

# Democracy Suite<sup>®</sup>

## RAVBM Use Procedure

Version: 5.10-CA::3

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# CHAPTER 1: INTRODUCTION

## 1.1 Relevant Disclaimers

This document may make reference to certain Democracy Suite® functionalities that are not part of the current 5.10 campaign and should be disregarded throughout the document.

For a full list of relevant disclaimers, please see the “Relevant Disclaimers” section in the *3.2 - Democracy Suite® System Overview* Document.

## 1.2 System Description and Components

The ImageCast® Remote product provides services for registration, online ballot delivery, and ballot marking.

The ImageCast® Remote product is integrated with the Dominion Voting Election Management System (EMS), a set of applications for all pre-voting and post-voting activities accomplished in the process of defining and managing an election. These applications include Election Event Designer, Results Tally & Reporting, Audio Studio, Election Data Translator, and Results Transfer Manager.

The ImageCast® Remote product enables the voter to mark their ballot using a secure web-based interface, print that ballot, and then return it to their clerk.

- WCAG 2.0 Level AA conformance
- The following languages:
  - Chinese
  - English
  - Filipino
  - French
  - Hindi
  - Japanese
  - Khmer
  - Korean
  - Spanish
  - Thai
  - Vietnamese

- WCAG compliant screen readers, and ballot navigation via browser-based personal assistive devices.
- Built to optimize the user experience – uses standard HTML and JavaScript
- Compatible with Microsoft Explorer, Firefox, Safari and Chrome
- Voters are able to use a multitude of devices in order access the RAVBM system, including (but not limited to) PC with standard browsers, iPad tablets, smartphones, as well as any touch tone phone.
  - The ICR platform can also be utilized for curbside voting, by allowing voters to access it on a tablet connected to the Internet, installed on a cart with other necessary components.
- The system will print a choice summary ballot, which contains a written summary of the voter's selections, along with a 2D secure barcode.

For the ImageCast<sup>®</sup> Remote software platform, Dominion provides full hosting services with all servers and network equipment required. The platform is based on full redundancy and load balancing for greater availability, scalability and security. The infrastructure consists of Dell servers, Cisco network equipment, Microsoft SQL Server RDBMS as well as a complete hosting platform based on Microsoft .NET technology.

During the Registration process, an voter submits a request for an electronic ballot to the governing votal body (returning officer). Once this request is validated and completed, the voter is provided a security code (PIN) which permits them to access an online ballot and complete the ballot secretly and securely.

## CHAPTER 2: PRE-ELECTION TESTING

Dominion's ImageCast® Remote product is supported by a fully-redundant network and application architecture protecting against a single point of failure. The system was specifically designed to span multiple data centers, on multiple servers with proactive network security devices powered by industry leaders.

Users of the ImageCast® Remote product are able to use a multitude of devices in order access the voting system, including personal computers with standard browsers including Internet Explorer, Firefox, Safari, and Chrome, as well as mobile devices including tablets and smartphones.

### 2.1 Logic and Accuracy Testing

Prior to the start of voting, the voting system is subject to Logic and Accuracy (L&A) testing, which provides the jurisdiction with the ability to completely, and fully, test all aspects of the voting process. L&A testing is a fundamental part of any RAVBM system deployment. It provides the end-user with a final system evaluation to ensure that the product line has been configured correctly and is functioning properly. It is also the final check before the system is used for an Election. The two main objectives of Logic and Accuracy testing are to verify that the ImageCast® Remote product is functioning as intended and that the election definition has been configured correctly.

This type of end-to-end testing provides complete confidence in the voting system.

#### 2.1.1 Logic and Accuracy Test Process

A Logic and Accuracy process is run on the ImageCast® Remote product with the jurisdiction's Election Officials prior to the start of voting. Logic and Accuracy testing ensures the voting solution will perform as expected and as defined by the Election Officials, including;

- Testing various voting scenarios, such as: multiple login, attempted login with disabled voter credentials, generating multiple downloaded ballots using the same credentials, attempting to vote while the system is in a closed state (prior to vote starting or after voting has been stopped).
- Testing of error handling when a voter attempts an incorrect function, such as incorrect voter credential etc.
- Ensuring all screen text, candidate names, error messages etc., are appropriate and accurate.
- Testing of accessibility features.



## 2.1.2 Retention of Test Materials

Reports generated by ImageCast<sup>®</sup> Remote product testing should be retained along with any supplementary testing materials, for the retention period required by California law. This should take place in a secured location with restricted access to those designated by the jurisdiction.

## 2.1.3 ImageCast<sup>®</sup> Remote Logic & Accuracy Testing Procedure

This section describes the Logic & Accuracy testing procedure for the ImageCast<sup>®</sup> Remote (referred to as ICR) product.

The ICR Logic and Accuracy Test procedure consists of loading ICR election files, and completing each ballot of the election using a set of ballots (test deck) for which the correct results are known ahead of time. Downloaded ballots resulting from the completion of elections are scanned, adjudicated (where required) and the results uploaded to EMS RTR where it can be verified that the results agree with those expected.

Initially, the results will be loaded into RTR with "Skipped Adjudication" option checked and the Election Summary Report will be run (simulating election night reporting). Then, if using Adjudication, the originally imported results for such tabulators will be Reset in RTR. The ballots will then be adjudicated and canvass reports will be produced. After testing is complete, the L&A test results are archived.

Procedure:

1. Open the ICR Administration Portal application and Erase All Voters to remove voters including records of requests and logins.
2. Import the voter list required for the L&A Test, or manually create new Voters using the interactive functionality.
3. Re-zero Voting Results in order to ensure clearance of voter ballots and voting status records. Ensure that Registration and Voting are stopped as the Re-zero Voting Results operation can only be carried out before Registration and Voting starts, or after they have stopped.
4. From within the Reports tab of the main menu generate the Zero Results Report. Confirm that the report indicates clearance of voter ballots and voting status records.
5. Using functionality in the ICR Administration Portal, import election files created earlier using the EMS Server. If the election project has been prepared by the Dominion Voting Systems Service Bureau, the prepared ICR election files will be provided along with the election project.

6. Optionally, generate test ballots (test decks), either manually from unmarked ballots, or automatically using the EMS Test Deck application with a predetermined voting pattern. Use a control sheet to record and summarize the test deck result totals.
7. In the ImageCast® Remote voting application start Registration and Voting.
8. As per the test deck being used, register voters and for each voter mark and download ballots.
9. Once voting is completed, in the Tabulator Settings interface, stop voting by clicking on the Stop Now button under Manual in the Automatic Start and Stop Settings panel.
10. Open the EMS Results Tally & Reporting application (referred to here as RTR). If the project was created by the Dominion Voting's Service Bureau, the RTR username and password will be provided to the jurisdiction. Jurisdictions programming their own elections will have to have their Administrator create an RTR user account and activate it in EED.
11. Open the appropriate Election Project and enter your login credentials.
12. Load the results files, audit log files and result images (if enabled and required) from the Dominion Voting scanners/tabulators into the RTR application. For tabulator results that have the Secondary Path set to the EMS Server and have automatic loading of results enabled in the RTR application, the results will automatically be loaded into the EMS. However, for tabulators that have only load path set (such as the case might be for the ICC tabulators handling write-ins) the results will need to be loaded manually. When loading results from the ICC tabulator handling ballots with write-ins, ensure that the "Skip Adjudication" checkbox is selected. Upload all result files.
13. Validate and publish results files in the RTR application.
14. Create the Election Summary Report.
15. Confirm that the results from the RTR Election Summary Report match the tabulator summary reports and the expected test deck results.
16. Review a subset of Audit Marked images in order to confirm that ballot image files are clear and readable and to verify that the system is interpreting the individual ballots correctly. If using Adjudication, then after completing the Logic and Accuracy test for both ImageCast® Evolution and ImageCast® Central, results will be adjudicated and verified. If not using Adjudication, then write-in can be resolved directly in RTR.

## CHAPTER 3: ELECTION PREPARATION

### 3.1 Preparing Standard and RCV Ballots in EED

Before an election project can be imported into ICR, it first must be created and styled in Election Event Designer (EED). For instructions on how to create and style an election project in EED refer to the *Democracy Suite<sup>®</sup> EMS Election Event Designer User Guide*.

**NOTE:** If rank choice contests are being used, there are additional setting instructions in section “5.12.2.2 - Ranked Choice Contests” of the *Democracy Suite<sup>®</sup> EMS Election Event Designer User Guide*.

The EED editor is compatible with Rich Text Format (RTF) but has limited support of HTML. Consequently, the EED preview does not reproduce what's displayed on IV pages.

ICR supports the following text styling elements:

- Large text
- Small text
- Italic
- Bold
- Underline
- Form background color

ICR does not support the following on screen view:

- Text color highlighting
- Indentation
- Text background color
- Ordered and unordered list can't be aligned to any other alignment than left aligned

The following is a list of best practices to apply during ballot styling:

- The contest title should consist a simple line of text.
- EED's default font size is 11 points. It is not recommended to use font sizes above 22 pts.

**NOTE:** Printed QR ballots styling is not supported. All styling elements will be printed on the QR ballot as a plain text.

## 3.2 Home Page

Upon logging into the Remote Voting Administration Portal, the Home page is shown.

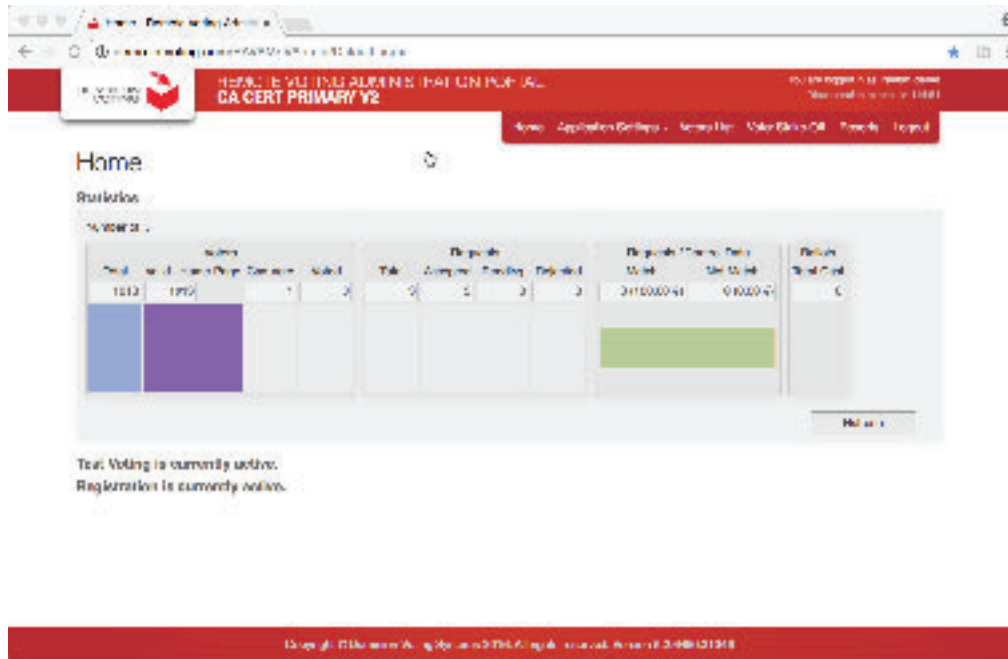


Figure 3-1: Home Page

This page displays the following election metrics:

- Whether voting is currently active
- Whether registration is currently active (valid only for voting with registration)
- **Voters Statistics:**
  - **Total:** Total number of voters in the system (valid and not valid)
  - **Valid:** Total valid voters in the system
  - **Can Vote:** Total voters eligible to download a ballot
- **Requests Statistics:**
  - **Total:** Total number of requests received
  - **Accepted:** Number of accepted requests
  - **Pending:** Number of requests pending verification
  - **Rejected:** Number of rejected requests
- **Requests/Control Data** (valid only for voting with registration)
  - **Match:** Number of requests that are matching the comparison criteria

- **Not Match:** Number of requests that are not matching the comparison criteria
- **Refresh button:** The Home page does not refresh automatically. Click Refresh to update with the latest information.

## 3.3 Voters Management

The Voters Management tab enables the Administrator to perform voter requests manipulation, such as clearing ballots and voting statuses, importing and exporting voters, processing requests, and configuring the application to automatically generate and export the voter list with PINs.



Figure 3-2: System Administration - Voters Management

### 3.3.1 Voters Approval

This option is only valid for voting with registration. It enables the Administrator to run the application to automatically accept all requests in the system that have a matching first name, last name, and date of birth.

**NOTE:** Running this function does not permanently turn Automatic Acceptance on but initiates a once-off review of all queued requests.

To Auto Accept Pending Requests:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and select **System Administration**.
2. Click the **Voters Management** tab.
3. Under Voters Approval, click **Run now** for Accept All Matching Pending Requests.
4. Enter your user name and password, and then click **Login**.  
A notification displaying the number of voters accepted appears.

### 3.3.2 Regenerate Voter PIN's

This option generates and exports a voter list with PINs. The list is exported as a .csv file with the following columns:

- ID (External Voter ID)
- First Name (voter's first name)
- Last Name (voter's last name)
- Language (If provided, can be English or French)
- Email (voter's email address)
- PIN1 (voter's login ID)
- PIN2 (voter's login PIN)

To Regenerate a Voter List with PINs:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and select **System Administration**.
2. Click the **Voters Management** tab.
3. Under Import and Export Voters, in the Regenerate Voter PINs (marked for postal notification) and make export file panel, click **Regenerate and Export**.
4. Enter your user name and password, and then click **Login**.
5. Once the file has been generated, click **Confirm** to confirm that the file is valid and successfully downloaded.

### 3.3.3 Import Voters

The Import Voters button enables the Election Official to import voters and their relevant information.

To Import Voters:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down list, and select **System Administration**.
2. Click the **Voters Management** tab.
3. Under Import & Export Voters, in the Import Voters panel, click **Choose File**.
4. Select the file containing the voters you wish to import into the application, and click **Open**.
5. In the Import Voters panel, click **Import**.  
The Voters List is populated and a notification appears displaying the number of voters and their attributes.

## 3.4 Global Settings

VOTERS MANAGEMENT GLOBAL SETTINGS TABULATORS MANAGEMENT DATA CLEAR

Global Settings

**Display Options in Admin Portal**

Default page size on tables: 20

Date Format: mm/dd/yyyy HH:mm (10/23/2017 13:45)

Phone Number Format: (0###) ###-####

There is at least one registered voter.

**DataFix Integration Settings**

Use DataFix Strike-Off Service:

Use Datafix Import Format:

Use Ward in Precinct External Id:

Municipality Id: 0013

The base DataFix url:

The NRC length: 8

**Results Storing Options**

Save selection results to DB:

Save ballot as PDF on server:

Download PDF ballot to voter's device:

**Disconnected Voting**

Disconnected Mode (IV client is disconnected from the server):

**Languages Management**

Language	Enabled	Display Order
English		↓
Spanish	<input checked="" type="checkbox"/>	↑

**Voting Interface Language Options**

Language selection on landing page:

Language selection during session:

**Election Options**

Multicycle election support:

Choose Ballot Group on voter login page:

Show instructional contests:

Time Zone: (UTC-05:00) Eastern Time (US & Canada)

Contest Order: Global

**Voting Interface Options**

Straight Party Deselection Warning:

Straight Party Deselection Action: Deselect only party candidates

Straight Party Mode Choice Action: Deselect others

Straight Party Selection Mismatch Action: Silent system deselection

There is at least one voter record in the database.

**Voter ID Options**

Should generate Voter IDs (on import):

Voter ID settings:

Voter ID Minimum Length: 6

Voter ID Maximum Length: 8

Voter ID Format: Numbers only

There is at least one notified voter.

**PIN Options**

PIN Minimum Length: 6

PIN Maximum Length: 6

PIN Format: Numbers only

**Provisional options**

Enable Provisional Voting:

All voters are challenged:

Auto generate Provisional code:

Provisional voting code length: 10

Provisional Code Format: Numbers and letters (capital on)

**Registration Options**

Registration enable:

Automatically Accept Voter Request:

Available Notification Types:  Postal,  Email,  Phone

Default Notification Type: Email

**Receipt Options**

There is at least one notified voter.

Request Receipt Length: 23

Request Receipt Format: Letters (small only)

**Voting Receipt Options**

Voting Receipt Length: 15

Voting Receipt Format: Letters (small only)

**Voting Interface Options**

Show "Login as a new voter" button:

Update

Figure 3-3: System Administration - Global Settings

### 3.4.1 Configure Display Options in the Administration Portal

This option allows you to change the default settings such as page size, date format, and phone number format.

To Configure Display Options:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and select **System Administration**.
2. Click the **Global Settings** tab.
3. Under Display Options, make your desired changes to the settings.
4. Once you are finished, click **Update** to apply the changes.

### 3.4.2 Language Management

This option enables the Election Official to determine which of the languages defined in the election file will be displayed for voters to choose from, and the order in which languages will appear in the selection interface.

**NOTE:** The display of the English language is enabled by default.

To configure Voting Interface Language Options:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then select **System Administration**.
2. Click the **Global Settings** tab.
3. Under Languages Management;
  - Enabling a language makes that language available during voting sessions.
  - The arrows under Display Order changes the order that languages are displayed in the voting interface.

### 3.4.3 Configure Voter ID Options

This option allows you to select the parameters for Voter IDs, such as generate Voter IDs on import, the length complexity of the Voter ID.

**NOTE:** Voter ID Options is disabled if there is one or more voter records in the system.

To Configure Voter ID Options:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and select **System Administration**.



2. Click the **Global Settings** tab.
3. Under Voter ID Options, set the desired parameters:
  - If you wish to generate Voter IDs as voters are imported, select **Should generate Elector IDs (on import)**.
  - Select the desired maximum and minimum lengths for the generated Voter IDs.
  - Select whether the generated Voter ID will contain, only letters, only numbers, letters and numbers.
  - To generate Elector IDs that contain special characters, select **Complex** from the drop-down.
4. Click **Update** to apply the parameters.

### 3.4.4 Configure PIN Options

This option allows the Election Official to select the PIN parameters.

**NOTE:** PIN Options is disabled if there is one or more voters which have been notified.

To Configure PIN Options:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then select **System Administration**.
2. Click the **Global Settings** tab.
3. Under PIN Options, set the desired parameters:
  - Select the desired maximum and minimum lengths for the generated Voter PINs.
  - From the drop-down, select the format for the generated Voter PINs.
4. Click **Update** to apply the parameters.

### 3.4.5 Configure Registration Options

This option allows the Election Official to select the notification type(s) that will display on the voters registration page, enabling the voter to select their preference.

**NOTE:** The Setting Request Receipt Options interface is disabled if there is one or more voters which have been notified.

To Configure Registration Options:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then select **System Administration**.

2. Click the **Global Settings** tab.
3. Under Registration enable select whether to enable voters the ability to register.
4. Under Automatically Accept Voter Request select whether to automatically accept requests where the data entered matches voter data provided by the jurisdiction.
5. Under Available Notification Types, select the notification type(s) to be made available.
6. Under Default Notification Type, select the type to be made the default from the drop-down list.
7. Request Receipt Options enable the election officer to configure the Request Receipt that will be sent to Electors as party of the link to generate their PIN.
  - **Request Receipt Length:** enables definition of the length of the receipt.
  - **Request Receipt Format:** enables definition of the configuration of the receipt through use of the pull down.
8. Click **Update** to apply the changes.

### 3.4.6 Voting Interface Language Options

This option enables the Election Official to control display options regarding available languages.

To configure Voting Interface Language Options:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then select **System Administration**.
2. Click the **Global Settings** tab.
3. Under Voting Interface Language Options;
  - Selecting or clearing the **Language selection on landing page** checkbox enables or disables the language selection interface on the landing page.
  - Selecting or clearing the **Language selection during session** checkbox enables or disables the language selection interface during voting sessions.

#### 3.4.6.1 Configure Password Options

This option allows the Election Official to select the parameters for voter passwords used to login into a voting session.

To Configure Password Options:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then select **System Administration**.
2. Click the **Global Settings** tab.
3. Under Password Options, set a minimum and maximum length for the password.
4. Specify the following password criteria:  
Password must contain
  - only letters
  - only numbers
  - both letters and numbers
  - letters, numbers
  - special characters (Complex).

## 3.5 Tabulators Management

### 3.5.1 Import Election Files

**NOTE:** Performing this operation overwrites all previously imported election data.

To import election files:

1. Expand the **Application Settings** drop-down, and then select **System Administration**.
2. Click the **Tabulators Management** tab.



Figure 3-4: Import Election Files

3. Under Import election files, click **Select File**.
4. Navigate to the election definition files (dat/xml). Select a single or multiple files and then click **Open**.  
The files appear in the import queue.

5. Review the files, if any files are incorrect click **Remove**. Once all election files are correctly in the queue, click **Upload**. An upload bar appears.

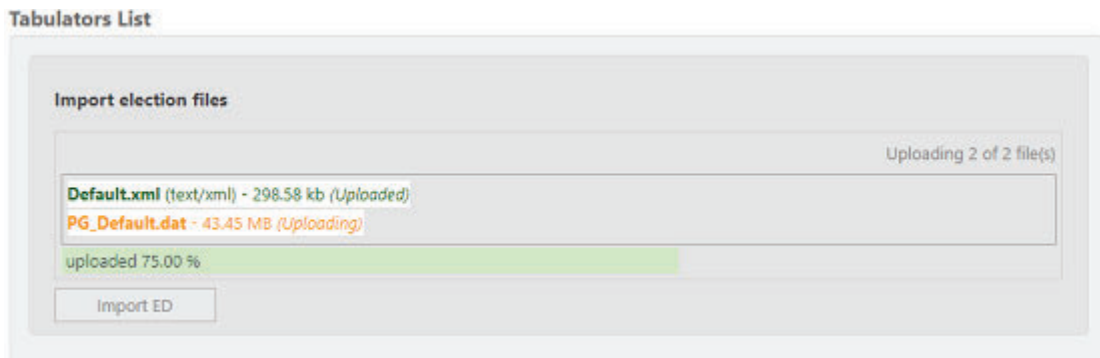


Figure 3-5: Uploading Election Files

6. Once all election files are uploaded, click **Import ED**. When the import completes, a “Importing election definition succeeded” message appears. Once the election files are loaded, the list of available tabulators is populated.

### 3.5.2 Configure Tabulator Parameters

The Tabulator Actions button enables the Election Official to configure automatic start and stop settings, Ballot Rules, Display Options, and Show CAPTCHA Options for ImageCast® Remote Tabulators.

To Configure Tabulator Parameters:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then select **System Administration**.
2. Click the **Tabulators Management** tab.

- In the IV Tabulator row, click **Actions**, then **Edit** to open the Tabulator Settings.

Figure 3-6: Tabulator Settings

- Under Automatic Start & Stop Settings, configure the following:
  - Select the date and time Registration begins and ends.
  - Select the date and time Voting begins and ends.
- To manually start and stop Voting or Registration, click **Start Now** or **Stop Now** under Manually.

### 3.5.2.1 Ballot Rules

**NOTE:** Ballot Rules lists all the conditions that are detected by the tabulator.

- To prevent ballots containing a specific condition from being downloaded, select **Block** for that condition.
- To warn the voter when a condition is detected but allow the ballot to be downloaded, select **Warn** for that condition.
- To allow a ballot containing a condition to be downloaded without warning, select **Allow** for that condition.
- Under Show CAPTCHA Options, select the pages you wish the CAPTCHA security feature to appear on.
- Show contest stripe enables the Election Official to either display or not display the list of contests on the top of the voter's voting page.

- Voting target on right side of choice enables the Election Official to select between the voting target displayed on either the left or right side of the selection, or candidate.
- If the voter is to be presented with, and required to respond to the following parameters, they can be selected using the corresponding controls;
  - Ask For Date of Birth
  - Ask For PIN
- The Info page timeout controls the period of time the user has in which to complete input forms on the voting interface.
- Click **Save** to apply the changes, or click **Close** to exit without applying the changes.

## 3.6 Data Clear

The Data Clear page allows administrators to erase results, voter data, and election definitions.



Figure 3-7: System Administration - Data Clear

### 3.6.1 Set Results to Zero

This feature clears voter voting status, as well as any vote activity associated to voters.

**NOTE:** Re-zeroing cannot be performed when either Registration or Voting are active.

To Reset Voting Status:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and select **System Administration**.
2. Click the **Data Clear** tab.
3. Under Set results to zero (clear voting statuses for voters), click **Re-zero**.

4. Enter your user name and password, and then click **Login**.  
When re-zeroing completes a confirmation message appears.

### 3.6.2 Erase All Voters

This option re-zeros the system and removes all voters and requests.

**NOTE:** This action cannot be performed when Voting is active, and should only be performed for testing and training purposes.

To Erase all Electors:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and select **System Administration**.
2. Click the **Data Clear** tab.
3. Under Erase ALL voters (including requests and cast ballots), click **Erase**.
4. When prompted, enter your user name and password, and then click **Login**.
5. Confirm when prompted.

### 3.6.3 Clear Election Definitions

This option removes all election definition information.

**NOTE:** This action cannot be performed when voting is active, and should only be performed for testing and training purposes.

To remove all election definition information:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and select **System Administration**.
2. Click the **Data Clear** tab.
3. Under Clear election definitions, click **Erase**.
4. Enter your user name and password, and click **Login**.
5. Confirm when prompted.

## 3.7 Download Administration

Once the voter completes choice selection, they will be prompted to download the ballot package as one or multiple PDF files. The Download Administration settings control what files are downloaded.

The ballot package can be customized as per your jurisdiction's requirements by including, excluding and customizing each file in the package, as well as including different ballot packages for different voter types or languages. The completed ballot is the only mandatory component of the ballot package.

This section covers the following:

- 3.7.1 “*Creating Custom Ballot Packages*”
- 3.7.2 “*Creating Document Types*”
- 3.7.3 “*Uploading Documents*”
- 3.7.4 “*Download Package Management*”
- 3.7.5 “*Ballot Content Settings*”
- 3.7.6 “*Download Administration Advanced Settings*”

### 3.7.1 Creating Custom Ballot Packages

Custom ballot packages can be used to deliver a different set of documents to the voter upon completion of their voting session. Ballot packages can be configured for both voter type and voter language.

To create custom ballot packages:

1. Expand **Application Settings**, select **Download Administration**.
2. Add a new voter type by clicking the + button next to the row of voter types. The Create New Voter Type screen appears.

## Download Administration

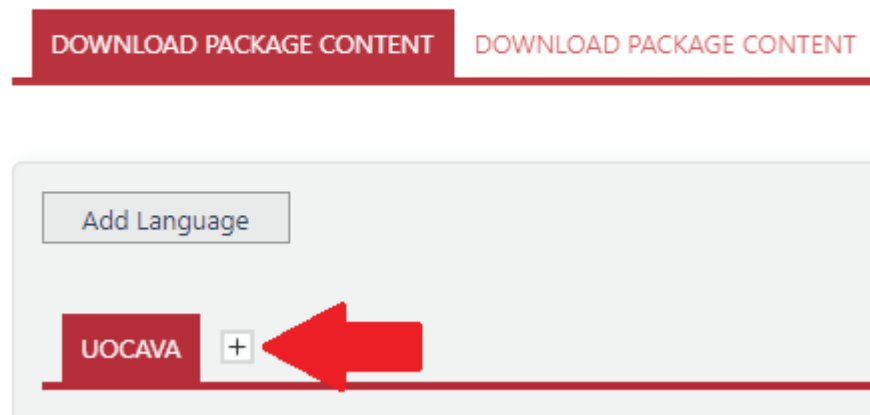


Figure 3-8: Add a New Voter Type Button

3. Enter the default name and a description for this voter type.



**NOTE:** This information will appear on the login page to voters.  
 Example: If the default name “RAVBM” and description “Remote Accessible Vote By Mail” are entered, they appear on the login screen as in figure 4-2. By default, the default name and description will appear for all languages. For instruction on how to customize each language, refer to section 3.7.4.4 “Localizing Voter Type Descriptions”.

Voter ID

Please enter the Elector ID from your Notice of registration card

Voter Type  UOCAVA: Uniformed and Overseas Citizens Absentee Voting  
 RAVBM: Remote Accessible Vote By Mail

Figure 3-9: Voter Types on Login page

4. Repeat steps 2 and 3 until you have added all required voter types.
5. If ballot packages for different languages are required, click **Add Language**.  
The Add Language window appears.
6. From the pull-down menu select the language you wish to add. Then click **Save**.  
The language is added as a column for all voter types.
7. After completing these steps, proceed to the next section.

### 3.7.2 Creating Document Types

Each voter type can have as many document types as required. Each document type is represented by a row in the Download Package screen.

**NOTE:** While added languages persist across all voter types, document types must be added separately for each voter type.

To create new document types:

1. From the Voter Type ribbon, select a voter type.
2. Create a new document type by clicking the + button next to Document type.

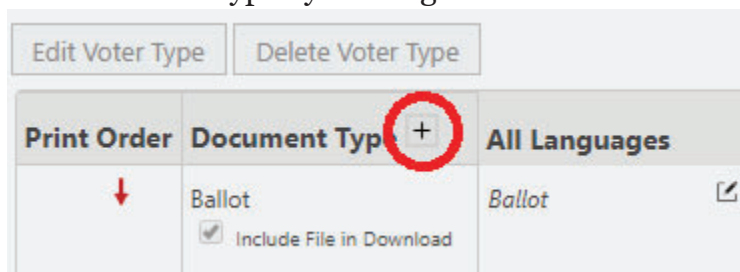


Figure 3-10: Add A New Document Type Button

3. Enter a Document Type and Document File Name.
  - **Document Type:** A label for the document type.
  - **Document File Name:** All imported documents will be renamed to share a similar file names.  
Example: Entering “CoverSheet” will generate files named CoverSheet\_All, CoverSheet\_EN, CoverSheet\_ES, etc.
4. Select **Include File in Download**.

**NOTE:** Ensure Include file in Download is selected. If Include File is Download is not selected, the document will not appear in the voter’s downloaded package after their voting session, even if it has been uploaded to ICR.
5. Click **Save**.  
The new document type appears as a new row.
6. Repeat the above procedure until all document types for this voter type have been added.
7. After completing all document types you may either repeat the above steps for each voter type or move on to the next section to upload documents.

### 3.7.3 Uploading Documents

ICR’s download administration supports two different categories of documents:

- All language documents
- Language-specific documents

Each language is represented by a column. Each document type (represented by rows) can either have one all languages document or multiple documents translated for each language, but not both. Each voter type may use any combination of all language or language-specific documents across document types.

To upload documents:

1. From the Voter Type ribbon, select a voter type.
2. For each document type row, click **Import** in either the All Languages column or under an individual language’s column.  
The Import Document window appears.

Print Order	Document Type +	All Languages	English-en x
↓	Ballot <input checked="" type="checkbox"/> Include File in Download	Ballot	MarkedBallot_EN
↑	Cover <input type="checkbox"/> Include File in Download <input type="button" value="Delete"/>	Cover_All <input type="button" value="Import"/>	Cover_EN <input type="button" value="Import"/>

Figure 3-11: Document Import Button

3. Click **Choose File**. Locate the document you wish to include, click **Open**. The upload begins. The upload process is complete when the imported document is highlighted green.
  4. Click **Import**.
  5. If you uploaded a language-specific document in step 2, repeat step 2 for all other languages for that document type by clicking **Import** under each language column.
- NOTE:** Each document type may have either a document for all languages or language-specific documents, but not both. The import buttons for the other category will disappear after a document has been uploaded. If you need to swap an all language document with a language-specific document (or the reverse), delete all existing documents for that document type.
6. Repeat the procedure for each document type until all documents have been uploaded for the selected voter type.
  7. When complete, either select another voter type and repeat the above instructions or return to section 3.7.2 “*Creating Document Types*” to complete creating document types for other voter types. When all voter types have all languages assigned you may move on to the next section.

### 3.7.4 Download Package Management

This section provides information for managing existing documents. The following topics are covered:

- 3.7.4.1 “*Editing Document Type Information*”
- 3.7.4.2 “*Reordering Documents in the Download Package*”
- 3.7.4.3 “*Replacing Documents*”
- 3.7.4.4 “*Localizing Voter Type Descriptions*”

### 3.7.4.1 Editing Document Type Information

Document type information (document type, document file name, and included in download) can be edited as long as no voters are currently logged in under that voter type.

To edit document type information:

1. Expand the **Application Settings** menu, select **Download Administration**.
2. From the Voter Type ribbon, select a voter type.
3. Locate the document type you wish to edit. To the right of the Document Type name, click the pen and paper icon.  
The Edit window appears.

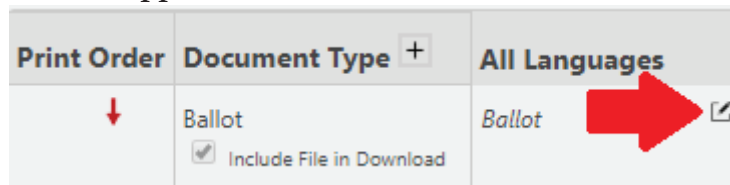


Figure 3-12: Document Type Edit Button

4. Change the settings or information.
5. Click **Save**.

### 3.7.4.2 Reordering Documents in the Download Package

The order of documents in the download package can be changed at any time.

To change the order of files:

1. Expand the **Application Settings** menu, select **Download Administration**.
2. From the Voter Type ribbon, select a voter type.
3. On the left side of the download package table, click the red arrows to reorder the position of the files. The top-most file is the first file in the package.  
The order saves automatically each time a document is reordered.

### 3.7.4.3 Replacing Documents

Documents in download packages can be edited as long as no voters are currently logged in under that voter type.

To replace files:

1. Expand the **Application Settings** menu, select **Download Administration**.

2. From the Voter Type ribbon, select a voter type.
3. Locate the document you'd like to replace from the download package table. If the replacement document is of the same language category skip to step 4. If the replacement document is of a different category (all languages or language-specific), delete all uploaded documents of that document type then move on to step 4.
4. Under the desired language column, click **Import**. The Import Document window appears.
5. Click **Choose File**.
6. Locate the document you wish to upload, click **Open**. The upload begins. The upload process is complete when the imported document is highlighted green.
7. Click **Import**.
8. If you uploaded a language-specific document, repeat these steps for all other languages for that document type by clicking **Import** under each language column for that document type.

#### 3.7.4.4 Localizing Voter Type Descriptions

By default, when voter types are created the default name and description are applied to all languages. If you need translations for voter type names and descriptions to appear on the login screen follow the instructions below.

**NOTE:** These instructions must be performed while voting is stopped and before any ballots have been cast.

To enter localized voter type descriptions:

1. Expand the **Application Settings** menu, select **Download Administration**.
2. From the voter type ribbon, select the voter type you wish to edit.
3. Click **Edit Voter Type**. The Edit Voter Type window appears.
4. From the Language drop-down, select a language.
5. Edit the values for Localized Name and Description with your translated content.
6. Click **Save**.
7. Repeat the steps 3 to 6 for each language requiring localization.
8. Then repeat the procedure for every voter type requiring localization.

## 3.7.5 Ballot Content Settings

The ballot contains a header with the ballot title, a sub-header containing the precinct name and ballot ID, the QR code, and a human-readable list of the selections which reflect the choices made by the voter. This document is always included in the ballot package. The Download Package Content Settings allow the administrator to change the appearance of the header.

### 3.7.5.1 Sub-Header and PDF Generation Settings

The Sub-header Settings enable the election official to control the position of the precinct name, Precinct / Portion Name, and the ballot type ID on the ballot. PDF generation settings changes the output of automatically generated PDFs.

To change the sub-header and PDF generation settings:

1. Expand **Application Settings**, select **Download Administration**.
2. Click **Ballot Content Settings**.
3. Under Sub-header Settings, from the Sub-header text position pull-down, select either:
  - Precinct name on the left and ballot ID on the right
  - Precinct name on the right and ballot ID on the left
4. From the Precinct / Portion Name pull-down, select from the following:
  - Display Nothing
  - Use Precinct Name
  - Use Precinct Portion Name
5. From the Ballot Type Identifier pull-down, select from the following:
  - Display Nothing
  - Use Ballot Type Name
  - Use Ballot Type Localized Name
  - Use Ballot Type ID
6. Under the PDF generation settings, configure settings for:
  - Include blank back page
  - Show Party Name In Choice Information
7. Click **Update** to apply changes.

## 3.7.6 Download Administration Advanced Settings

The download administration advanced settings control the appearance of the ballot package. These parameters are initially set by the loaded election files. DVS recommends only editing these parameters if you are experiencing errors on downloaded ballot packages.

### Page Settings

- **Size:** Page size in dots. Measurements are separated by a comma. The first number is width, the second is height.
- **Left Margin:** The margin between the left edge of the page and content, measured in dots.
- **Top Margin:** The margin between the top edge of the page and content, measured in dots.
- **Right Margin:** The margin between the top edge of the page and content, measured in dots.
- **Bottom Margin:** The margin between the top edge of the page and content, measured in dots.

### Layout Settings

- **Header Height:** The height of the header, measured in dots.
- **Sub Header Height:** The height of the sub-header, measured in dots.
- **Horizontal Gap:** The horizontal distance between contest columns, measured in dots.
- **Vertical Gap:** The vertical distance between page elements such as headers, QR codes and contests, measured in dots.
- **Distance Between Contests:** The vertical distance between each contest within contest columns, measured in dots.

### Text Settings

- **Default Font Size:** The ideal text size, measured in points.  
**NOTE:** Due to the dynamic nature of ballots and contests, ICR automatically optimizes the text size to fit all text on the page. Text may not be displayed as the default text size.
- **Minimum Font Size:** The minimum allowed font size, measured in points.
- **Text Indentation:** The distance between the left contest column and
- **Sub-header font size:** The default font size for the sub-header, measured in points.

- **Sub-header font style:** Selects the default text style. (E.g. Bold, Italic, Underline, etc.)

To edit download administration advanced settings:

1. Expand **Application Settings**, select **Download Administration**.
2. Click **Advanced Settings**.
3. Edit the page, layout, or text settings.
4. Click **Update**.

### 3.8 Security Question Administration

The Security Question Administration page allows the election official to create and configure security questions available to a voter during registration. These questions can be defined for supported languages and does not have to be the same for all languages. The security question and answer can be used later by help desk staff to identify the voter if they call for assistance. This option is only used with Voting with Registration.

To Manage Security Questions:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and select the **Security Question Administration** tab.

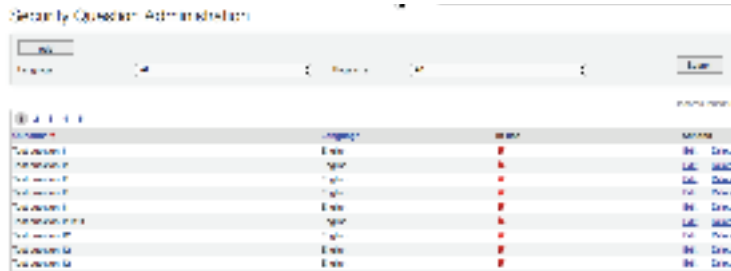


Figure 3-13: Security Question Administration

2. To create a new question, click **Add**, select a language and enter the question you wish to create and click **Save**.



Figure 3-14: Adding a Security Question

3. To delete, edit, or change the language category of a question, under the Actions column click **Edit** or **Delete**. Make your desired changes.



**NOTE:** An "x" means that the question has not yet been selected by a registering voter. Once selected, the question cannot be modified or deleted.

## 3.9 Localization Administration

The Localization Administration Page enables the Election Official to export, import, and edit textual resources displayed on the voting and registration pages.

**NOTE:** Some of the resources use parameters, for example, “To vote for {0} press {1}”. Ensure you do not remove the parameters. If parameters are removed, the resource will not behave as intended.

Resources are not able to be manually added, or deleted using the Localization Administration feature.

For a complete list of keys available to administrators to customize email templates see appendix A “*List of Email Template Keys*”.

### 3.9.1 Edit Resources

The Edit Resources tab enables the election official to search for specific resources, and edit the resource value of resources within the application. Editing the resource value alters the text that appears to the voter on the voting pages.

Other elements of the description (Type, Key, Language) are used to provide resource search filters, and as a quick reference to inform the election official where the resource is used. These elements are not displayed on the voting pages.

To Edit Resources:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then select **Localization Administration**.
2. Click the **Edit Resources** tab.  
The Edit Resources panel appears.

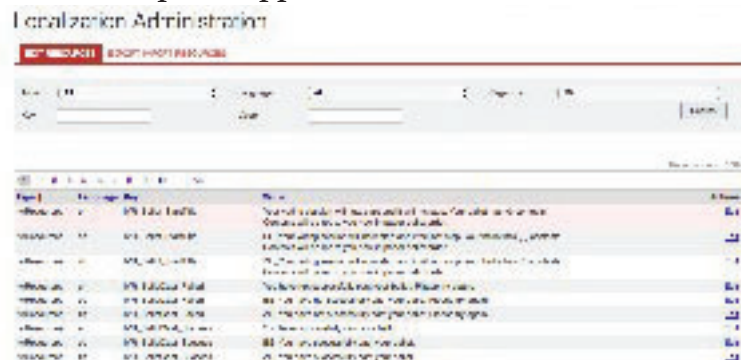


Figure 3-15: Localization Administration - Edit Resources

3. To find the resource you wish to edit, scroll through the list. Alternatively, you can enter search criteria and click **Search**.

- Once you have located the resource, click **Edit**.  
The Resources Details window appears.

The screenshot shows a window titled "Resource Details" with the following fields:

- Type: IvrResources
- Language: en
- Key: IVR\_Ballot\_StartTitle
- Value: Your voting session will now start and it will not stop. Your ballot has [?] contests. Contests will be red to you now in paper ballot order.

Buttons at the bottom: Save, Close

Figure 3-16: Resource Details

- Enter your desired edits into Description and/or the Resource Value.
- Click **Save**, or click **Close** to exit the Resource Details without saving.

### 3.9.2 Export-Import Resources

The Export-Import Localization tab enables the Election Official to export current localization resources from the application, and import resources into the application to display on the voting pages.

To export current settings as a localization file:

- Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then select **Localization Administration**.
- Click the **Export-Import Resources** tab.
- In the Export-Import Resources panel, select the parameters required from the drop-down.
  - For type, from the drop-down select the areas of the product for which the localization export is required.
  - For required language, from the drop-down select **All** or the specific language of the required export.
- Once the parameters are defined, click **Download Localizations**.  
A notification appears indicating the export was successful.

To Import a Localization File:

- Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then select **Localization Administration**.

- Click the **Export-Import Resources** tab.

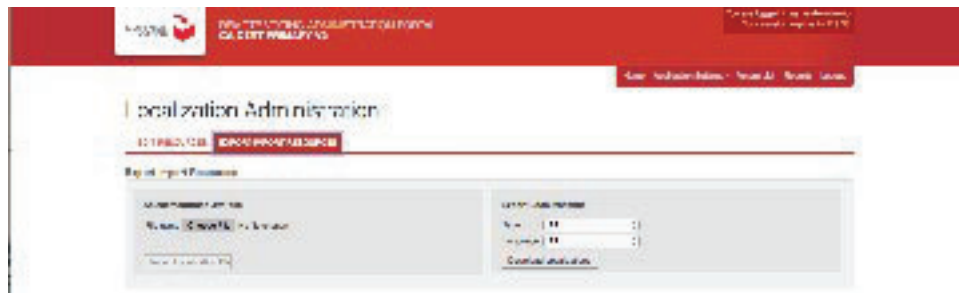


Figure 3-17: Localization Administration - Export-Import Resources

- In the Import Localization panel, click **Choose File**.

**NOTE:** Imported files must be in Excel (.xls) format (2007 or greater). When the new file is imported, all old resources are overwritten.

- Click **Import Resources**.

A notification appears indicating the import was successful.

## 3.10 User Management

The User Management page enables the Election Official to add, delete and edit the roles, privileges, user names, and passwords of Administrator Panel users.

### 3.10.1 User Management

The User Management Tab allows the Election Official to edit the first, last and user name for a user. The ability to specify user access privileges by setting user account passwords and roles is also provided.

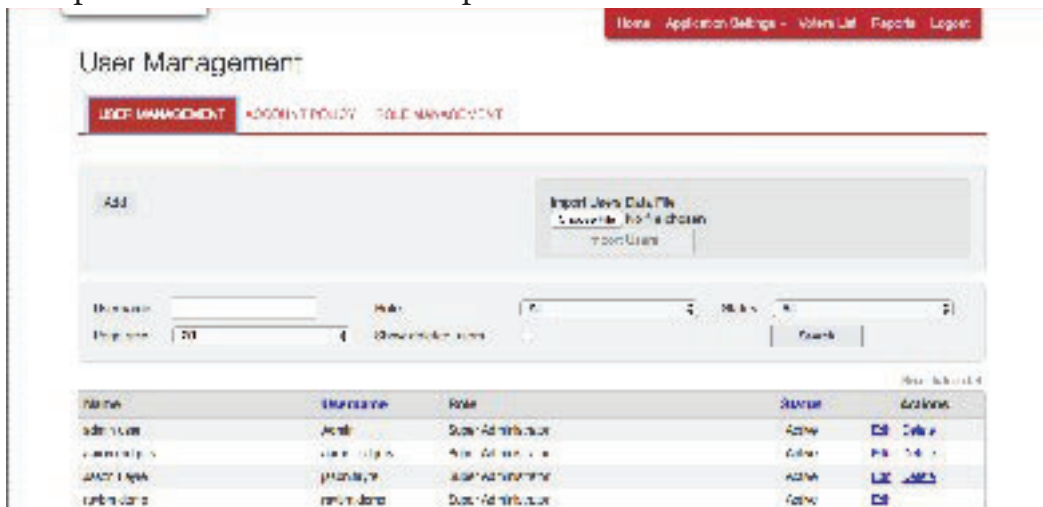


Figure 3-18: User Management

To Add a User:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then click **User Management**. The User Management screen appears.
2. To add a user, click **Add**. The Application User window appears.

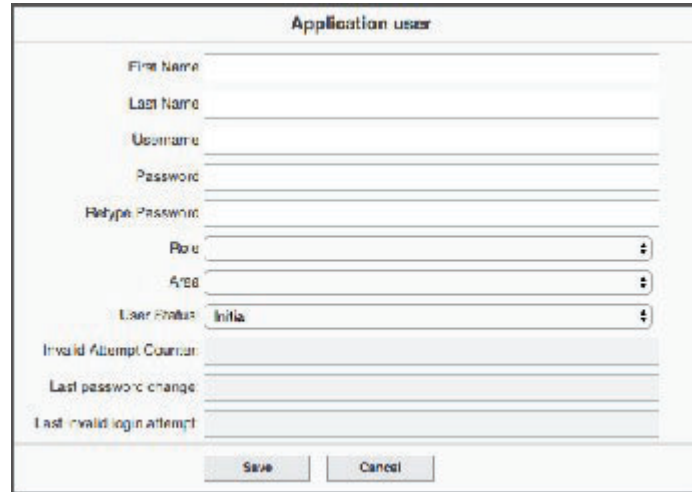
The image shows a web form titled "Application user". It contains several input fields: "First Name", "Last Name", "Username", "Password", and "Retype Password". Below these are three dropdown menus for "Role", "Area", and "User Status", with "Initial" selected in the "User Status" dropdown. At the bottom of the form are three more fields: "Invalid Attempt Count", "Last password change", and "Last invalid login attempt". At the very bottom of the form are two buttons: "Save" and "Cancel".

Figure 3-19: Adding a User

3. Enter the user information, and click **Save**.
4. If configuring a large number of users, click **Import Users** to import existing user records and configure user data.

To Edit an Existing User:

1. Search for the user by entering your search criteria such as Username, Role, and Status and click **Search**.  
Alternatively, the list of users can be scrolled through.
2. Once the user has been located, click **Edit**, make the desired changes, and then click **Save**.

To Delete an Existing User:

1. Search for the user by entering search criteria and click **Search**.  
Alternatively, the list of users can be scrolled through.
2. Once the user has been located, click **Delete**.

### 3.10.2 Configure User Account Policy

The Account Policy tab enables the Election Official to set parameters regarding application security policy items. Security policy items include;

- **Max Password Age:** the expiration of passwords. Maximum password age in days. '0' setting results in password never expiring. Max value 999.

- **Lockout Threshold:** the number of failed logon attempts that results in a user account being locked out. '0' setting results in the account never being locked out. Max value is 99.
- **Lockout Duration:** the number of minutes a locked-out account remains locked out before automatically becoming unlocked. '0' setting results in no lockout time. Max value 99999.
- **Lockout Reset Timeout:** after being locked out, the number of minutes that must elapse before the failed logon attempt counter is reset to 0.

To Configure User Account Policy:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then click **User Management**. The User Management window appears.
2. Click the **Account Policy** tab. The Account Policy panel appears.

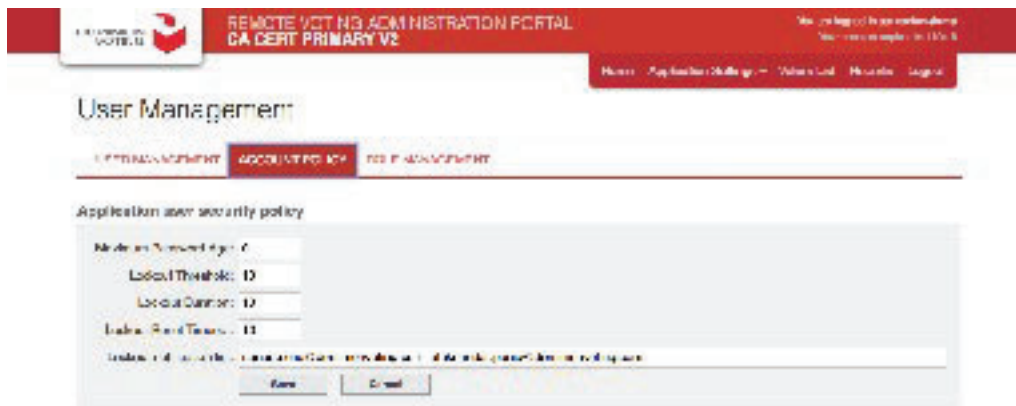


Figure 3-20: User Management - Account Policy

3. Enter desired settings by editing fields corresponding to specific security policy items.
4. Click **Save** to save the new settings, or **Cancel** to leave the application without applying changes.

### 3.10.3 Edit Role Management

The Role Management tab allows the Election Official to select which actions specific roles are authorized to perform.

To Configure Roles:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then click **User Management**. The User Management window appears.

2. Click the **Role Management** tab.  
The Role Management panel appears.



Figure 3-21: User Management - Role Management

3. Under Description, select the authorized actions for each of the corresponding roles listed.
4. Click **Save** to save the new settings, or **Cancel** to leave the application without applying changes.

### 3.11 Customization

The Customization page enables the Election Official to customize the logo and color scheme of the application voting and registration interface. Web developers can paste custom CSS code into the “Generated CSS code” window for additional interface customization.

To Add a New Logo:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then click **Customization**. The Customization screen appears.

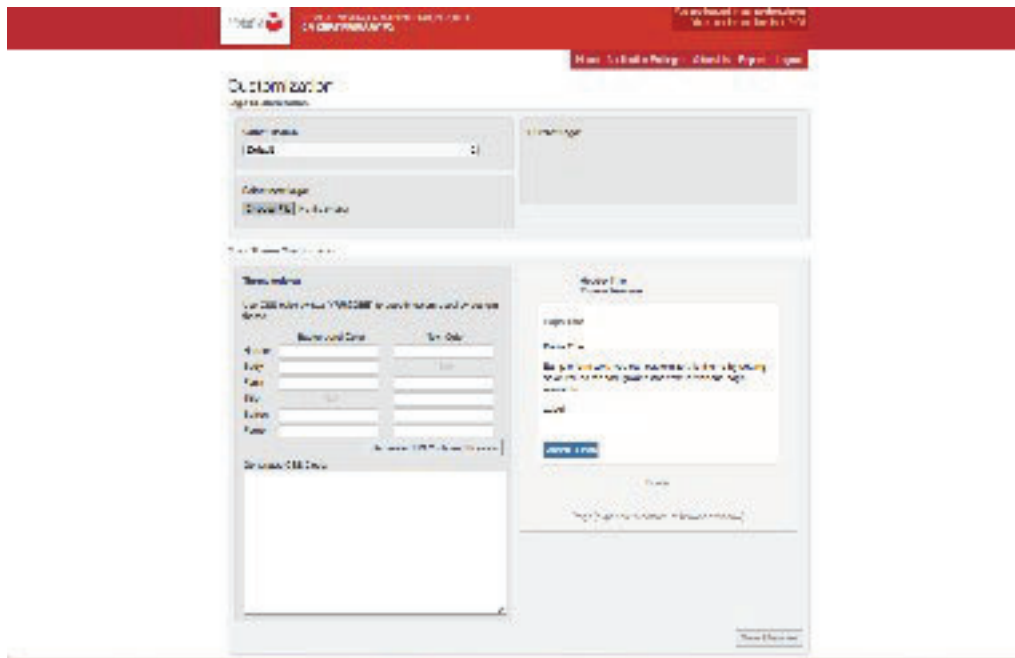


Figure 3-22: Customization

2. Under Logo Customization, click **Browse** to navigate to your image.
3. Select an image in a web-friendly format such as PNG, JPEG, or GIF.  
**NOTE:** The recommended image size is 180x120 pixels. Once an image is selected, oversized images are scaled down to the required size.
4. Click **Save Changes**.  
A notification appears indicating the customization settings were saved.

To Customize the Color Scheme:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then click **Customization**. The Customization window appears.
2. Under Text Color and/or Background Color for the corresponding element, enter CSS color syntax.
3. To preview your changes in the window on the right, click **Generate CSS Code and Preview**.
4. Click **Save Changes**.  
A notification appears indicating the customization settings were saved.

## 3.12 Voters List

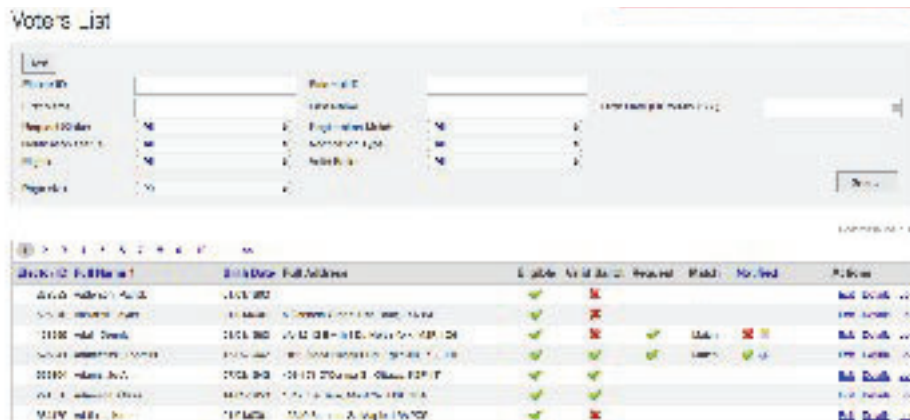


Figure 3-23: Voters List

The Voters List page displays the list of voters in the system. This list can be filtered by the following search criteria;

- **Election ID:** Unique ID of the voter
- **External ID:** Unique ID of the voter, as assigned externally
- **First Name:** Voter's first name
- **Last Name:** Voter's last name
- **Birth Date:** Date of voter's birth
- **Request Status:** Voter's status, set to Pending, Accepted or Rejected. If searching for voters with no status selection will be Unregistered.
- **Notification Status:** Whether or not the voter has been provided PIN information
- **Notification Type:** Mode by which PIN information is to be made available to the voter
- **Eligibility:** Status of a voter which may exclude them from eligibility to vote at election time
- **Valid Ballot:** Whether voter's record includes sufficient information for the voter to be associated to a valid ballot

Use the page size drop-down to control the number of rows that appear on a page.

This page also enables the Election Official to edit voter details, accept and reject a voter request, re-issue a voter PIN, and view the actions of a voter.

The Voters List contains the following information:

- **Elector ID:** Unique ID of the voter
- **Full Name:** Voter's first and last name
- **Birth Date:** Voter's date of birth



- **Full Address:** Voter's address
- **Valid Ballot:** Indicates whether the voter has a valid ballot (based on voter record information)
- **Request:** Indicates whether a voting request is Pending, Accepted, or Rejected. If the column is empty, no request has been submitted.
- **Notified:** Indicates if the voter has been notified, and the type of notification method used.

### 3.12.1 Change a Voter's Request Status

Electors registering before voting must have their request approved. Approval can be performed by an automated system or by Help Desk staff. If the automated system cannot approve a request based on the information provided, the request goes into the Pending queue and must be assessed and approved or rejected by Help Desk staff.

1. Once logged in to the Administration Panel, click **Voters List**.  
The Voters List screen appears.
2. Use the available filters to search for the voter whose request status you wish to change.
3. Once you have located the voter, click **Edit** or **Details** the Actions column.
4. To change the request status of a voter to accepted, click **Accept**.  
To change it to rejected, click **Reject**.
5. Click **Save**, and then **Close**.  
A notification message indicating successful completion of the operation is displayed.

### 3.12.2 Re-issue a Voter PIN

If an voter loses their PIN, Help Desk staff may re-issue a new PIN.

**NOTE:** The delivery method for the new PIN can vary depending on the original method chosen and jurisdictional preference.

1. Once logged in to the Administration Panel, click **Voters List**.  
The Voters Listen screen appears.
2. Use the available filters to search for the voter to whom you wish to reissue a PIN.
3. Once you have located the voter, click **Edit** or **Details** in the Actions column.
4. Click **Re-issue PIN**.

5. Click **Save**, and then **Close**.  
A notification message indicating successful completion of the operation is displayed.

### 3.12.3 View Voter Details

The Actions column in the Voters List enable the Administrator to view non-editable voter details.

1. Once logged in to the Administration Panel, click on **Voters List**.  
The Voters List screen appears.
2. Use the available filters to search for the voter whose details you wish to view.
3. Once you have located the voter, click **Details** in the Actions column.  
Voter Details and Voter Request information appears.
4. Click **Close** when finished.

### 3.12.4 View Voter Actions Log

The Voter Activity Log provides a per-voter description of events that have been carried out by the voter. Information such as successful and unsuccessful login attempts and completed registration are captured in the Activity Log. This log provides useful information about the voter's use of the system in order for help desk staff to assist the voter.

1. Once logged in to the Administration Panel, click **Voters List**.  
The Voters List screen appears.
2. Use the available filters to search for the voter whose actions you wish to view.
3. Once you have located the voter, click **Log in** the Actions column.  
The Voter Activity Log appears.

Time Stamp	Accessed From	Description
10/30/2017 14:28	10.100.20.85	Voter has successfully logged on for registration.
10/30/2017 14:28	10.100.20.85	Voter has successfully finished registration.
10/30/2017 14:28	10.100.20.85	Voter has successfully logged in. Ballot is successfully received.
10/30/2017 14:28	10.100.20.85	Voter has successfully logged in.
10/30/2017 14:29	10.100.20.85	Voter has successfully processed the ballot.

Figure 3-24: Voter Activity Log

4. Click **Close** when finished.

### 3.12.5 Edit Voter Details

The Actions column on the Voters List page enables the Administrator to display the Voter Details interface, and to edit details such as Name, Birth Date, Address, Electoral District, Electoral Group, Email, Phone Number, and Notification type.

**NOTE:** Jurisdictions integrating with Voter List Providers should enter amendments to the Voters List directly into the provider's voter management system. Changes saved using the Administration Portal will not be automatically exported to the provider's system.

1. Once logged in to the Administration Portal, click **Voters List**.  
The Voters List screen appears.
2. Use the available filters to search for the voter you wish to edit.
3. Once you have located the voter, click **Edit** in the Actions column.  
The Voter Details window appears.

Voter Details		Voter Request	
Electoral ID	256059	Registered	n/a
External ID	256053	Request Status	
First Name	Paula	Birth Year	
Middle Name		Notified	
Last Name	Andrew	Notification Type	
Birth Date (DDMM/YYYY)	01/01/1980	Email	
Address		Phone	
City		Secret Question	
Province		Secret Answer	
Postal Code		PIN Generated	
Migrate	<input checked="" type="checkbox"/>	PIN	
Electoral District	11400 (3001)		
Electoral Group	Republican		
Voted			
	n/a		

Figure 3-25: Voter Details Screen

4. Edit the desired details.
5. Click **Save**, and then **Close**.  
A notification message indicating successful completion of the operation is displayed.

# CHAPTER 4: VOTING PROCEDURES

## 4.1 Start Voting

The Tabulator Settings interface enables the Election Official to configure automatic start and stop settings for the ImageCast® Remote voting session.

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then click **System Administration**. The System Administration page appears.
2. Click the **Tabulators Management** tab.

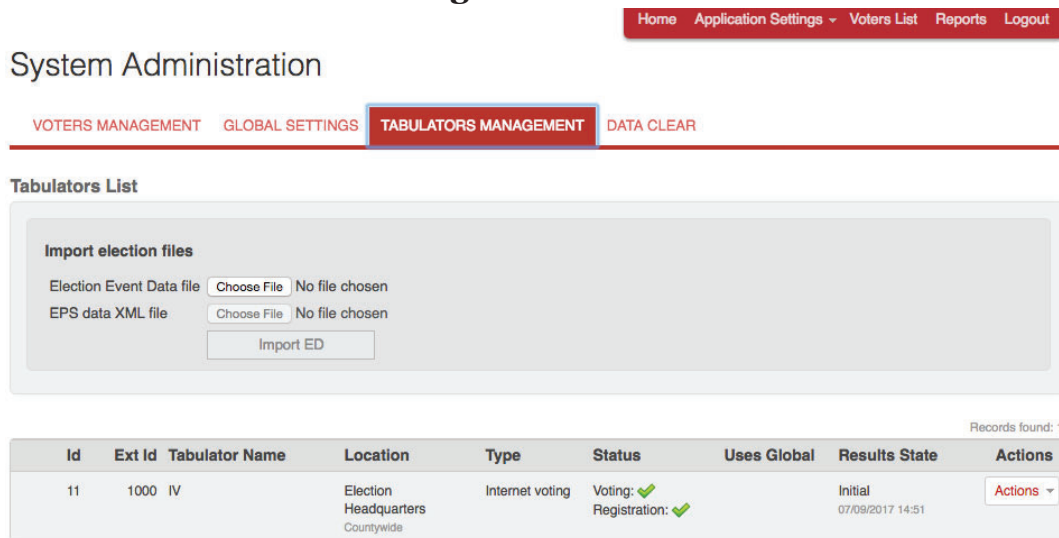


Figure 4-1: System Administration - Tabulators Management

3. In the IV Tabulator row, click **Actions**, and within the displayed dialog, select **Edit**. The Tabulator Settings window appears.

**Tabulator Settings**  
**ICR (Id: 1 | External Id: 1)**

**Automatic Start & Stop Settings**

From

To

Manually

Voting

01/09/2019 13:36

Stop Now

**Ballot rules**

	Block	Warn	Allow
Blank Contests	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Blank Ballot	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
<b>FPTP</b>			
Overvotes	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undervotes	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

**Show Captcha Options**

- On registration login
- On getting PIN page
- On voting login page
- On voting verification page

**Display options for voters**

- Show sample voting
- Show contest stripe
- Show voting verification
- Voting target on right side of choice

- Ask For Date of Birth
- Ask For Year of Birth
- Ask For PIN
- Ask For Oath
- Include Voter Signature
- Ask for First Name
- Ask for Last Name
- Ask for SSN
- Ask for Driver's License No
- Info page timeout (in s)

Save

Close

Figure 4-2: Tabulator Settings

4. Under Automatic Start & Stop Settings, select the following:
  - Date and time Registration begins and ends (only available during 2-step registration)
  - Date and time Voting begins and ends
5. To manually stop Voting or Registration, select **Stop Now** under Manually.
6. Click **Save** to save current settings, or **Close** to leave the interface with no saved changes.  
A notification message indicating successful completion of the operation is displayed.

## 4.2 Languages

The Languages functionality in the Administration Portal consists of two tools, each with a separate interface in the Global Settings.

## 4.2.1 Language Management

These settings enable the Election Official to determine;

- which of the languages loaded via the election file will be available to voters in the voting session
- the order in which the selected languages will be displayed.

## 4.2.2 Voting Interface Language Options

These settings enable the Election Official to select;

- In the client voting application, whether or not the languages selection landing page will displayed
  - In the client voting application, whether voters will be presented with the ability to change languages.
1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then select **System Administration**. The System Administration screen appears.

## 2. Click the **Global Settings** tab.

VOTERS MANAGEMENT **GLOBAL SETTINGS** TABULATORS MANAGEMENT DATA CLEAR

### Global Settings

**Display Options in Admin Portal**

Default page size on tables: 20

Date Format: mm/dd/yyyy HH:mm (10/23/2017 13:45)

Phone Number Format: [(###) ###-####]

There is at least one registered voter.

**DataFix Integration Settings**

Use DataFix Strike-Off Service:

Use DataFix Import Format:

Use Ward in Precinct External Id:

Municipality Id: 0013

The base DataFix url: \_\_\_\_\_

The NRC length: 8

**Results Storing Options**

Save selection results to DB:

Save ballot as PDF on server:

Download PDF ballot to voter's device:

**Disconnected Voting**

Disconnected Mode (IV client is disconnected from the server):

**Languages Management**

Language	Enabled	Display Order
English	<input checked="" type="checkbox"/>	↓
Spanish	<input type="checkbox"/>	↑

**Voting Interface Language Options**

Language selection on landing page:

Language selection during session:

**Election Options**

Multicycle election support:

Choose Ballot Group on voter login page:

Show instructional contests:

Time Zone: (UTC-05:00) Eastern Time (US & Canada)

Contest Order: Global

**Voting Interface Options**

Straight Party Deselection Warning:

Straight Party Deselection Action: Deselect only party candidates

Straight Party Mode Choice Action: Deselect others

Straight Party Selection Mismatch Action: Silent system deselection

There is at least one voter record in the database.

**Voter ID Options**

Should generate Voter IDs (on import):

Voter ID settings:

Voter ID Minimum Length: 6

Voter ID Maximum Length: 8

Voter ID Format: Numbers only

There is at least one notified voter.

**PIN Options**

PIN Minimum Length: 6

PIN Maximum Length: 6

PIN Format: Numbers only

**Provisional options**

Enable Provisional Voting:

All voters are challenged:

Auto-generate Provisional code:

Provisional voting code length: 10

Provisional Code Format: Numbers and letters (capital on)

**Registration Options**

Registration enable:

Automatically Accept Voter Request:

Available Notification Types:  Postal  
 Email  
 Phone

Default Notification Type: Email

Receipt Options

There is at least one notified voter.

Request Receipt Length: 23

Request Receipt Format: Letters (small only)

**Voting Receipt Options**

Voting Receipt Length: 15

Voting Receipt Format: Letters (small only)

**Voting Interface Options**

Show "Login as a new voter" button:

Update

Figure 4-3: System Administration - Global Settings

## 3. Under Language Management;

- In the Enabled column, select a checkbox next to a language to enable that languages for voting sessions.

- In the Display Order column, by selecting up and down arrows indicate in which order the languages will be displayed in the voting interface.
4. Under Voting Interface Language Options select;
    - Selecting or clearing the **Language selection on landing page** checkbox enables or disables the language selection interface on the landing page.
    - Selecting or clearing the **Language selection during session** checkbox enables or disables the language selection interface during voting sessions.
  5. Click **Update** to save changes.

A notification appears indicating the operation was successful.

## 4.3 Accessibility

The ImageCast® Remote product addresses requirements of accessible voters. Voters are enabled to securely receive and mark their ballot privately and independently using their own personal computers or mobile devices, combined with voters' own assistive technologies. Ballots are designed for easy navigation within each contest being voted, indicating clearly how to mark the ballot, as well as the status including feedback regarding the remaining selections eligible to be made in the contest. In addition voters are provided with navigation aids enabling them to easily move from one ballot contest to another. At any time during voting the voter is able to change their ballot selections, and free to navigate between individual contests.

The ImageCast® Remote solution uses a “Human Interface Challenge” (CAPTCHA) at the initial voter access screens. In addition to the standard challenge, the Dominion solution provides a fully accessible version that enables users to request a replacement challenge if the original is too difficult or to request an audio version that will read the challenge to the user. Dominion Voting's implementation of CAPTCHA is fully compatible with W3C standards.

The ImageCast® Remote application has been built with the needs of accessible voters as a focus. This includes voters with visual impairments, hearing challenges, and other physical limitations. Accessibility functionality has been built directly into the Dominion Voting solution, created using standardized HTML and JavaScript to meet or exceed WCAG 2.0 Level AA standards and to provide compatibility with market leading browser based solutions such as screen readers.

Dominion Systems Logic and Accuracy testing includes testing of accessibility features, ensuring the voting solution will perform as expected and as defined by the Election Officials.



## 4.3.1 Accessibility Testing

### 4.3.1.1 Internal Testing

The ImageCast<sup>®</sup> Remote product is tested to ensure compliance with accessibility standards. Testing is carried out internally by Quality Assurance groups, using a variety of methods and tools, including;

1. **Automated Testing:** using web standards diagnostic checks. Automated testing is carried out regularly, using;
  - WebAIM's WAVE evaluation tool <http://wave.webaim.org/>
  - AChecker <https://achecker.ca/checker/index.php>
  - PDF Accessibility Checker (PAC) <http://www.access-for-all.ch/en/>
2. **Manual Testing:** Manual testing is done to extend the automated testing test bed against an evolving set of manual tests based on the frequency and severity of violations. Manual ImageCast<sup>®</sup> Remote accessibility testing includes the following;
  - Voter initiating voting session by registering using personal data as well as election commission provided credentials. This may include a variety of data including date of birth, and the voter's Voter ID in different combination.
  - Selection of session preferences such as text size, interface contrast level, and language from the list of available languages.
  - Using the registration and then voting interface testing is carried out to confirm optimized navigation of the ballot before and after making selections in order to immediately review choices selected.
  - Once selections of all eligible candidates have been completed the tester is enabled to navigate through and make selections in subsequent contests. Prior to downloading the ballot the voter is enabled to return to any contest to modify selections.
  - In the Review interface the tester verifies the selections made.
  - The voter downloads the ballot in PDF format. The voter is provided with instructions describing printing and preparing the ballot such as signatures required to be included with the ballot to be provided to the election official.
3. **Assistive Technology Testing:** focuses on testing solely in a particular set of assistive technologies, such as screen readers such as JAWS, NVDA, VoiceOver and ChromeVox, including specific versions of those technologies.
4. **Audit:** auditing for WCAG 2.0 Level AA conformance.

### **4.3.1.2 External Testing**

In addition to internal Accessibility testing, preparation of the ImageCast® Remote product also included the participation of external groups such as the Canadian federal institute for the blind. Partnering with members from the accessibility community has enabled Dominion to continuously optimize the ImageCast® Remote solution, resulting in a superior product.

### **4.3.2 Adjustable Contrast**

The default visual display of the ImageCast® Remote voter interface has been designed with a luminosity contrast ratio between the foreground text and background color of at least 4.5:1. The product provides controls enabling the voter to override the default with a contrast setting which will result in a display contrast of 10:1. The high contrast mode ensures that there is an option for presentation of the interface for voters with color vision deficiencies or whose vision requires high contrast.

### **4.3.3 Adjustable Text Sizing**

The ImageCast® Remote Text Sizing functionality has been designed to minimize perceptual difficulties for the voter.

The ICR interface enables all information to be displayed in at least two font sizes: (3.0-4.0 mm cap height, and 6.3-9.0 cap height). The Interface controls enable the voter to adjust font size throughout the voting session while preserving the current votes.

### **4.3.4 Using Screen Readers**

Screen readers are assistive technologies that allow blind or visually impaired people to read the text displayed on the screen. Screen readers parse through the HTML of web pages reading content, responding to commands to navigate around the page, and carry out actions such as clicking on a link.

Two screen readers that are the most popular among North American users are JAWS and NVDA.

Both JAWS and NVDA can be used in combination with the RAVBM product to enable voters to authenticate, select choices and complete voting. Both screen readers support different modes used to enable the voter to navigate and interact with the ballot being presented; in JAWS these are Virtual Cursor mode and Forms mode, and in NVDA, Browse Mode and Focus Mode. Via these modes screen readers support the use of different arrow and alphanumeric keys to enable navigation, reading and interacting with content, and the ability to input data into forms and fields. Voters are, for example, protected from inadvertently changing form field values or activating controls on the page while intending to simply

review content. On the other hand if required to change mode in order to input information into a form or input field, screen readers provide key commands enabling the voter to make this switch.

## 4.4 Stop Voting

The Tabulator Management functionality enables registration and voting start and stop times to be set, or manually controlled. By configuring the From and To fields within the Tabulators Settings (refer to 3.5.2 “*Configure Tabulator Parameters*” for more information) the Election Official is able to set date and time settings to determine when Registration and Voting begins and ends.

To manually stop registration or voting:

1. Once logged in to the Administration Panel, expand the Application Settings drop-down, and then select System Administration.
2. Click the Tabulators Management tab.
3. In the IV Tabulator row, click **Actions**, then **Edit** to open the Tabulator Settings.

Figure 4-4: Tabulator Settings

4. Click **Stop Now** for beside registration or voting.
5. Click **Save**.

**NOTE:** If voting is stopped while voters are using the system, they will have a 15 minute grace period to complete their voting session.

## 4.5 Reporting

ImageCast® Remote supports the creation of the following reports:

- **Multiple IP Address / Same phone number Report:** Exports a list of all voters that share a common IP address or phone number used for voting.
- **Multiple E-mails Report:** Exports a list of all voters that share a common e-mail address.
- **Voters List Report:** This exports a list of voters at the time of the election.
- **Zero/Results Report:** This is typically run following the Re-Zero Results function and indicates that no voters have registered and that no ballots have been processed.
- **Sent E-mail Reports:** Exports a list of voters who have been contacted via e-mail, identifying successful and failed attempts. This allows election officials to monitor for any issues.

**NOTE:** Reports can be generated at any time, except for the Zero/Results Report which can only be generated before voting has begun, or after voting has stopped.

Reports can be exported in Word, Excel, or PDF formats.

To generate a report perform the following:

1. Once logged in to the Administration Panel click **Reports**.  
The Reports interface appears.
2. From the Select Report pull down, select the report you wish to generate.
3. If exporting the Multiple E-mail or Multiple IP Address / Same phone reports, enter a minimum duplicate value from the pull-down that appears.
4. From the Select Report Format pull down, select the file format you wish the report to be generated in.
5. Click **Generate**.  
The report is generated in the requested format and the download begins.

## 4.6 Audit Logs

The ImageCast® Remote Audit Log option is located under the Application Settings Menu.

The ImageCast® Remote Audit Log records all administrative accesses and what actions were taken by individual administrative users. Each audit entry is date and time stamped, and displays the ID of the administrative user, the action taken as well as a description of the individual action. Clicking the Date Time label or the User label will change the sort order of the audit log display. The audit log is a permanent record of all system actions and cannot be deleted or reset by the

election officials and only users with proper authorization levels can generate and view audit reports.

## **CHAPTER 5: MANUAL RECOUNT PROCEDURE**

### **5.1 Recount Procedures**

Using the Dominion Voting ImageCast® Remote product manual re-counts can be conducted.

#### **5.1.1 Ballot Cast PDF Verification via Hand Count**

Ballots printed from ImageCast® Remote generated PDF ballots are counted for verification. The jurisdiction would appoint a committee to tally all ballots through means of a hand count.

### **5.2 1% Manual Recount Procedures**

In the case of a difference between the electronic tabulated record and the adjudicated AuditMark ballot images, the original voter-marked ballots can be examined.

### **5.3 Request for a Manual Recount**

A request for a Manual Recount and the conduct of the Manual Recount shall be made in accordance with the California Elections Code and California Code of Regulations Chapter 8.1, including the jurisdiction's Recount Procedures that are on file with the Secretary of State.

# CHAPTER 6: SECURITY

## 6.1 Security Controls

The Dominion Voting ImageCast<sup>®</sup> Remote product provides a layered and comprehensive set of security controls for the online ballot delivery and marking process including pre-voting (election definition), ballot delivery and marking, and post-voting (reporting). Security controls include physical security mechanisms (secure data centers), access control (role based access control and user authentication with real-time audit records), data confidentiality (encryption of voter authentication data using NIST verified algorithms such as AES256, digital signatures and certificates using NIST verified algorithms such as RSA and SHA256). In addition, the online voting system has a time-controlled validity - the system is operational only when the jurisdiction decides it to be operational.

## 6.2 Data Center

The ImageCast<sup>®</sup> Remote product is hosted within the hard Dominion Voting Data Centre environment which undergoes continuous and rigorous penetration prevention testing, to ensure complete confidence in the security of the hosted voting solution and to prevent a compromise of the system integrity.

The system utilizes redundancy for deployment of application and database servers. Load balancers and real-time database synchronization maintains system protection, avoiding any risk of failure. In addition each server integrates RAID controllers with data mirroring. Dominion uses Cisco based firewalls. The system is deployed with two levels of firewalls providing configured filtering rules to allow use of only certain IP and TCP/UDP ports. All traffic is performed using SSL/HTTPS.

The system utilizes the Avast Enterprise Suite for anti-virus protection. This ISCA certified suite of applications provides;

- Antivirus protection
- Anti-spyware protection
- Anti-rootkit protection
- Resident protection
- 64-bit OS support
- Boot-time scan

## 6.3 Controlled Voter Access

Access to the ImageCast® Remote product is protected by the initial voter authentication web application, which interfaces with Voter Management Portal data available via a programmed interface with the jurisdiction's voter management system. The only publicly visible web page within the system is the actual voter login page (authentication page). Only after successful voter authentication does the system enable access to the voting interface.

## 6.4 Secured Channel

The ImageCast® Remote product utilizes the SSL protocol to provide a secure channel between voter's web browser and the servers managing the voter's personal data. The complete communication is digitally signed and encrypted, and at rest the voter's PIN is encrypted.

## 6.5 User Access

The ImageCast® Remote product provides means for role based permissions within the system. It is up to the jurisdiction to define permissions for each user role if the default set of permissions is not appropriate.

## 6.6 Audit Logs

The ImageCast® Remote product maintains an audit log at the system backend (server) side capturing the voting session start, and when the voter has authenticated and downloaded the ballot, including information such as IP address, session ID, and ballot ID.



## APPENDIX A: LIST OF EMAIL TEMPLATE KEYS

The following table includes the list of keys available to administrators to customize email templates.

**NOTE:** Keys are not case sensitive.

Key	Explanation	Example
#fullName#	The voter's full name. Format: [First name] + [Space] + [Last name].	Judy Ross
#reqReceipt#	ID# of the voter's request receipt. Only used in deployments with registration. (Can be controlled in global settings)	gpujdcvrzlgyf-dorjshyail
#ElectionTitle#	The name of the election. Set during election file creation.	Western States 5 2 RCV Watermark
#externalId#	Elector's external ID	765819
#VoterAddressLine1#	Elector's address line 1	30 Main St.
#VoterAddressLine2#	Elector's address line 2	Unit# 45
#VoterAddressLine3#	Elector's address line 3	Anytown, WA
#VoterAddressPostal-Code#	Elector's postal code	90210
#VoterAddressCity#	Elector's city	Anytown
#VoterAddressCountry#	Elector's country	USA
#VoterPrecinctPortionId#	Precinct portion external ID	902040
#VoterBallotGroupId#	Ballot group external ID	English_Public
#VoterFirstName#:	Elector's first name	Judy

Table A-1: List of Email Template Keys

Key	Explanation	Example
#VoterLastName#	Elector's last name	Ross
#votingApplicationURL#	Voting interface URL	https:// www.intvot- ing.com/Blue- Mountains2018 /_

Table A-1: List of Email Template Keys (Continued)

## **APPENDIX B: ACCEPTANCE TESTING**

### **B.1 Objectives**

Testing objectives are established, prioritized and measurable.

#### **B.1.1 Process and Reporting**

Definition of the testing process.

- How issues will be reported
- Who can assign issues
- How issues will be categorized

#### **B.1.2 Tracking Results**

Definition of methods to easily store, organize, and distribute result information to the appropriate resources, and to keep management informed on the status of testing.

#### **B.1.3 Test Environment**

Configuration of a test environment separate from development and production environments including separate web servers, database servers. Creation of an explicitly defined procedure for moving code to and from the test environment.

#### **B.1.4 Usability Testing**

Aspects of the application that impact the user's experience, such as:

- Navigation
- Affordability - which actions are available to the voter
- Consistent look and feel

#### **B.1.5 Unit Testing**

Verification of small portions of functionality, and subsets of unit testing such as range checking to ensure all fields that collect information from the user, can gracefully handle any value that is entered. Different combinations of databases and database drivers handle exceptions differently, often with unexpected results.

## **B.1.6 Verifying the HTML**

Requires strict conformance to the relevant version of the HTML specification supported. Two main aspects of verifying the validity of HTML include verification that all syntax is correct, and compatibility testing across different environments (browsers) at different screen resolutions, and on different operating systems.

## **B.1.7 Load Testing**

Simulation of concurrent users across different periods, accommodating for planned design changes that can make an impact on the performance and scalability of the application.

## REVISION HISTORY

<b>Rev.</b>	<b>Date</b>	<b>Author</b>	<b>Summary</b>
3	01-07-2020	lori.lake	Update: added RCV setting reference to EED User guide.
2	30-05-2019	blair.beauchesne	Updated section 1.2, 2.1, 2.1.3.
1	03-20-2019	blair.beauchesne	Branched to 5.10.

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