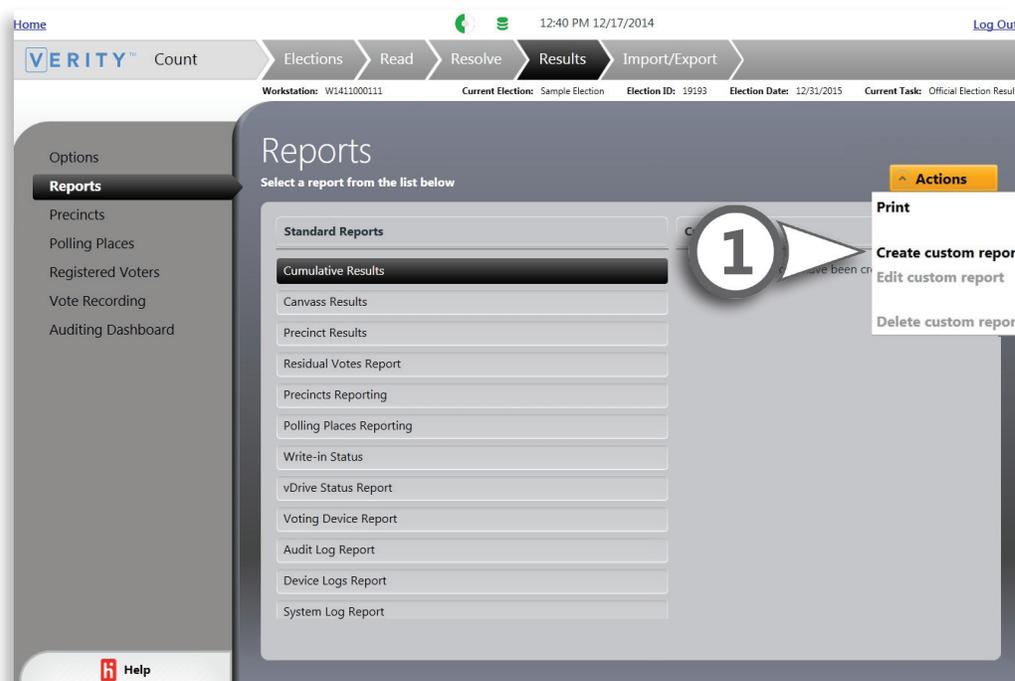
- or -

- 4 Select **Delete Custom Report**. A confirmation window will appear; click Yes to confirm. Once a custom report has been deleted it cannot be restored.

## creating a reporting run

The custom reports wizard can also be used to create a reporting run. A reporting run is a collection of reports run as a batch. For example, you can group a set of reports that you run for every election into a reporting run to reduce the amount of time spent on generating reports.

- 1** Under the actions menu, choose **Create Custom Report**. The custom report wizard will open.



**creating a reporting run, *continued***

- 2** In the custom report wizard, select **Reporting Run** and choose settings.

The screenshot shows a window titled "Verity Dialog" with the following content:

- Step 1**  
Set up your custom report
- Select a type
  - Filtered Report
  - Reporting Run (labeled A)
- Apply Aliases (Cumulative, Precinct, and Canvass Results only). (labeled B)
- Name the new report
  - Standard reports (labeled C)
- Define a title for the report header
  - Sample County General Election Reports (labeled D)
- Continue ► (labeled E)

- A)** Select **Reporting Run**.
- B)** Check the box if you would like to use aliases on the reports.
- B)** Create a name for the reporting run.
- C)** Define a title for the reporting run to appear on the report header.
- D)** Click **Continue**.

## creating a reporting run, *continued*

**3** Select the reports to include in the reporting run.

**Note:** You can select multiple reports; a reporting run can include both standard and custom reports.



**A)** Check the box in the Include column for each report you want to include.

**B)** Click **Finish**.

**C)** Click **Close** to close the wizard. Your reporting run will now appear in the list of available reports under the custom reports column.



## precincts

**TIP:** You may need to manually override precinct reporting status, if, for example, you have a precinct with no registered voters, or if you incorrectly assigned a precinct to the wrong polling place during the election definition process.

The **Precincts** menu allows you to view which precincts are reporting and manually update the reporting status for each precinct. Precinct name is in the leftmost column; current reporting status is in the rightmost column. The status bar at the top provides an overview of the precincts reporting.

### Viewing and printing a list of precincts reporting

- 1 Select the **Precincts** menu to view a list of precincts and their reporting status.
- 2 To print a report of Precinct reporting status, click the **Actions** menu, then select **Print Report**.

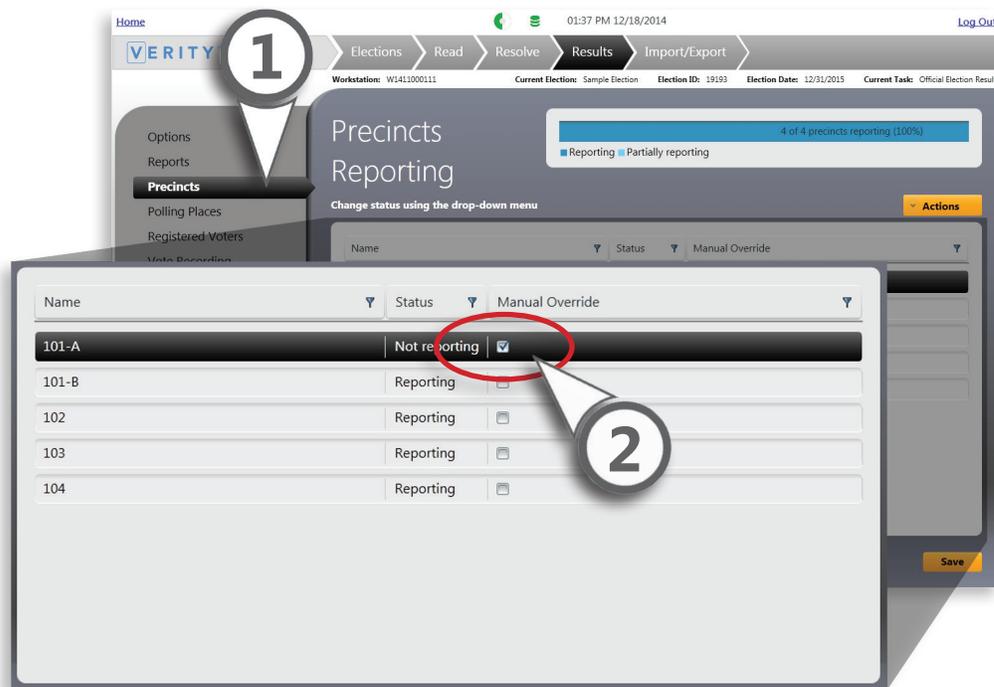
The screenshot shows the VERITY software interface. The top navigation bar includes 'Home', 'Count', 'Elections', 'Read', 'Resolve', 'Results', and 'Import/Export'. The 'Results' menu is currently selected. Below the navigation bar, there is a status bar with the following information: Workstation: W141100011, Current Election: Sample Election, Election ID: 19193, Election Date: 12/31/2015, Current Task: Official Election Results. The main content area is titled 'Precincts Reporting' and features a status bar at the top indicating '4 of 4 precincts reporting (100%)'. Below this, there is a table with columns for Name, Status, and Actions. The table contains the following data:

Name	Status	Actions
101-A	Not reporting	[Dropdown]
101-B	Reporting	[Icon]
102	Reporting	[Icon]
103	Reporting	[Icon]
104	Reporting	[Icon]

On the right side of the interface, there is an 'Actions' menu with options for 'Set Status' and 'Print Report'. A large number '1' points to the 'Precincts' menu item in the left navigation pane, and a large number '2' points to the 'Print Report' option in the Actions menu.

## precincts, *continued*

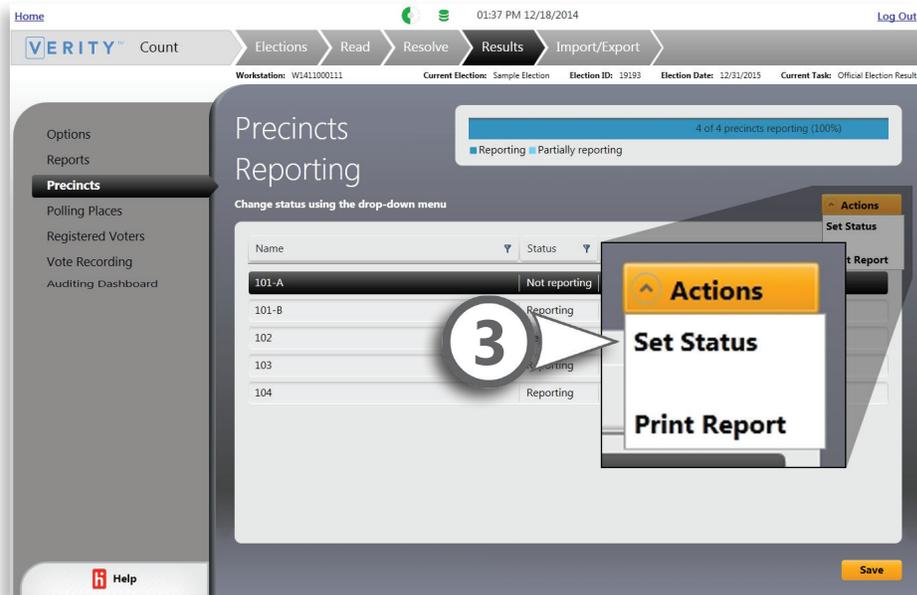
# Manually overriding precinct reporting status



**1** Select the **Precincts** menu.

**2** Check the box corresponding to the precinct in the **Manual override** column.

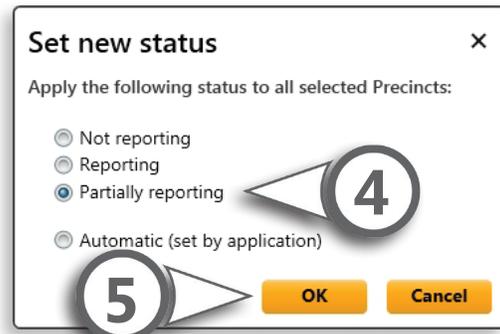
**Note:** You can set status for multiple precincts by checking the boxes next to each precinct.

precincts, *continued*

**3** Under the Actions menu, choose **Set Status**, or double-click the status column in the table.

**4** Choose the status to apply to the selected precincts. The following status options are available:

- Not Reporting
- Reporting
- Partially Reporting



**5** Click **OK**.

**Note:** Select **Automatic (set by application)** if you would like the Count application to automatically update reporting status for you as each vDrive is read.

## precincts, *continued*

**6** Click **Save** in the lower right corner when you have finished making changes.

The screenshot displays the VERITY software interface for 'Precincts Reporting'. The top navigation bar includes 'Home', 'Log Out', and a breadcrumb trail: 'VERITY Count > Elections > Read > Resolve > Results > Import/Export'. The main header shows 'Workstation: W1411000111', 'Current Election: Sample Election', 'Election ID: 19193', 'Election Date: 12/31/2015', and 'Current Task: Official Election Results'. The left sidebar menu lists 'Options', 'Reports', 'Precincts' (highlighted), 'Polling Places', 'Registered Voters', 'Vote Recording', and 'Auditing Dashboard'. The main content area is titled 'Precincts Reporting' and features a progress bar indicating '4 of 4 precincts reporting (100%)'. Below the progress bar, there are radio buttons for 'Reporting' (selected) and 'Partially reporting'. A table lists precincts with columns for 'Name', 'Status', and 'Manual Override'. The table contains the following data:

Name	Status	Manual Override
101-A	Partially reporting	<input checked="" type="checkbox"/>
101-B	Reporting	<input type="checkbox"/>
102	Reporting	<input type="checkbox"/>
103	Reporting	<input type="checkbox"/>
104	Reporting	<input type="checkbox"/>

At the bottom right of the main content area, there is a 'Save' button. A callout bubble with the number '7' points to this button. A 'Help' icon is located in the bottom left corner of the interface.

## polling places

**TIP:** You may need to manually override polling place reporting status, if, for example, you have a polling place which is required by law, but which has no registered voters.

The **Polling Places** menu allows you to view which polling places are reporting and manually update the reporting status for each polling places. You can also set the expected number of vDrives for each polling place and view the number of vDrives that have been read. Polling place name is in the leftmost column; current reporting status is in the rightmost column. The status bar at the top provides an overview of the polling places reporting.

### Viewing and printing a list of polling places reporting

**1** Select the **Polling Places** menu to view a list of precincts and their reporting status.

**2** To print a report of Polling Place reporting status, click the **Actions** menu, and then select **Print Report**.

The screenshot shows the VERITY Count software interface. The navigation menu on the left has 'Polling Places' selected, indicated by a circled '1'. The main content area is titled 'Polling Places Reporting' and shows a table of polling places. A status bar at the top indicates '7 of 7 polling places reporting (100%)'. The 'Actions' menu is open, showing 'Print Report' as an option, indicated by a circled '2'.

Name	vDrives Expected	Reporting	Manual Override
Absentee	0	Reporting	<input type="checkbox"/>
County Clerk's Office	2	Reporting	<input type="checkbox"/>
Civic Center	2	Reporting	<input type="checkbox"/>
Elementary School	0	Reporting	<input type="checkbox"/>
Lutheran Church	0	Reporting	<input type="checkbox"/>
City Hall	0	Reporting	<input type="checkbox"/>
Vote Center	0	Reporting	<input type="checkbox"/>

## polling places, *continued*

### Manually overriding polling place reporting status

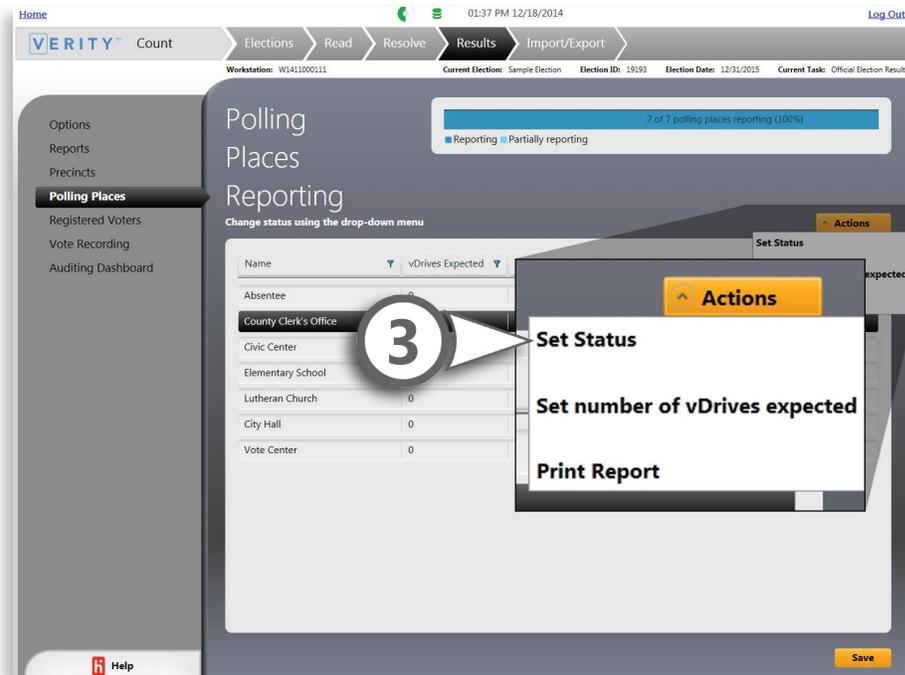
The screenshot shows the VERITY software interface. The top navigation bar includes 'Home', 'Elections', 'Read', 'Resolve', 'Results', and 'Import/Export'. The current election is 'Sample Election' with ID '19193' and date '12/31/2015'. The current task is 'Official Election Results'. The main content area is titled 'Polling Places Reporting' and shows a progress bar for '7 of 7 polling places reporting (100%)'. A callout box with a '1' points to the 'Polling Places' menu item in the left sidebar. Another callout box with a '2' points to the checkboxes in the 'Manual Override' column of the table below.

Name	vDrives Expected	vDrives Read	Status	Manual Override
Absentee	0	0	Reporting	<input type="checkbox"/>
County Clerk's Office	2	2	Reporting	<input checked="" type="checkbox"/>
Civic Center	2	2	Reporting	<input type="checkbox"/>
Elementary School	0	0	Reporting	<input type="checkbox"/>
Lutheran Church	0	0	Reporting	<input type="checkbox"/>
City Hall	0	0	Reporting	<input type="checkbox"/>
Vote Center	0	0	Reporting	<input type="checkbox"/>

**1** Select the **Polling Places** menu.

**2** Check the box corresponding to the polling place in the Manual override column.

**Note:** You can set status for multiple polling places by checking the boxes next to each polling place.

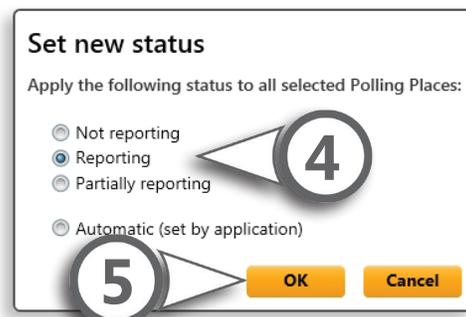
polling places, *continued*

**3** Under the Actions menu, choose **Set Status**, or double-click the status column in the table.

**4** Choose the status to apply to the selected polling places. The following status options are available:

- Not Reporting
- Reporting
- Partially Reporting

**5** Click **OK**.



**Note:** Select *Automatic (set by application)* if you would like the Count application to automatically update reporting status for you as each vDrive is read.

## polling places, *continued*

**6** Click **Save** when you have finished making changes.

Home 01:37 PM 12/18/2014 Log Out

VERITY™ Count Elections Read Resolve Results Import/Export

Workstation: WI411000111 Current Election: Sample Election Election ID: 19593 Election Date: 12/31/2015 Current Task: Official Election Results

Options  
Reports  
Precincts  
**Polling Places**  
Registered Voters  
Vote Recording  
Auditing Dashboard

Help

### Polling Places Reporting

7 of 7 polling places reporting (100%)  
■ Reporting ■ Partially reporting

Change status using the drop-down menu

Name	vDrives Expected	vDrives Read	Status	Manual Override
Absentee	0	0	Reporting	<input type="checkbox"/>
County Clerk's Office	2	2	Reporting	<input checked="" type="checkbox"/>
Civic Center	2	2	Reporting	<input type="checkbox"/>
Elementary School	0	0	Reporting	<input type="checkbox"/>
Lutheran Church	0	0	Reporting	<input type="checkbox"/>
City Hall	0	0	Reporting	<input type="checkbox"/>
Vote Center	0	0	Reporting	<input type="checkbox"/>

Actions

6

Save

## polling places, *continued*

### Setting the expected number of vDrives for a polling place

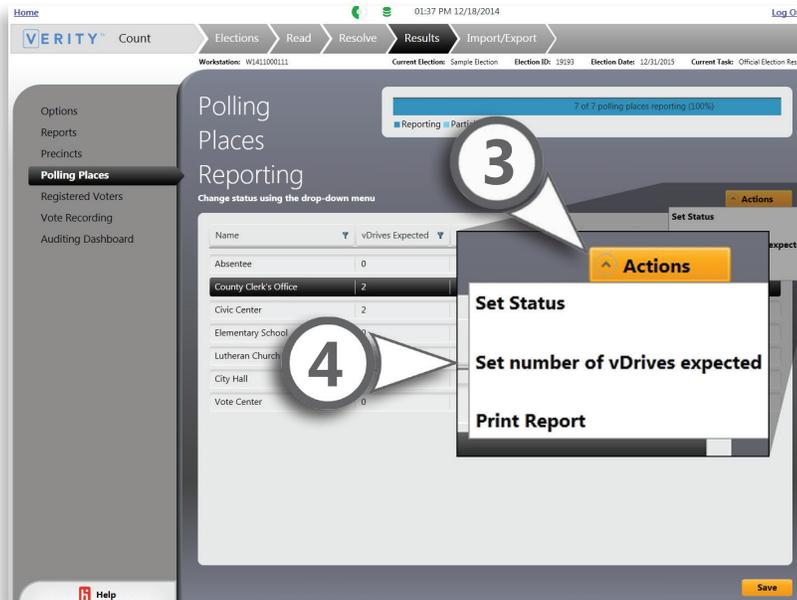
Name	vDrives Expected	vDrives Read	Status	Manual Override
Absentee	0	0	Reporting	<input type="checkbox"/>
County Clerk's Office	2	2	Reporting	<input checked="" type="checkbox"/>
Civic Center	2	2	Reporting	<input type="checkbox"/>
Elementary School	0	0	Reporting	<input type="checkbox"/>
Lutheran Church	0	0	Reporting	<input type="checkbox"/>
City Hall	0	0	Reporting	<input type="checkbox"/>
Vote Center	0	0	Reporting	<input type="checkbox"/>

You can set the number of vDrives expected from each polling place; this data is used to update the Polling Place reporting status if your status reporting is set to Automatic (page 344).

- 1** Select the **Polling Places** menu.
- 2** Check the box corresponding to the polling place in the Manual override column.

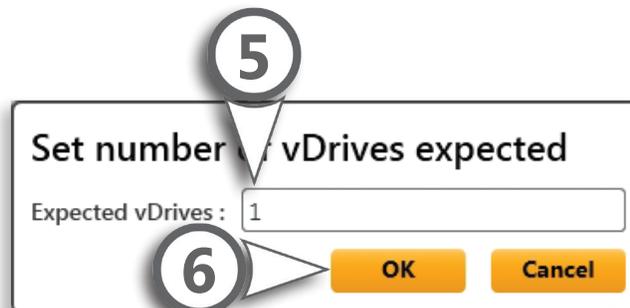
## polling places, *continued*

**3** Click the **Actions** menu.



**4** Choose **Set vDrives Expected**.

**5** Type the number of vDrives.



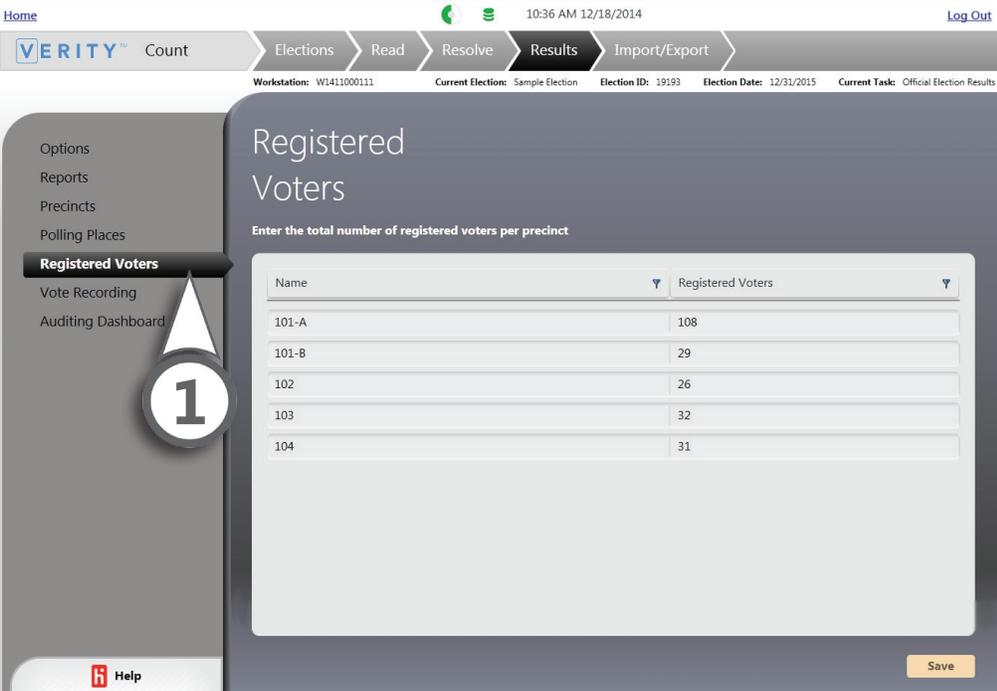
**6** Click **OK**.

**7** Click **Save** in the lower right corner when you have finished making changes.

## adding registered voter numbers

Use the **Registered Voters** menu to update the number of registered voters. These numbers will be used to report voter turnout. The precinct name is displayed in the left-hand column; the number of registered voters appears in the right-hand column. For instructions on importing registered voter data automatically, see page 360.

**1** Select the **Registered Voters** menu.



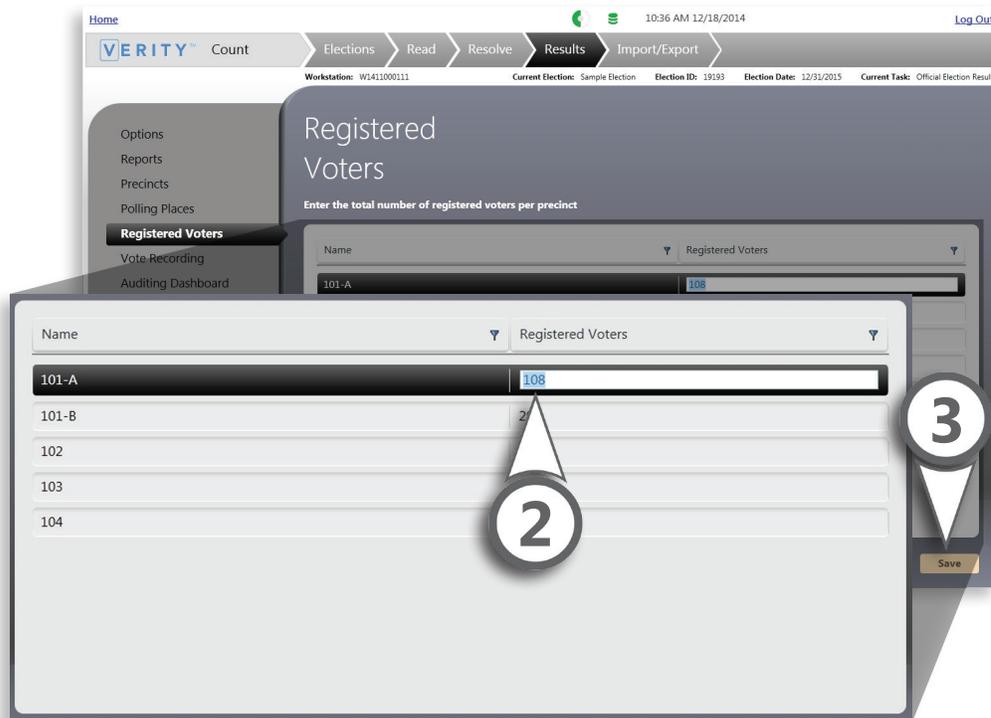
The screenshot shows the VERITY software interface. The top navigation bar includes 'Home', 'Count', 'Elections', 'Read', 'Resolve', 'Results', and 'Import/Export'. The 'Results' menu is selected. Below the navigation bar, the 'Registered Voters' menu item is highlighted with a large '1' in a circle. The main content area displays a table titled 'Registered Voters' with the instruction 'Enter the total number of registered voters per precinct'. The table has two columns: 'Name' and 'Registered Voters'. The data in the table is as follows:

Name	Registered Voters
101-A	108
101-B	29
102	26
103	32
104	31

The interface also includes a 'Save' button at the bottom right and a 'Help' button at the bottom left.

## adding registered voter numbers, *continued*

**2** Double-click the number in the right-hand column to select the number of registered voters and enter the new total.



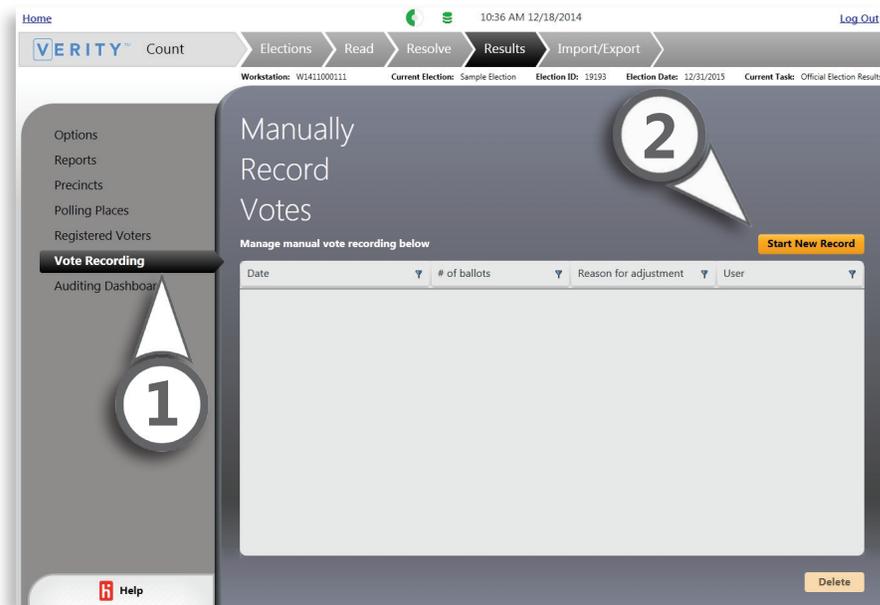
**3** Click **Save** in the lower right corner when you are finished.

## manual vote recording

The **Manual Vote Recording** menu allows you to perform manual vote recording (**MVR**) if needed.

**! IMPORTANT:** If you have ballots requiring MVR that contain voted write-ins, you must separate these. Each voted write-in must be entered in its own Manual Vote Recording session.

**1** Select the **Vote Recording** menu.



**2** Click **Start New Record** ▲ to enter the Manual Vote Recording wizard.

## best practices for manual vote recording

- ▶ Record the presence of observers or poll watchers.
- ▶ If using a real-time audit printer, make notes in the audit log space indicating the beginning of the process and other relevant data such as who the participants and witnesses are, what political party or organization they represent, and, if appropriate, have individuals sign the printout. If not using a real-time audit log printer, you will record this information on the audit log report from Count after completing the vote adjustment process.
- ▶ Archive the election and print reports for the election *before* performing Manual Vote Recording. Label these with a note such as “before starting manual recording”.
- ▶ Manually write on the reports, perform necessary calculations, and ensure any changes reconcile properly before entering the manual adjustments in the Manual Vote Recording wizard.
- ▶ After performing Manual Vote Recording, print a new report and compare against the one produced before MVR. Have all observers and staff present sign all reports.

**manual vote recording**, *continued***3** Set up your manual vote recording session.

Step 1  
Set up your manual vote recording session

Select a precinct

101 - A

101 - B

102

103

104

Voting Type: Election Day Voting

Adjustment type: Add ballots

Number of ballots: 2

Reason for adjustment: emergency ballots

Cancel

Continue ▶

- A)** Select the precinct.
- B)** Select a voting type.
- C)** Select an adjustment type.
- D)** Enter the number of ballots.
- E)** Enter the reason for the adjustment,
- F)** Click **Continue**. You will be prompted for an administrator user name and password. Click **OK**.

## manual vote recording, *continued*

### 4 Record the vote totals for the session.

**Step 2**  
Record totals on the ballot to the right

**Ballot Details**  
Precinct: 102  
Ballot Party:  
Voting Type: Election Day Vo...  
Ballots: 2  
You have 0 votes remaining.

**President and Vice-President of the United States**  
Vote for One Pair

Joseph Barachi  
 Adam Cramer  
 Daniel Court

Overvotes  
 Undervotes

Cancel   Back   Contest 2 of 6   Next

**A)** The precinct, voting type, and number of votes remaining to be cast are indicated on the left.

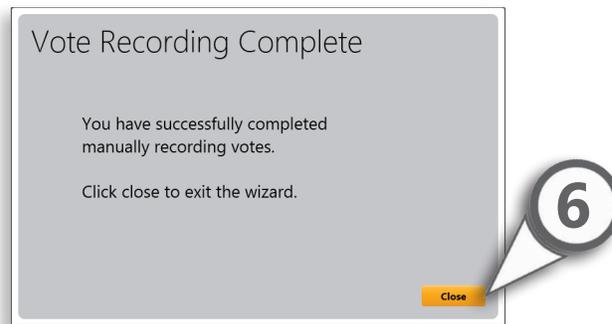
**B)** Enter the vote totals for your recording session in the appropriate boxes on the right. Be sure to include totals of overvotes and undervotes as well. Remember, ballots with voted write-ins must be recorded each in their own recording session.

**C)** Click **Next** to go to the next contest on the ballot.

**! IMPORTANT:** Totals of any overvotes and undervotes must be included in any manual vote recording session.

## manual vote recording, *continued*

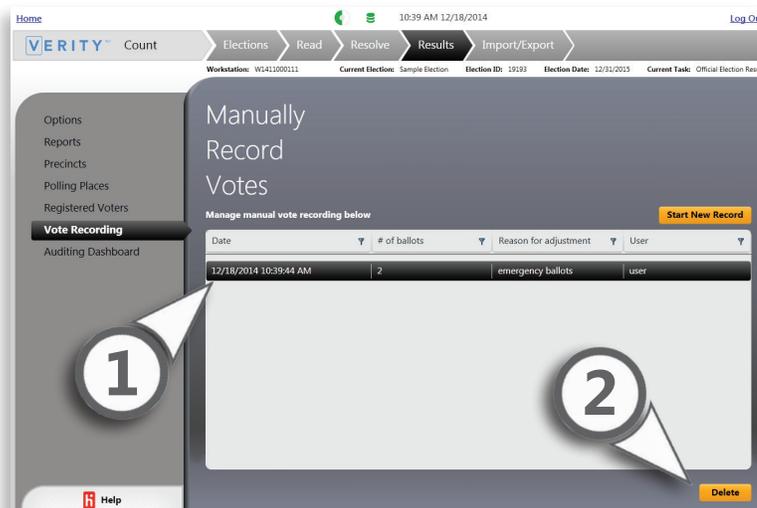
**6** Click Close to end the manual recording session.



## Deleting an existing recording session

**1** Select a vote recording session from the list.

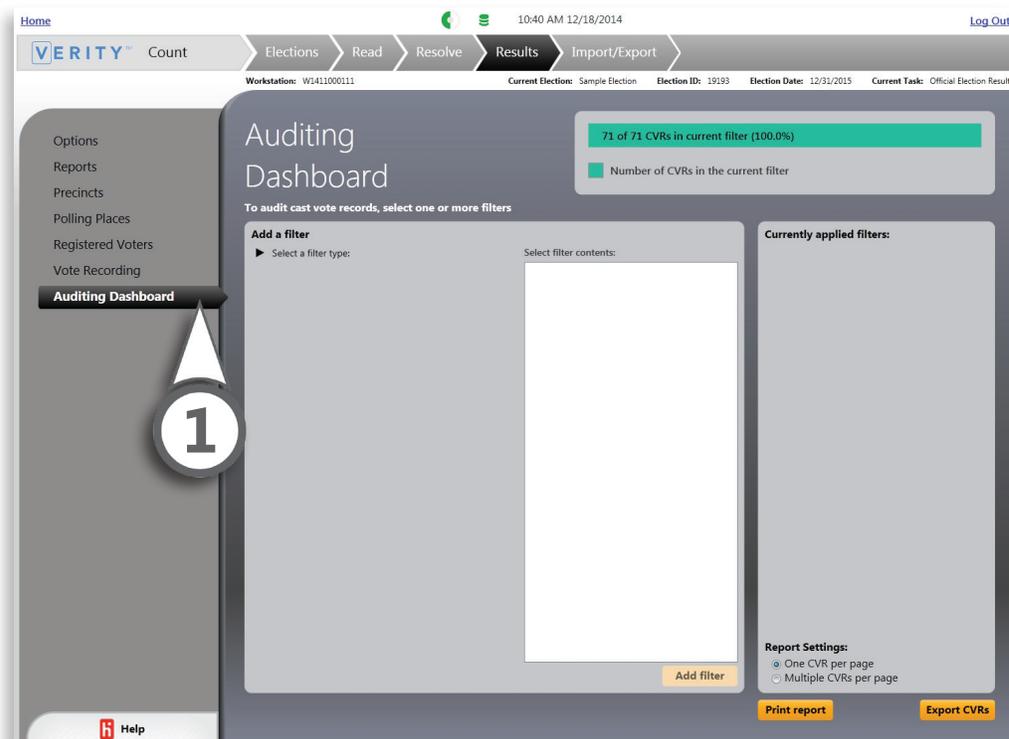
**2** Click **Delete** to delete the selected recording session. When a session is deleted, vote totals will revert to the state prior to the session.



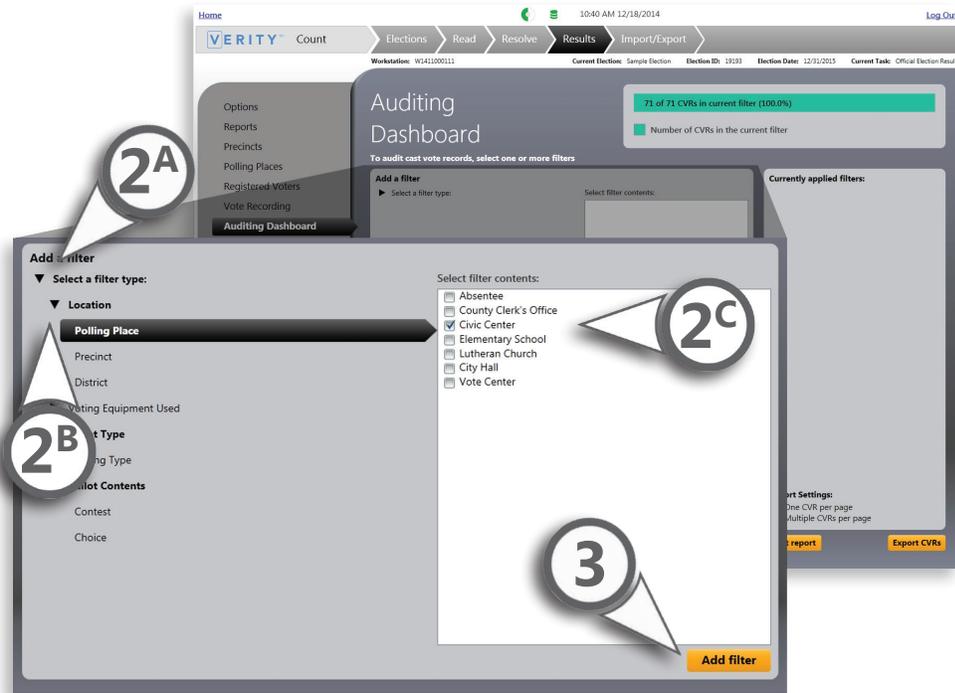
# the auditing dashboard

The **Auditing Dashboard** menu allows you to filter, review, and export Cast Vote Records (CVRs). You can filter and sort ballot data to see the records exactly how you need to see them. The status bar in the upper right displays the number of ballots included using the current filter(s); currently applied filters are shown on the right-hand side.

## 1 Select the **Auditing Dashboard** menu.



## the auditing dashboard, *continued*



**2** Select desired filters.

**A)** Filter types include Location, Voting Equipment Used, Ballot Type, and Ballot Content.

**B)** Click the ► next to each filter type to see expanded options.

**C)** Check the boxes to select filter contents.

**3** Click **Add filter**.

## the auditing dashboard, *continued*

### 4 Print/View a report, or Export CVRs.

The screenshot displays the VERITY Auditing Dashboard. At the top, there is a navigation bar with tabs for Home, Elections, Read, Resolve, Results, and Import/Export. The current election is identified as 'Sample Election' with ID 19193, dated 12/31/2015. The dashboard shows 10 of 71 CVRs in the current filter (14.1%).

**4A** points to the 'Add filter' button at the bottom of the filter selection area.

**4B** points to the 'Report Settings' section, which includes radio buttons for 'One CVR per page' (selected) and 'Multiple CVRs per page'.

**4C** points to the 'Export CVRs' button at the bottom right of the dashboard.

The 'Add a filter' section includes a tree view for 'Location' with 'Polling Place' selected. The 'Select filter contents' list includes: Absentee, County Clerk's Office, Civic Center (checked), Elementary School, Lutheran Church, City Hall, and Vote Center.

The 'Currently applied filters' section lists: Contact (3 items), Voting Type (1 item), and Polling Place (1 item).

**A)** Click **Print Report** to create a report of the filtered results that can be saved and/or printed.

**B)** For reports, you can choose whether to show 1 ballot or multiple ballots per page.

**C)** Click **Export CVRs** to export the CVRs to a removable media.

## Count checklist: the results tab

- 1 View and set reporting options, if desired.
- 2 Manually set precinct reporting status.
- 3 Manually set polling place reporting status and set the number of vDrives expected from each polling place.
- 4 Manually set the number of registered voters
- 5 Perform Manual Vote Recording sessions, if needed.
- 6 Generate reports from the list of available standard reports.
- 7 Create custom reports or a reporting run (a batch of reports).
- 8 Use the Auditing Dashboard to review and export cast vote records.





# import/export

## the import/export tab

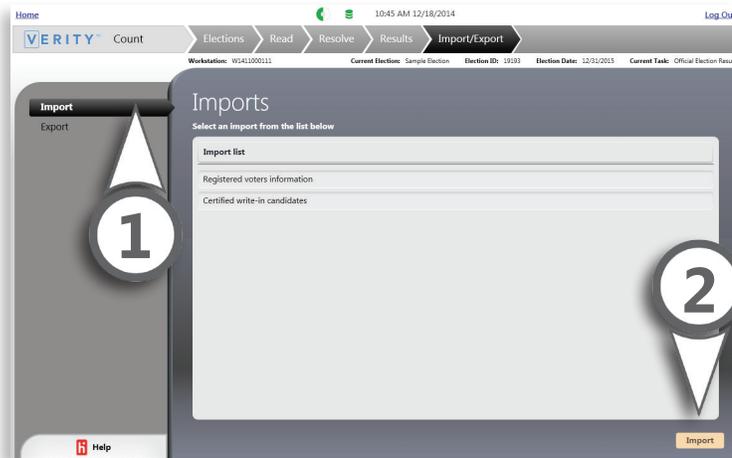


Under the **Import/Export** tab, you can import election data from external sources into Count, and export data from the current election in CSV format. The following menus are available in the Import/Export tab:

- **Import:** import data into Count, such as registered voter data.
- **Export:** export data from Count, such as detailed vote totals.

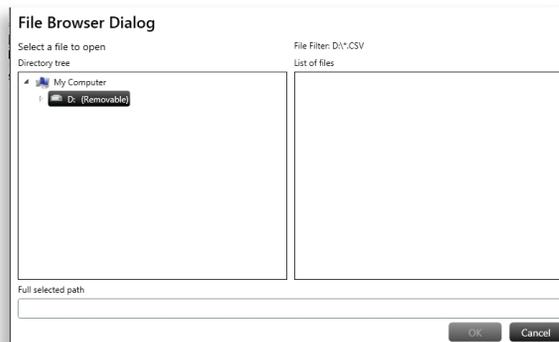
# importing data into Count

**1** Select the **Import** menu. For a list of acceptable imports with descriptions, see page 363.



**2** Select the data set to import from the list, and then click **Import**.

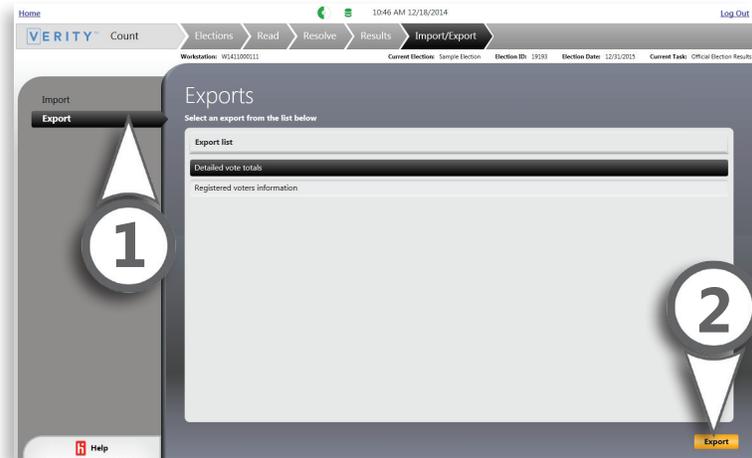
**3** Browse to locate the file to be imported, and then click **OK**. ►



**! IMPORTANT:** Before importing data into Count, it is recommended that you perform a backup of all election data using the Manage app.

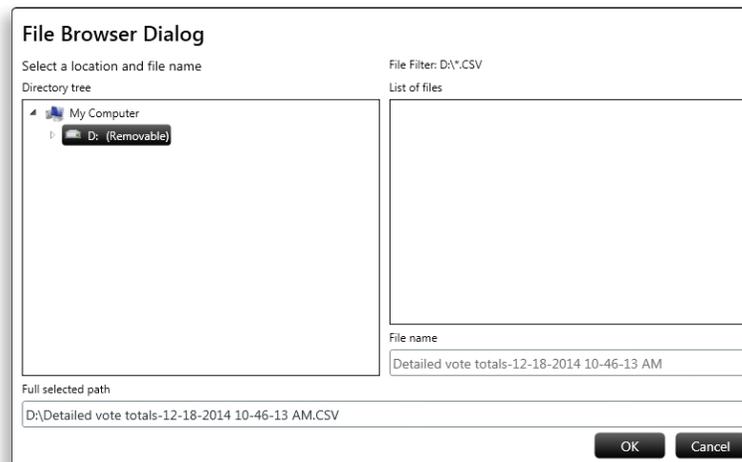
## exporting data from Count

**1** Select the **Export** menu. For a list of each available export with descriptions, see page 364.



**2** Select the data to export, and then click **Export**.

**3** Browse to the location where you would like the exported data to be saved, and then click **OK**. ▼



# list of acceptable imports: Count

## Registered voter information

Used to import voter registration numbers for reporting voter turnout. Import format is a .csv file, with the following data in columns, left to right:

**Note:** *If Registered Voter data already exists, importing new data will overwrite existing data*

- Precinct name
- Precinct split name
- Party code (if the "Register voters by party" enabled)
- Number of registered voters

### Example:

101	A		2800
101	B		1748
201			4200
314			1233

## Certified Write-in Candidates

Used to import a list of certified write-in candidates for each contest that includes a write-in option; import format is a .csv file, with the following data in columns, left to right:

**Note:** *If certified write-in data already exists, importing will overwrite existing data.*

- Write-in candidate name
- Contest title
- Party association of the contest (if a primary)

### Example:

Nikolai Tesla	President of the United States	DEM
Marie Curie	President of the United States	REP
George Carver	United States Senator, District 33	LIB
Theodore Roosevelt	United States Representative, District 122	NP

## list of available exports

### Detailed Vote Totals

This export provides a detailed view of results for each ballot option, certified write-in candidate, rejected write-in, and unassigned write-in. Results are grouped by precinct and then by contest. The following data is provided for each:

- Precinct or precinct split information:
  - Precinct or precinct split name
  - Precinct reporting status
  - Registered voters
  - Ballots cast
  - Turnout Percentage
- Contest information:
  - Contest
  - Contest party affiliation
  - Choice/Candidate name
  - Choice party affiliation
- Total votes
- Total Overvotes
- Total Undervotes
- Total Invalid Votes
- Votes (by voting type)
- Overvotes (by voting type)
- Undervotes (by voting type)
- Invalid Votes (by voting type)

### Registered Voters

This export is identical to the format of the Registered Voters import, and includes the following data:

- Precinct name
- Precinct split name
- Number of registered voters
- Party code (if the "Register voters by party" is enabled)

## Count checklist: the import/export tab

- 1 Import registered voter numbers or certified write-in candidates.
- 2 Export detailed vote totals and registered voter data.



## **creating a print queue for import** *(pre-marked ballots)*

In addition to standard print queues (see page 125), you can also create a print queue for pre-marked ballots (for use with a Logic and Accuracy Test, for example).

**1** Create a spreadsheet with the following data:

**Precinct Name:** required; precinct name of the ballot to print. Case-sensitive, may include spaces; must exactly match the Precinct Name that was used in ballot definition.

**Precinct Split Name:** precinct split name of the ballot to print, if applicable. Must exactly match the Precinct Split name that was used in ballot definition.

## **print queues with pre-marked ballots,** *continued*

**Party:** required only for closed primary elections.

**Language:** language of the ballot to print, if applicable.

**Quantity:** the number of ballots to print.

**Ballot Type:** can be "Test", "Sample", or "Official".

**Print to File:** type TRUE if you would like to output the print jobs to PDF; type FALSE if you would like to output directly to the default printer.

**Output File Name:** The name of the PDF to be produced by the import file (Note: Print to File value must be TRUE).

**Choice Name A:** Name of the first choice on the ballot; case-sensitive. For a write-in, this value will be "Write-in".

**Value:** value of the previous choice, either 0 or 1. 0=not marked; 1=marked (for assigning Value for ranked choice contests, see page 371)

**Choice Name B:** The next choice on the ballot. Every choice in each contest must be represented in the file. If using rotation, the choices must be in the non-rotated order.

**Value:** value of the previous choice

## appendix A: creating a print queue for import (pre-marked ballots)

### print queues with pre-marked ballots, *continued*

#### Key to spreadsheet contents:

Spreadsheet column	Content
1	Precinct Name ( <i>*required</i> )
2	Split Name
3	Party ( <i>*required for closed primaries</i> )
4	Language
5	Quantity
6	Ballot Type ( <i>*required</i> )
7	Print to file (TRUE or FALSE)
8	Output file name
9	Choice Name A
10	Value (0 or 1)
11	Choice Name B
12	Value (0 or 1)
13 ( <i>etc.</i> )	( <i>etc.</i> )

#### Finished spreadsheet example:

The sample below has been clipped to show the Choice Name and Value columns. In this example, there are five ballots: 2 with a vote for Abraham Lincoln, 1 with a vote for Amerigo Vespucci, 1 overvote, and 1 undervote.



101	A	English_Official.pdf	Abraham Lincoln	1	Amerigo Vespucci	0
101	B	English_Official.pdf	Abraham Lincoln	1	Amerigo Vespucci	0
201		English_Official.pdf	Abraham Lincoln	0	Amerigo Vespucci	1
243		English_Official.pdf	Abraham Lincoln	1	Amerigo Vespucci	1
417		English_Official.pdf	Abraham Lincoln	0	Amerigo Vespucci	0

## print queues with pre-marked ballots, *continued*

**2** Save the spreadsheet as a .csv file.

**! IMPORTANT:** Delete any header row before saving as a .csv (if using an export from Layout, you can leave the header row if desired).

**3** In Build, select the Create tab (A), and then select the Ballots menu (B).

The screenshot shows the VERITY software interface. The top navigation bar includes 'Home', 'Build', 'Select Election', 'Proof Ballots', 'Configure Settings', and 'Create' (highlighted with a blue circle 'A'). The 'Ballots' menu is highlighted in the left sidebar (highlighted with a blue circle 'B'). The main content area is titled 'Print Ballots' and contains a table for selecting ballot styles and printing options.

Style	Precinct
1	101-A
2	101-B
3	102
3	103
1	104

The 'Printing Options' panel on the right includes:

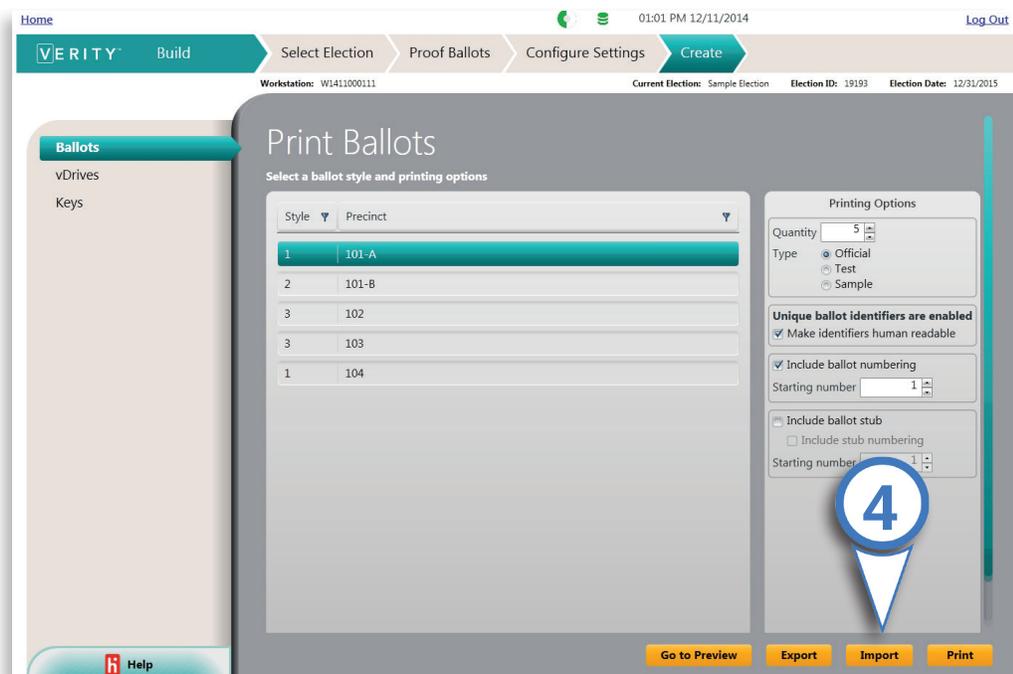
- Quantity: 5
- Type:  Official,  Test,  Sample
- Unique ballot identifiers are enabled**
  - Make identifiers human readable
- Include ballot numbering
  - Starting number: 1
- Include ballot stub
  - Include stub numbering
  - Starting number: 1

Buttons at the bottom include 'Go to Preview', 'Export', 'Import', and 'Print'.

## appendix A: creating a print queue for import (pre-marked ballots)

### print queues with pre-marked ballots, *continued*

**4** Under the Print Options panel, click **Import**.

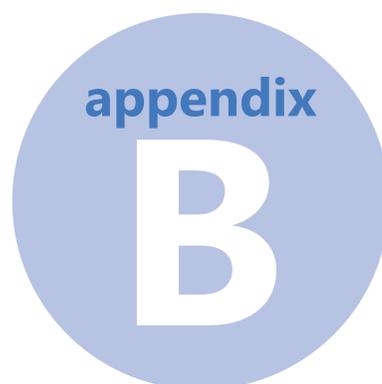


**5** Browse to the .csv file you created and click **Open**. The print queue will run automatically based on the settings in the imported file.



## indicating value for ranked choice voting when printing pre-marked ballots

- ▶ For Ranked Choice contests, the VALUE columns indicate the *rank* of the previous Choice Name entry written as a series of ones and zeros.
- ▶ The number of digits in the VALUE column equals the number of Choices in the ranked choice contest, up to 5 digits.
- ▶ Each digit corresponds to a rank. For example, a rank of 2 in a 5-rank contest would be 01000.
- ▶ This is intended to match the marking pattern of a paper ballot. So, if a voter overvoted by assigning a rank of 1 *and* 3 to the same Choice, this could be duplicated by putting 10100 in the import file.
- ▶ A value of all zeros in this field represents a choice with no ranking (i.e. an undervote).



## **The Logic and Accuracy Test**

A Logic and Accuracy test (LAT or L&A) is a test of the tabulation software of a voting system. The LAT is designed to verify that, for the election being tested, a vote for any ballot option will tabulate as expected for that ballot option. A Logic and Accuracy test is not a test of device functionality or an acceptance test. State and local guidelines dictate the time frame for performing Logic and Accuracy Tests; however, Hart InterCivic recommends that a Logic and Accuracy Test is performed, at a minimum, before any ballot, in any form, goes to any voter, and that a Logic and Accuracy Test include votes cast on every type of device that will be used to capture cast vote records in the upcoming election (e.g., Verity Scan, Verity Central).

## logic and accuracy testing: an overview

**! IMPORTANT:** All LAT recommendations and procedures presented here are superseded by your State election law, rule, and code.

A properly run LAT tests the logic of tabulation system-wide, and includes the following:

- Voting on devices that capture Cast Vote Records (e.g. Verity Scan), and scanning of paper ballots in Central (if applicable).

*Note: In accordance with Hart best practices, the Touch Writer is not a required component in an LAT, since it does not capture Cast Vote Records. Each jurisdiction must, of course, follow state and local guidelines.*

- Tabulating the votes in Count and comparing Count application reports to expected outcomes.

When conducting the LAT, consider the following:

- Perform the LAT with Test mode vDrives. Use the vDrive Planning Worksheet and remember to plan for an appropriate number of Test mode vDrives.
- Run the complete LAT from the same Verity Build database used for the Official election.
- In your election database software (e.g. Layout), create an Election Day Polling Place specifically for the LAT and assign all precincts to this polling place. Predefine your LAT device(s) with this Polling Place using Test Mode vDrive(s) created in Build.

## **Materials and supplies**

- LAT Checklist
- LAT Log
- LAT labeled envelope
- Test mode vDrives created in Build (or provided by Hart)
  - 1 per Scan used in the LAT
  - 1 per Verity Central workstation used in the LAT
- Test deck of ballots printed from Verity Build (or provided by Hart) and marked according to State requirements
- Spare blank test ballots
- At least one Verity Scan (more as needed according to your LAT plan)
- Verity Central workstation and scanner (if applicable)
- Verity Count workstation

# Hart recommended procedures for performing an LAT

Complete the following steps to perform an LAT. Follow state requirements governing the prior announcement and publication of the test date, time, and location.

## Hand-count the Test Deck

Hand count the test deck of pre-voted paper ballots, taking overvotes and blanks into account. If you are a Hart Service Bureau customer, Hart will provide the pre-voted ballots. If creating your own test deck, you may wish to keep a spreadsheet or matrix of the votes marked in the test deck for each ballot option, according to your state requirements.

## Prepare the Equipment

**Note:** *for instructions on predefining voting devices, see the Verity Support Procedures Guide.*

Predefine the Verity Scan. You must make sure each device being used in the LAT is predefined with your Election Day LAT Polling Place ID. You may use more than one Verity Scan in order to speed up the testing, but you do not need to test each Scan in an LAT. Each Scan *does* need to be tested if performing functionality testing (see the *Verity Support Procedures Guide* for functionality testing procedures). Again, all LAT procedures presented here are superseded by State election law, rule, and code.

## appendix B: Logic and Accuracy Testing

### Hart recommended procedures for performing an LAT, *continued*

#### Vote on the Scan using the test deck

**Note:** *for instructions on voting using the Verity Scan, see the Verity Polling Place Operations Guide.*

- 1 Print the Zero report on the Verity Scan.
- 2 Open polls on the Scan.
- 3 Scan the test deck using the Verity Scan.
- 4 Close polls on the Verity Scan.
- 5 (Optional) Print and save the Scan Tally report if you would like to check accuracy of the test against the expected results prior to tabulation in Count.

**Note:** *the Tally report will only be available if you have checked "Allow Tally" when configuring the election in Build (see page 111 of this guide).*

**! IMPORTANT:** In Build, if you set the device reporting detail for the Tally Report to "Summary", the report will contain only the totals for the device. If, however, you set reporting detail to "By precinct/split", a detailed report will print showing the results for all contests, by each precinct; this may take a very long time to print if you have many precincts. Therefore, if you chose "By precinct/split" in Build, you may wish to skip this step in the interest of time. See page 111 of this guide.

- 6 Remove the vDrive from Scan and take to the Count workstation for tabulation.

## Hart recommended procedures for performing an LAT, *continued*

### Process ballots in Verity Central

**Note:** For instructions on processing ballots using Verity Central, see page 143 of this guide.

- 1** On the Central workstation, insert a Test vDrive into the USB port.
- 2** Log into Verity and import the signed election from Build using the Manage application.
- 3** Log out of Manage and log in to Central.
- 4** Open the election in Central.
- 5** Create and open a task for LAT 1 (Task type: Test).
- 6** Scan the test deck in Central.
- 7** Resolve undervotes, overvotes, damaged contest and write-ins (if applicable), according to the test plan.
- 8** Write all ballots to vDrive.
- 9** Print and save a Configuration Report for later reference.
- 10** Remove vDrive and take to the Count workstation for tabulation.

### Hart recommended procedures for performing an LAT, *continued*

#### Tabulate in Verity Count

**Note:** For instructions on tabulation using Verity Count, see page 239 of this guide.

- 1** On the Count workstation, import the signed election from Build using the Manage application, if you have not already done so.
- 2** Exit Manage and open Verity Central.
- 3** Open the election in Count.
- 4** Create and open a **Test** task for **LAT 1**.
- 5** Print and file a Zero Report.
- 6** Read in vDrives from the Verity Scan device(s) and Verity Central.
- 7** Tabulate the vDrives in Count.
- 8** Resolve write-ins in Count (if applicable).
- 9** Print and file a Cumulative Report, including overvotes, undervotes, and write-ins (if applicable).

#### Compare results

Compare the Cumulative Report from Count and the reports from Scan and Central against the expected results based on the test deck. The reports should match exactly the expected results from the test deck. If the results do not match, identify the discrepancy and reconcile or re-run the LAT.

## The LAT Log

The LAT log includes a checklist of reports that should be printed and filed with the LAT materials and a place to record the pertinent LAT data and signatures of participants. Complete and file the LAT log and other paperwork in the LAT labeled envelope with the vDrives used for the LAT. In some states a second read of the LAT vDrives (sometimes referred to as the "LAT 2") is required before tabulating election results. If this is the case in your state, you will use the vDrives and reports you file from the first LAT to complete the LAT 2. For instructions on performing an LAT 2, see the next page.

### performing an “LAT 2”

If your state requires a second read of the LAT vDrives on Election Day, follow the recommended procedures below. The second LAT, if performed, must be done prior to tabulating official election results. Again, all LAT procedures presented here are superseded by State election law, rule, and code.

**Note:** *For instructions on tabulation using Verity Count, see page 239 of this guide.*

- 1 Open the election in Count.
- 2 Create and open a **Test** task for LAT 2.
- 3 Print and file a Zero Report.
- 4 Read in vDrives from the first LAT.
- 5 Tabulate the vDrives in Count.
- 6 Resolve write-ins in Count (if applicable)
- 7 Print and file a Cumulative Report, including overvotes, undervotes, and write-ins (if applicable).
- 8 Compare the Cumulative Report against the reports from the first LAT and reconcile if necessary.





## Verity system limits

The tables on the following pages list the Verity system limits for user names and passwords, maximum limits for election data, and character limits for text elements.

### **user names and passwords**

Item	Character Range
User Name	1-50
User Password	1-50
Device and Application Passcodes	6 (required)

## election data limits

Item	Upper Limit
Precincts	2,000
Splits per Precinct	20
Total Precincts and Splits in an Election	2,000
Districts	75
Parties in a General Election	24
Parties in a Primary Election	10
Contests and Propositions (combined)	200
Contest Choices (voting positions) in a Contest	75
Total number of Contest Choices in an Election (independent from ballot size)	600
Number of Write-in Options	75
Voting Types	5
Sheets per vDrive: Scan	9999
Sheets per vDrive: Count	80,000 (requires 4 sheet ballots)
Number of Voters Definable per Election	1,000,000
Sheets per ballot	4
Ballot Stubs per ballot	2
Number of ballots: Scan (1 sheet ballot)	9999
Number of ballots: Scan (2 sheet ballot)	4999
Number of ballots: Scan (3 sheet ballot)	3333
Number of ballots: Scan (4 sheet ballot)	2499
Number of ballots: Central	1,000,000
Number of ballots: Count	4,000,000
Number of vDrives: Count	1200
Ballot Sizes - Build, Central, Touch Writer, Scan	8.5"x11" 8.5"x14" 8.5"x17"

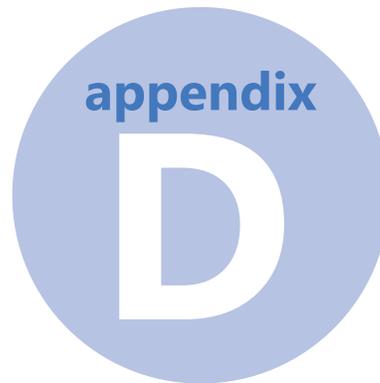
## appendix C: Verity system limits

### system character limits

Item	Character Limit
Election ID	999,999 (digits)
Election Name	50
Election Title	100
Jurisdiction Name	100
Precinct Name	40
Precinct Split Name	10
District Name	100
District Description	500
Polling Place Name	50
Polling Place Notes	1,000
Voting Type Name	50
Ballot Header Label	100
Ballot Header Additional Information	100
Ballot Instruction Text	10,000
Contest Title	100
Contest Instruction Text	50
Proposition Title	50
Proposition Text	10,000
Proposition Notes	500
Contest Choice Name	100
Contest Choice Details	100
Write-in Choice Name (Touch Writer)	25
Ballot Text	1,000
Party Name	50
Party Affiliation	50
Party Abbreviation	3

**system character limits**, *continued*

Item	Character Limit
Ballot Stub Free Form Fields (4)	50
Precinct Label	20
Write-in Label	20
Sample Ballot Label	20



## creating a recovery vDrive for voting devices

In the event that a device vDrive is lost or damaged during an election event, a recovery vDrive can be created by accessing the Administrator menu on the device itself. To access the Administrator menu, you will need to know the Administrator password for devices set up in Build (see [page 112](#)). For instructions on creating a recovery vDrive for the Central application, see [page 222](#).

### materials needed

- Voting device containing the data that needs to be recovered
- vDrive not previously used in a device for the election

## creating a recovery vDrive

- 1 On the device startup screen, select the **Menu** button.



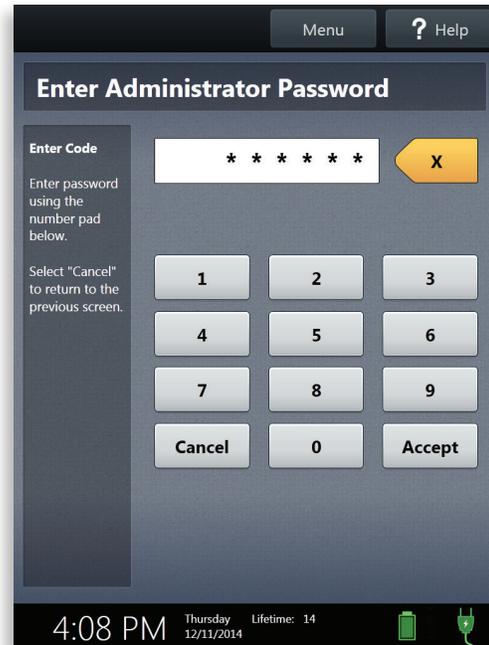
- 2 Select **Administrator Menu**.



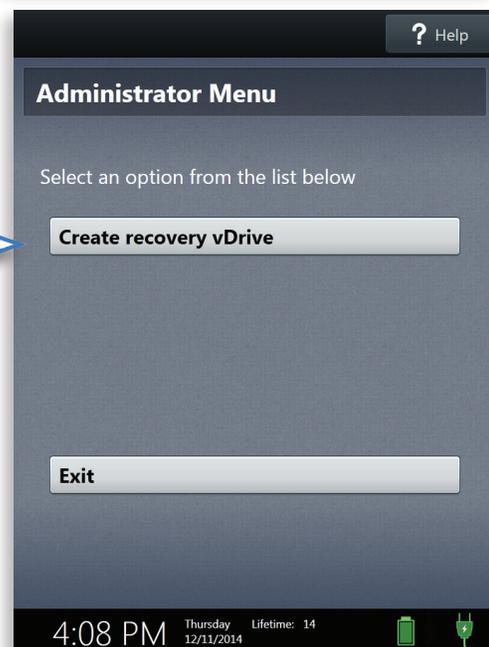
## appendix D: creating a recovery vDrive

### creating a recovery vDrive, *continued*

**3** Enter the device Administrator passcode and select **Accept**.



**4** Select **Create recovery vDrive**.

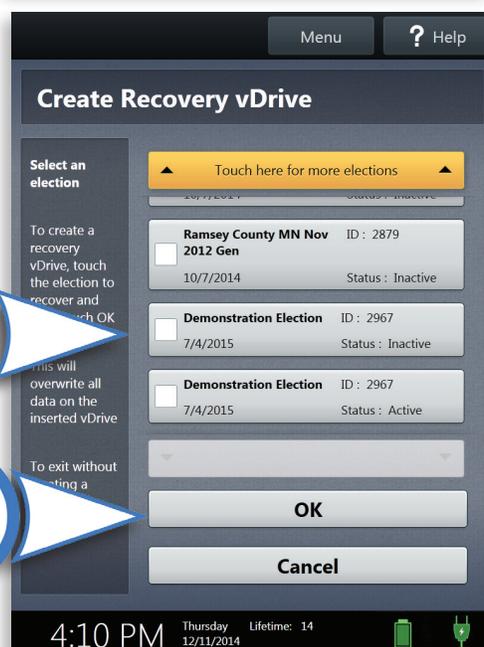
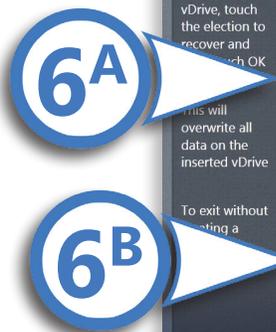


## creating a recovery vDrive, *continued*

**5** Insert a vDrive that has not been previously used for the election.

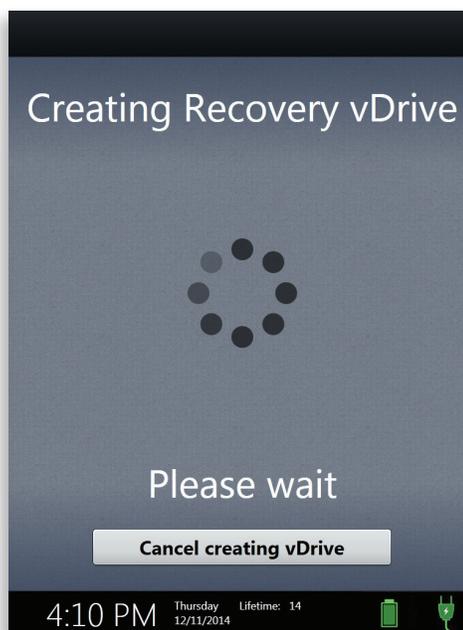


**6** Select the election data you wish to recover (**A**), and then select **OK** (**B**).

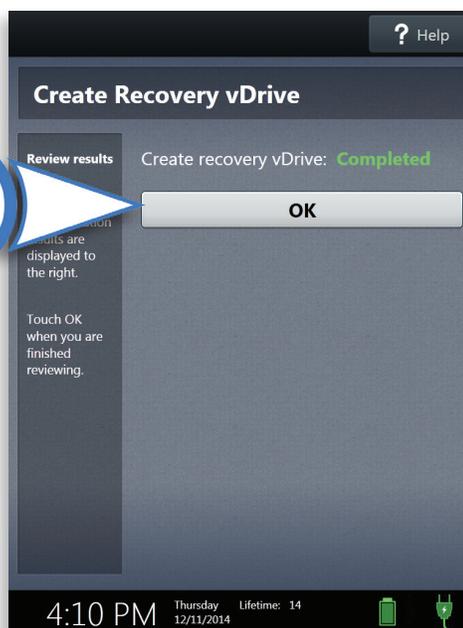


## creating a recovery vDrive, *continued*

- 7** Wait while the data is written to the vDrive.

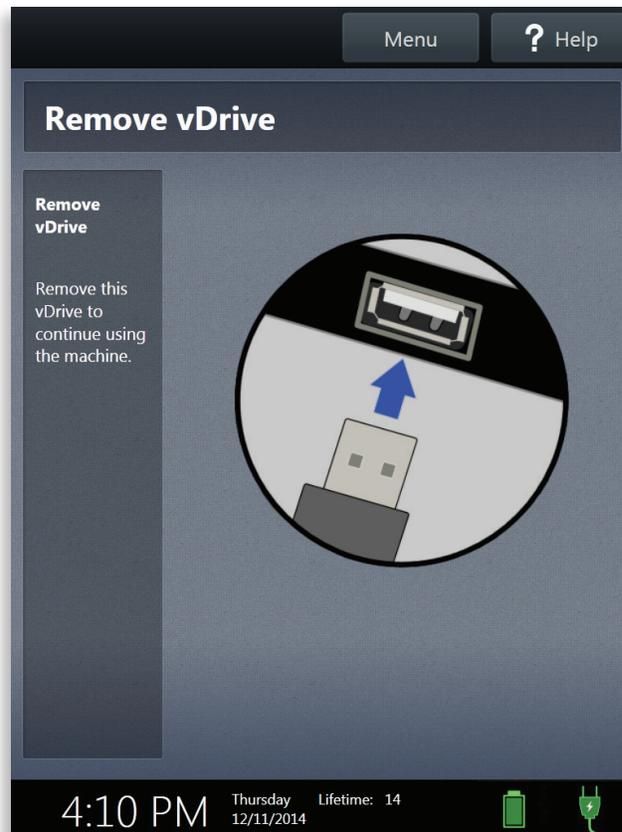


- 8** Select OK.



## creating a recovery vDrive, *continued*

- 9 Remove the vDrive. If needed, the vDrive can now be read into Count and tabulated.



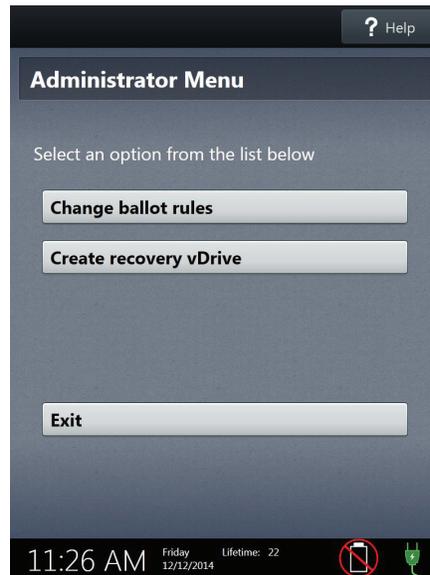


## changing Verity Scan device ballot rules

In Build, you can configure the Scan device behavior when scanning ballots with voter intent issues (see page 113). These settings determine if and how second-chance voting opportunities are presented to the voter.

The change ballot rules function allows an administrator to change the second-change voting behavior of an individual Scan device. For instance, during a recount process, or if using a Scan to process absentee ballots, it may be desirable to override the scan behavior defined in Verity Build and use different settings for that specific device.

**1** From the Administrator Menu, select **Change ballot Rules**.



**2** Select the desired ballot processing rules for that particular Scan device.

- ▶ Choose **Use election settings** will follow the rules defined in the Verity Build application (see page 113).
- ▶ Choose **Accept all ballots** to override Build settings and force the Scan device to accept all ballots.



**3** Select **OK**. Changes to ballot rules will remain in effect until the device is restarted.

# glossary

## abandoned ballot

A ballot that the voter did not cast into the ballot box before leaving the polling place. Local election rules dictate dispensation of an abandoned ballot. In some jurisdictions, abandoned ballots must be spoiled (see also spoiled ballot).

## absentee ballot

Ballot cast by a voter unable to vote in person at his or her 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. In some jurisdictions, early voting is referred to as 'absentee-in-person' or 'absentee walk-in' and by-mail voting is sometimes referred to as 'absentee-by-mail.'

## acceptance testing

Examination of voting equipment and testing of basic functionality upon delivery including validation that the delivered system is, in fact, the certified system purchased.

### access code

The five-digit number given to each voter that indicates to the Verity system which precinct and ballot style to display to the voter on the Touch Writer. The access code is printed by the poll worker from the Touch Writer that the voter will use. The access code is only valid for a limited time and does not link to any voter information.

### access code summary report

A report that is printed on the Touch Writer. It lists the number of access codes issued, voted, expired, and canceled.

### adjudication

The task of assigning the voter's intent to votes on ballots that contain an undervoted contest, an overvoted contest, a contest with a selected write-in, or an invalid vote. Adjudication may also be required for a completely blank ballot or a damaged ballot. Also called resolution.

### air gap

A physical separation that describes how non-certified and certified voting system applications relate to each other and manage data. A variety of methods can support a physical 'air gap,' primarily the absence of any network connection between non-certified and certified applications. These air gaps act as a physical firewall for all data and access ensuring integrity and security.

### Americans with Disabilities Act (ADA)

A 1990 federal act 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.

### audio ballot

A ballot in which a set of contests is presented to the voter in spoken, rather than written, form.

**audio-tactile interface (ATI)**

Voter interface designed to not require visual reading of a ballot. Audio is used to convey information to the voter and sensitive tactile controls allow the voter to communicate ballot selections to the voting system.

**audit log**

A report containing recorded information that allows elections officials to view the steps that occurred on the equipment and/or software included in an election in order to verify or reconstruct the user actions taken without compromising ballot or voter privacy.

**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**

The official presentation of all of the contests to be decided in a particular election.

**ballot box**

A secure receptacle for the Verity Scan that collects scanned paper ballots and also has an emergency compartment for temporary storage of unscanned voted ballots in case the Scan is disabled.

**ballot box security seal**

The seal attached to the ballot box door to secure the paper ballots. *See also security seal.*

**ballot count**

A number, shown on the Verity configuration reports and Polls Open screens that indicates how many ballots have been processed on that device for the current election. The ballot count of a device is reset to zero when a new election is loaded by election staff before an election.

### ballot drop box

When voted ballots are collected from a physical box at a specific location, instead of by mail.

### ballot image

For a paper ballot, the electronic digital picture of the ballot. For an electronic ballot, the Cast Vote Record of the electronic ballot.

### ballot instructions

(1) Instructional text that appears at the top of the ballot. There are two separate types of Ballot Instruction text: (1) electronic and (2) paper ballot. There is also separate audio instruction associated with the Touch Writer ballot instruction. (2) Information provided to the voter during the voting session that describes the procedure for voting a ballot. Such material may (but need not) appear directly on the ballot.

### ballot marking device (BMD)

An electronic machine at which a voter can make selections and then print a marked ballot, which the voter takes to a scanning device to be cast. No vote records are stored on the ballot marking device itself.

### ballot measure

(1) A question that appears on the ballot for approval or rejection. (2) A contest on a ballot where the voter may vote yes or no.

### ballot number

In Verity, a number that can be placed on the ballot but which is not digitally processed in the system and is not part of the Cast Vote Record.

### ballot position

The order on the ballot in which a candidate's name appears. For example, candidate B may have the 2nd position on the ballot, meaning that there is one candidate's name ahead of candidate B for that contest.

**Ballot Production Services (BPS)**

The Hart InterCivic Ballot Production Service (BPS) is a fee-based service that provides ballot programming and ballot printing service for customers who use Hart InterCivic voting devices.

**ballot rotation**

Process of varying the order of the candidate names within a given contest. Candidate names can rotate by precinct, by ballot, or by other schema.

**ballot scanner**

Device used to read the voter selection data from a paper ballot.

**ballot stub**

A perforated, removable portion of a ballot used in some jurisdictions. The ballot stub does not contain voteable contests.

**ballot style**

A ballot style is a grouping of certain precincts with an identical contest configuration. 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. In Verity, the ballot style information is carried on the vDrive.

**ballot text**

Informational text embedded in the ballot that does not have the properties of a contest and cannot be voted. 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 Verity voting system, bar codes are required in order for paper ballots to be correctly scanned.

**BMD**

See **ballot marking device (BMD)**.

**by-mail**

When voters receive ballots through the mail system, and then return voted ballots to the scanning and tabulation center via the mail system (or via drop boxes).

**candidate**

Person contending in a contest for office. A candidate may be explicitly presented as one of the choices on the ballot or may be a write-in candidate.

**canvass**

Compilation of election returns and validation of the outcome that forms the basis of the official results by a political subdivision.

**cast ballot**

Ballot that has been deposited by the voter in the ballot box or electronically submitted for tabulation.

**Cast Vote Record (CVR)**

An anonymous record of the contest options that a voter selected on his/her cast ballot (otherwise known as the voter's choice set). In the Verity voting system, Cast Vote Records are stored in electronic format. One Cast Vote Record is equivalent to one ballot, and is the permanent record of all votes produced by a single voter whether in electronic, paper or other form. Also referred to as ballot image when used to refer to electronic ballots.

**central count**

When the ballots are scanned and then tabulated at a central facility, and not at the polling place(s) where in-person voting took place.

**certification**

Procedure by which a third party gives written assurance that a product, process or service conforms to specified requirements. See also state certification and national certification.

**certification testing**

Testing performed under either national or state certification processes to verify voting system conformance to requirements.

**challenged ballot**

Terminology and rules for challenged ballots 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.

**close polls report**

Report printed by the Verity voting device when the polls are closed. This report includes a time stamp indicating the date and time printed.

**closed primary**

Primary election in which a voter receives a ballot listing only those candidates running for office in the political party with which the voters is affiliated. In some states, non-partisan contests and ballot issues may be included. In some cases, political parties may allow unaffiliated voters to vote in their party's primary.

**CMOS battery**

Coin battery within a Verity device tablet that maintains the system clock functions while the device is turned off.

**commercial off-the-shelf (COTS)**

Commercial, readily available hardware devices (such as card readers, printers or personal computers) or software products (such as operating systems, programming language compilers, or database management systems).

### component

Element within a larger system; a component can be hardware or software. For hardware, it is a physical part of a subsystem that can be used to compose larger systems (e.g., circuit boards, internal modems, processors, computer memory). For software, it is a module of executable code, that can be moved around as a whole that performs a well-defined function and interacts with other applications.

### contest

A choice to be made on the ballot; a race. Contest types include offices, issues, referendums, measures, and propositions.

### count

Process of totaling votes. Also the name of Verity's tabulation software application. *See* **tabulation**.

### credentials

Authentication information that enables access to operations in the system or associated databases. Credentials typically include user IDs and passwords.

### cross filing

Also referred to as cross-party endorsement, this is the endorsement of a single candidate or slate of candidates by more than one political party. The candidate or slate appears on the ballot representing each endorsing political party.

### cryptographic key

Value used to control cryptographic operations, such as decryption, encryption, signature generation or signature verification.

### cryptography

Discipline that embodies the principles, means, and methods for the transformation of data in order to hide their semantic content, prevent their unauthorized use, prevent their undetected modification and establish their authenticity.

**cumulative voting**

A method of voting exclusive to multi-member district election (e.g. county board) in which each voter may cast as many votes as there are seats to be filled and may cast two or more of those votes for a single candidate.

**CVR**

*See Cast Vote Record (CVR).*

**damaged ballot**

A paper ballot that has been torn or otherwise damaged to the extent that it cannot be read using an optical or digital scanning device.

**digital scan**

A process where ballots are scanned and the electronic, or digital, images of the ballot are captured in whole (as opposed to optical scan, where the image is not captured but light reflected off of or absorbed by marked surfaces is used to collect vote data).

**digital signature**

An asymmetric key operation where the private key is used to digitally sign an electronic document and the public key is used to verify the signature. Digital signatures provide data authentication and integrity protection.

**direct record electronic (DRE)**

The term for an electronic machine at which a voter can view, vote, and cast a ballot.

**district**

A selection of precincts and/or split precincts that determine a voting group.

**DRE**

*See direct record electronic (DRE).*

### duplex

Two-sided. In Verity ballots are printed and scanned on both sides of the ballot sheet. The Verity Scan scans both sides of the ballot sheet.

### duplicate ballot

If a jurisdiction chooses to include unique identifiers on their printed ballots, Verity will search the database for an identical unique identifier every time a ballot is scanned, and disallow the ballot if it is a duplicate.

### early voting

A term for votes cast in-person prior to election day. Nomenclature for early voting varies from state to state in the U.S. (absentee in-person, absentee walk-in, etc.).

### election

A formal process of selecting a person for public office or of accepting or rejecting a political proposition by voting.

### Election Assistance Commission (EAC)

Federal agency created by HAVA and chartered with, among other things, overseeing the testing and certification of voting systems.

### election database

In Verity Layout and Build, a data file or set of files that contain information about political subdivisions and boundaries, all contests and questions to be included in an election, and the candidates for each contest.

### election day

A specific day, set by federal or state statute, when voting takes place and results tabulation and reporting begins.

### election ID

An identification code assigned to an election by Verity Layout and Build that is unique for every election. The election ID is used internally by the software applications.

**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.

**election preferences profile**

A profile that retains jurisdiction-specific preferences concerning election rules and settings. The purpose of the profile is to minimize a user's need to keep re-entering data that is applicable to most of the user's elections. Information stored in an election preferences profile typically does not change frequently, and the profile is user-editable.

**emergency ballot slot/emergency ballot bag**

A special receptacle in the Verity ballot box, with its own unique access door, that can be used to securely store unscanned ballots.

**EMS**

See **election management system (EMS)**.

**encryption**

Process of obscuring information by changing plain text into cipher text for the purpose of security or privacy. *See also* **cryptology**.

**firmware**

Computer programs (software) stored in read-only memory (ROM) devices embedded in the system. A Verity device's firmware version is displayed on the Power On Self Test report.

**functionality test**

Testing of hardware functionality (e.g., testing to see that a Touch Writer button responds correctly when pressed). Functionality tests are built into the Verity voting devices.

### general election

Election in which voters, regardless of party affiliation, are permitted to select candidates to fill public office and vote on ballot issues. In the U.S., federal general elections are held on the first Tuesday after the first Monday in November, in every even-numbered year.

### graphic user interface (GUI)

The human-computer interface in software applications.

### hash testing

A test run to check that installed software has not been altered since its initial installation. The installed software is compared against a 'trusted build' of the software that has been certified by an regulatory agency.

### Help America Vote Act (HAVA)

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.' Most importantly, HAVA mandates that each polling place in the United States have a federally approved handicap accessible voting system.

### help button

Button on the Verity Access; when pressed, the Verity Touch Writer screen will display contextual help text.

### incomplete ballot

A multi-sheet ballot being scanned in a scan batch that is missing one or more, but not all, sheets.

### invalid vote

An instance where a voter in an open primary has voted for a candidate for an opposing party after first declaring affiliation with another party.

**key management**

Activities involving the handling of cryptographic keys and other related security parameters (e.g., access to the physical keys and passwords) during the entire life cycle of the keys, including the creation, inventory and storage, re-writing, and use of the keys throughout an election cycle.

**lifetime count**

A number, shown on the Verity device touch screens, that indicates how many ballots (Cast Vote Records) have been voted on the device over its lifetime. The lifetime count cannot be reset.

**logic and accuracy test (LAT or L&A)**

In the context of an election, a test to check the accuracy of the voting system tabulation. An LAT is accomplished by submitting 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.

**move wheel**

The rotary wheel on the Verity Access that allows a voter to navigate the ballot and highlight choices by turning the wheel.

**multi-seat contest**

Contest in which multiple candidates can run, up to a specified number of seats. Voters may vote for no more than the specified number of candidates.

**non-partisan office**

An elected office for which candidates run independent of political party affiliation.

### nonvolatile memory

Memory in which information can be stored indefinitely with no power applied. ROM is an example of nonvolatile memory.

### open polls report

Report printed by the Verity voting device when the polls are opened. This report includes a time stamp indicating the date and time printed.

### open primary

Primary election in which any voter can participate, regardless of their political affiliation. In the U.S., states that have open primaries do not require voters to register by party. Some states require voters to publicly declare their choice of party ballot at the polling place, after which the poll worker provides or activates the appropriate ballot. Other states allow the voters to make their choice of party ballot within the privacy of the voting booth.

### option

A choice on a ballot.

### option box

The target area where a voter marks in order to make a selection on a ballot.

### overvote

An instance where a voter has marked more than the allowed number of options for a given contest. On the Verity Touch Writer it is not possible to overvote.

### page

In reference to paper ballots, one side of sheet of paper.

### paper-based voting system

Voting system that records votes, counts votes, and tabulates the vote count, using one or more ballot cards or paper ballots. In some regions, the term paper ballot is equivalent to hand counted ballot.

**partisan office**

An elected office for which candidates run as representatives of a political party.

**party**

A political party, for example Democratic or Republican.

**political subdivision**

Any unit of government, such as counties and cities, school districts, and water and conservation districts having authority to hold elections for public offices or on ballot issues.

**poll worker button**

A button located on the back panel of the Verity device used to access poll worker and administrator functions.

**polling location**

Physical address of a polling place.

**polling place**

The area within the polling location where voters cast ballots. Sometimes, a single polling place supports several precincts.

**power on self test report**

A report printed from the Verity voting device any time the device is powered on. This report shows a time stamp, firmware version, and diagnostic test result. A self-diagnostic test is run on the system, and the result is indicated as either a pass or fail on the report.

**precinct**

Election administration division corresponding to a contiguous geographic area that is the basis for determining which contests and issues the voters legally residing in that area are eligible to vote on. In traditional election nomenclature, precinct was once equivalent to polling place. This is not necessarily the case any longer.

**primary election**

Election held to determine which candidate will represent a political party for a given office in the general election.

**primary presidential delegation nomination**

Primary election in which voters choose the delegates to the presidential nominating conventions allotted to their states by the national party committees.

**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 cannot be included in the tabulation until after the voter's eligibility is confirmed.

**race**

A choice to be made on the ballot; a contest. Race types include offices, issues, referendums, measures, and propositions.

**ranked choice voting**

Practice that allows voters to rank candidates in a contest in order of choice 1, 2, 3, and so on. A candidate receiving a majority of the first choice votes wins that election. If no candidate receives a majority, the last place candidate is deleted, and all ballots are counted again, with each ballot cast for the deleted candidate applied to the next choice candidate listed on the ballot. The process of eliminating the last place candidate and recounting the ballots continues until one candidate receives a majority of the vote. The practice is also known as instant runoff voting, preferences or preferential voting, or ranked order voting.

**recount**

Re-tabulation of the votes cast in an election.

**referendum**

Process whereby a state law or constitutional amendment may be referred to the voters before it goes into effect.

**replacement ballot**

A ballot that is designated by the election authority to be a replacement for a damaged ballot.

**resolution**

See **adjudication**.

**runoff election**

Election to select a winner following a primary or a general election, in which no candidate in the contest received the required minimum percentage of the votes cast. The two candidates receiving the most votes for the contest in question proceed to the runoff election.

**sample ballot**

A ballot printed as a sample of the real election ballot. Sample ballots contain a special barcode which prevents them from being counted by the Verity system.

**security controls**

Management, operational, and technical controls (such as safeguards or countermeasures) prescribed for an information system to protect the confidentiality, integrity, and availability of the system and its information.

**security seal**

Tamper-evident seals put in place by the jurisdiction on voting devices and ballot boxes to restrict access to voted ballots and compartments containing voted ballots.

**select button**

Button on the Verity Access; a voter presses this button to select an option or ballot choice highlighted by the move wheel.

### sheet

In reference to paper ballots, one piece of paper printed on both sides, i.e., duplex.

### sheet count

On the Verity Scan device, a number, shown on the touch screen, that indicates how many physical ballot sheets have been scanned on that device for the current election. The sheet count of a device is reset to zero when a new election is loaded by election staff before an election.

### sip-and-puff

A voter's personal input device that connects to the Verity Access using the disabled access jack. This enables disabled voters with extremely limited mobility to vote with a mouth-controlled device.

### software license

The right-to-use a software (or firmware) application.

### split precinct

When a precinct is divided to accommodate non-standard division of boundaries within it (i.e. when sub-jurisdiction districts affect the ballot styles within a parent jurisdiction precinct).

### spoiled ballot

A ballot that has been rendered invalid, either by a voter who is still present at the polling place (making it necessary to give the voter a new ballot) or by virtue of being abandoned by the voter. *See also* **abandoned ballot**.

### straight party voting

A voting method that presents a contest at the top of the ballot that allows selection of a single political party in order to automatically select candidates of that party in contests that allow straight party voting.

**stub number**

A number that can be placed on the ballot stub. In Verity, the stub number is not tied to the ballot number.

**suspend polls report**

A report that automatically prints when suspending polls during early voting.

**system audit log**

Captures system-specific information, such as operating system login or logout and operating system alerts, faults, and failures (that is, running on battery).

**system battery**

Rechargeable battery pack used in Verity voting devices.

**tabulation**

Process of totaling votes. *See also* **count**.

**tactile switches**

Also called 'dual mode switches,' or 'jelly switches,' these red and green 'paddles' enable voters with disabilities to vote without using the touch screen, move wheel or select button on the Touch Writer. Voters without fine motor control may use these. The red tactile switch allows voters to navigate through the ballot, similar to turning the move wheel in a clockwise direction. The green switch is similar to pressing the select button.

**tally report**

An report that may be printed from a Verity voting device after polls are suspended closed. It includes the date, time, precinct, a tally of votes for each contest, and an access code or ballot summary. Use of this report may vary by jurisdiction.

**thermal printer**

Roll-feed printer built in to each Verity voting device used to print reports and (on the Touch Writer) access codes. This printer uses heat to print on the paper, and thus does not use ink or toner.

**top-two primary**

A primary election in which the top two vote-getters are the winners, regardless of their party preference, and in which all voters vote the same ballot.

**touch screen voting machine**

A voting machine that utilizes a computer screen to display the ballot and allows the voter to indicate his or her selections by touching designated locations on the screen.

**undervote**

An instance where the number of choices selected by a voter in a contest is less than the maximum number allowed for that contest, or when no selection is made for a single choice contest.

**uninterruptible power supply (UPS)**

A device that maintains AC power for a connected device during a power outage.

**unique identifier**

A number placed on the sheets of a ballot that uniquely identifies the ballot in order to prevent scanning of duplicate paper ballots. Within the Verity system, unique identifiers are optional and cannot be tied to an individual voter (as there is no individual voter data in the Verity system). Unique identifiers contain no serial (i.e. sequential) data.

**universal serial bus (USB)**

An external peripheral interface standard for communication between a computer and other devices. In the Verity voting system, the vDrive and Verity Key connect to a USB port.

**usability**

Effectiveness, efficiency, and satisfaction with which a specified set of users can achieve a specified set of tasks in a particular environment. Usability in the context of voting refers to voters being able to cast valid votes as they intended quickly, without errors, and with confidence that their ballot choices were recorded correctly. It also refers to the usability of the setup and operation in the polling place of voting equipment.

**Verity Access**

Verity's audio-tactile interface device.

**Verity Build**

Verity ballot production software. Build allows you to review and proof ballots, print ballots, and generate vDrives and Verity Keys for running the election.

**Verity Central**

Verity vote resolution software. Central processes high volumes of paper ballot scanning to compile and send to Verity Count for tabulation and results.

**Verity Count**

Verity vote tabulation software. Count receives, reads, aggregates, and reports on election results. The system analyzes results, providing deeper details based on specified options such as the types of votes and elections.

**Verity Key**

Verity election cryptographic module. Provides secure authentication of critical actions within the Verity voting system.

**Verity Layout**

The Verity Election Office application used to manage data such as ballot content, ballot formats, and ballot style previews.

### Verity Scan

Verity polling place scanning device. These devices scan physical printed and marked ballots for collecting and tabulating votes.

### Verity Touch Writer

Verity polling place ballot marking device, with print capabilities for paper ballots.

### Verity vDrive

In the Verity system, the electronic media used for transferring of election definitions and data, CVRs, and device audit logs between the Verity software workstations and voting devices.

### Voluntary Voting System Guidelines (VVSG)

Standards created by the National Institute of Science and Technology and used by the EAC to test and certify voting systems.

### vote center

Sometimes called super precincts or county-wide polling places. A polling place where all or a large set of election precincts and ballot styles are available for voters from a large area to come in-person to vote on election day.

### vote drop-off

The difference between the number of people who turned out for an election and the total number of votes cast for a particular office. Sometimes referred to as 'residual votes'. Reasons for vote drop-off may include overvoted or undervoted contests.

### vote for n of m

A ballot choice in which voters are allowed to vote for a specified number ('n') of candidates in a multi-seat contest where 'm' is the number of valid choices.

**voted ballot**

A ballot that has been cast.

**voting position**

Specific response field on a ballot where the voter indicates the selection of a candidate or ballot proposition response.

**voting system**

The total combination of mechanical, electromechanical or electronic equipment (including the software, firmware, and documentation required to program, control, and support the equipment) that is used to define ballots, cast, and count votes, report or display election results; and to maintain and produce any audit trail information; and the practices and associated documentation used to identify system applications and versions of such applications; to test the system during its development and maintenance; to maintain records of system errors and defects; to determine specific system changes to be made to a system after the initial qualification of the system; and to make available any materials to the voter (such as notices, instructions, forms or paper ballots).

**voting system software**

All the executable code and associated configuration files needed for the proper operation of the voting system. This includes third party software such as operating systems, drivers, and database management tools. See also dynamic voting system software, semi-static voting system software, and static voting system software.

**Voting System Test Laboratory (VSTL)**

An independent test laboratory accredited by the Election Assistance Commission and qualified to test voting systems to approved voting system standards.

**warranty**

Guarantee that a piece of hardware or software will work to certain standards for a certain period of time.

**write-in**

A name of a candidate entered by the voter in order to vote for a candidate that is not listed in that contest.

**write-in, certified**

A candidate that has been certified by the election authority as being a valid write-in candidate for the election.

**WYSIWYG**

What You See Is What You Get. Term used to describe a visual method of rendering ballot styles, to see an accurate representation of how ballots are laid out.

**zero report**

A voting device report that must be printed before polls are opened on the first day of early voting and on election day. A zero report must also be printed from the tabulation workstation prior to counting ballots on election day. This report lists the time, the number of precincts at the polling place, the contests and candidates on the ballot, and verifies that the current number of votes for each candidate or option is zero.

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# Hart Support

Note: the following contact information is for use by election officials and staff only; poll workers should not be given the Hart CSC Help Desk number.

## **Hart Customer Support Center (Help Desk)**

**1.866.275.4278**

**[hartsupport@hartic.com](mailto:hartsupport@hartic.com)**





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