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Democracy Suite® RAVBM Use Procedures

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Please be advised that this document may make reference to the following DemocracySuite® functionalities:

- EMS Express Configuration
- Election Data Exchange Station (EDES)
- Recall Issues
- Mode 2 asymmetric cryptography
- Mode 3 asymmetric cryptography
- Modem and transmission functionality
- AIMS Data Translator
- WinEDS™ Importer
- ImageCast Listener
- EMS Results Transfer Manager
- ImageCast Evolution Dual Monitor functionality
- ImageCast Precinct
- ImageCast Precinct Audio
- ImageCast Precinct Ballot Marking Device (BMD)
- ImageCast Precinct BMD Audio
- Canon imageFORMULA DR-M160II
- Samsung Galaxy Note PRO 12.2
- Avalue 15.6 inch tablet
- Remote Voting server (RV)

These functionalities are not components of the current DemocracySuite® 5.2CA certification campaign, and should be disregarded throughout the document.

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Version	Date	Comment
Current Version (v. 7)	May 07, 2018 17:57	Lori Lake: Added screen reader information
v. 6	Nov 08, 2017 19:32	Brian Fitzsimmons: Revised content.
v. 5	Sep 20, 2017 20:35	Brian Fitzsimmons
v. 4	Sep 19, 2017 15:16	Brian Fitzsimmons
v. 3	Sep 13, 2017 17:08	Brian Fitzsimmons
v. 2	Sep 12, 2017 19:10	Brian Fitzsimmons: Page has been rescheduled from version 5.6IL to version Trunk.
v. 1	Sep 12, 2017 19:10	Brian Fitzsimmons

1 Introduction

1.1 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 the printed ballot to their clerk.

The ImageCast Remote product supports;

- WCAG 2.0 Level AA conformance
- Multiple languages
- Browser-based 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 voting system, including (but not limited to) PC with standard browsers, iPad tablets, smartphones, as well as any touchtone phone.
- The system will generate a pdf representation of the voter's choice summary ballot, which contains a human readable summary of the voter's selections, along with a 2D secure barcode.
- Ballots produced through this system and returned by the voter and can be scanned on any Dominion ImageCast tabulator eliminating the need to duplicate ballots from a separate remote accessible ballot delivery system.

For the ImageCast 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 elector submits a request for an electronic ballot to the governing electoral 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.

2 Product Configuration

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 centres, on multiple servers with proactive network security devices powered by industry leading technology.

Voters accessing the ImageCast Remote product are able to use a multitude of devices including personal computers with standard browsers including Internet Explorer, Firefox, Safari, and Chrome, as well as mobile devices including tablets and smartphones.

2.1 Acceptance Testing

2.1.1 Objectives

Testing objectives are established, prioritized and measurable.

2.1.2 Process and Reporting

Definition of the testing process.

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

2.1.3 Tracking Results

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

2.1.4 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.

2.1.5 Usability Testing

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

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

2.1.6 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.

2.1.7 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.

2.1.8 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.

2.2 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 voting 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.

2.2.1 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.

2.2.2 Retention of Test Materials

Reports generated by ImageCast 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.

2.2.3 ImageCast Remote Logic & Accuracy Testing Procedure

This section describes the Logic & Accuracy testing procedure for the ImageCast 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.

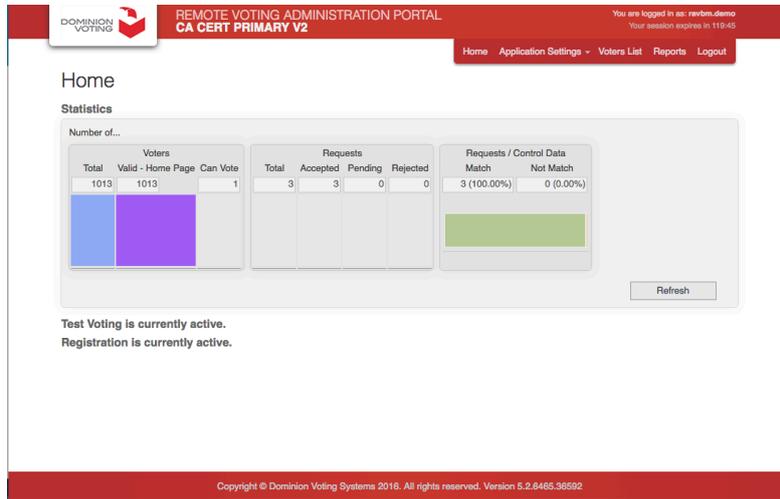
Procedure

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. Using a Dominion Voting Systems scanner/tabulator, scan the downloaded and printed pdf representation of ballots that have been generated using the ImageCast Remote voting application.
11. 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.
 - a. 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.
 - a. Create the Election Summary Report.
14. Confirm that the results from the RTR Election Summary Report match the tabulator summary reports and the expected test deck results.
15. 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.

3 Election Preparation

3.1 Home

Upon logging into the Remote Voting Admin Portal, the **Home** screen appears.

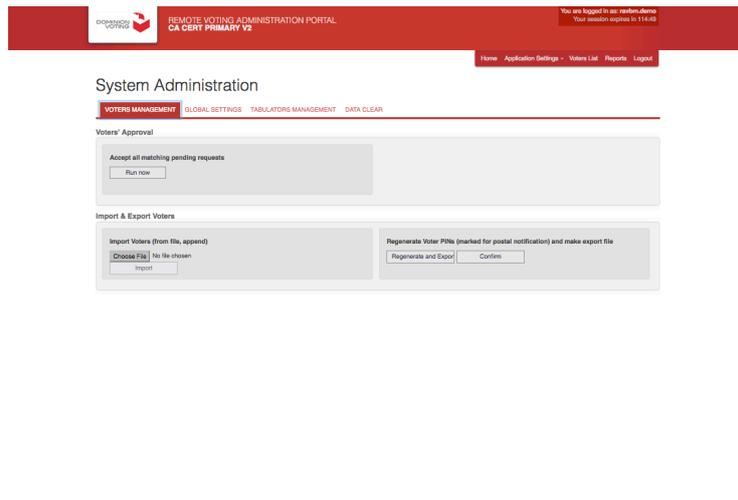


This screen displays the following election metrics:

- 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
- 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
- Refresh button: The **Home** screen does not refresh automatically. Click **Refresh** to refresh the display with the latest information.

3.2 Voters Management

The Voters Management tab enables the Administrator to perform voter/elector 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.



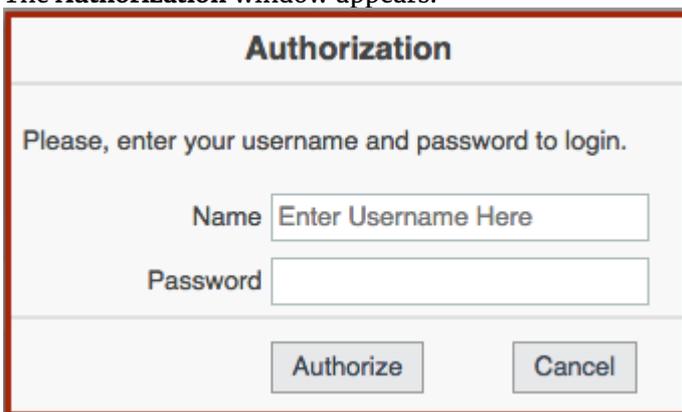
3.2.1 Voters' Approval

This option is used in context of Two-Step registration, and is enabled only in sessions where Registration has been enabled. This option provides the Administrator with the ability to automatically accept all requests in the system for which the first name, last name, and date of birth match the same fields in the source record.

Note: Running this function does not permanently turn Automatic Acceptance on, but instead initiates a one-time review of all currently queued requests.

To Auto Accept Pending Requests:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and click **System Administration**.
The **System Administration** screen appears.
2. Click the **Voters Management** tab.
3. Under Voters Approval, click **Run now** for Accept All Matching Pending Requests.
The **Authorization** window appears.



4. Enter your user name and password, and then click **Authorize**.
5. A notification displaying the number of voters accepted appears.

3.2.2 Regenerate Voter PINs (marked for postal notification) and make export file

For electors who have chosen postal mail as their notification type, this option generates and exports a voter list with PINs. Once created the list is provided to a printer who prints and mails out voter notifications via post. 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 click **System Administration**.
The **System Administration** screen appears.
2. Click the **Voters Management** tab.
3. In the **Regenerate Voter PINs (marked for postal notification) and make export file** panel, click **Regenerate and Export**.
The **Authorization** window appears.

4. Enter your user name and password, and then click **Authorize**.
5. Once the file has been generated, click **Confirm**. Doing this will update the current status of voters in the database. If the Regenerate Voter PINs routine is run again PINs that were already generated and assigned to voters will not be regenerated unnecessarily.

3.2.3 Import Voters

The Import Voters functionality is used in context of One-Step registration, and 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 click **System Administration**.
The **System Administration** screen appears.
2. Click the **Voters Management** tab.
3. 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**.

- In the **Import Voters** panel, click **Import**.
The Voters List is populated and notification displaying the number of voters and their attributes appears.

3.3 Global Settings

3.3.1 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:

- Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and click **System Administration**.
The **System Administration** screen appears.
- Click the **Global Settings** tab.
- In the **Display Options in Admin Portal** panel, make your desired changes to the settings.
- Click **Update** to apply the changes.

3.3.2 Languages 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 selected by default and is not able to be deselected.

To configure Voting Interface Language Options:

- Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then click **System Administration**.
The **System Administration** screen appears.
- Click the **Global Settings** tab.
- in the **Languages Management** panel:
 - Selecting **Enabled** results in that language being included in the selection menu in the voting application.
 - Selecting the arrows under Display Order enable the Election Official to modify the order in which languages will be displayed in the selection menu of the voting application.
- Click **Update** to apply the parameters.

3.3.3 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**.
The **System Administration** screen appears.
2. Click the **Global Settings** tab.
3. In the **Voting Interface Language Options** panel:
 - Selecting the **Language selection on landing page** checkbox enables display of an initial landing page where selection of language is provided
 - Selecting the **Language selection during session** checkbox enables display of voter language selection in the voting application
4. Click **Update** to apply the parameters.

3.3.4 Configure Voter ID Options

This option enables the Election Official to select the parameters for Voter IDs, such as whether to generate Voter IDs on import, and the length and 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**.
The **System Administration** screen appears.
2. Click the **Global Settings** tab.
3. In the **Voter ID Options** panel, set the desired parameters:
 - To generate Voter IDs as voters are imported, select the **Should generate Elector IDs (on import)** checkbox
 - Select the desired maximum and minimum lengths for the generated Voter IDs.
 - Select whether the generated Voter ID will contain, only letters, only numbers, or letters and numbers.
 - To generate Elector IDs that contain special characters, select **Complex** from the **Voter ID Format** drop-down.
4. Click **Update** to apply the parameters.

3.3.5 Configure PIN Options

This option allows the Election Official to select 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**.
The **System Administration** screen appears.
2. Click the **Global Settings** tab.
3. In the **PIN Options** panel, 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.

3.3.6 Configure Registration Options

This option enables the Election Official to configure the interface presented to Electors that are registering.

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**.
The **System Administration** screen appears.
2. Click the **Global Settings** tab.
3. Under Registration Options, selection of **Registration enable** will determine whether Electors are enabled to register.
4. Selection of **Automatically Accept Voter Request** will determine whether to automatically accept requests where data entered by the Elector matches source data provided by the jurisdiction.
5. Selection of **Available Notification Types** will determine which modes of notification will be made available to Electors to choose from. Notification Types are modes by which Electors are provided their PIN once they have registered.
6. Selection of **Default Notification Type** determines which mode of notification will be presented to the Elector by default. The default is chosen 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. The Election Officer is able to set receipt length by adjusting the slider.
 - **Request Receipt Format** enables definition of the configuration of the receipt. The Election Officer is able to set receipt format by selecting a choice from the pull down menu.
8. Click **Update** to apply the changes.

3.4 Tabulators Management

3.4.1 Import Election Files

To Load Election Files:

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.

DOMINION VOTING REMOTE VOTING ADMINISTRATION PORTAL CA CERT PRIMARY V2 You are logged in as: ravbm_demo Your session expires in 119:29

Home Application Settings - Voters List Reports Logout

System Administration

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

Tabulators List

Import election files

Election Event Data file Choose File No file chosen

EPS data XML file Choose File No file chosen

Import ED

Id	Ext Id	Tabulator Name	Location	Type	Status	Uses Global	Results State	Actions
11	999	ICR	Election Headquarters Countywide	Internet voting	Voting: ✓ Registration: ✓		Initial 14/09/2017 11:11	Actions

Records found: 1

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3. In the Tabulators List panel, click **Choose File** beside Election Event Data file.
4. Provide the encrypted .dat file:
 - a. Navigate to election.dat
 - b. Click **Open**.
5. Click **Choose File** beside EPS data XML file.
6. Provide the XML file that contains encryption data for decrypting the .dat file:
 - a. Navigate to its location on the server.
 - b. Click **Open**.
7. To import the election files, click **Import ED**.
This operation removes all previous election data. Once the election files are loaded, the list of available tabulators is populated.

3.4.2 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.

3. In the IV Tabulator row, click **Actions**, Edit to open the Tabulator Settings dialog for that tabulator.

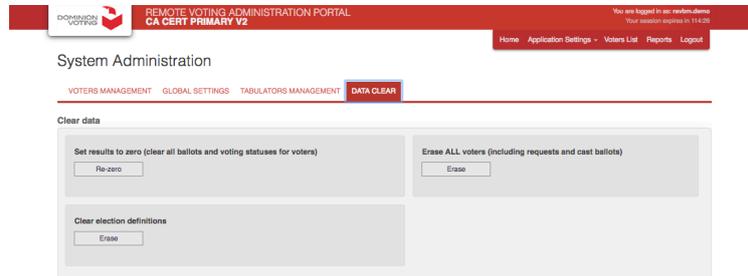
4. Under Automatic Start & Stop Settings, complete the following:
- Select the the date and time Registration begins and ends.
 - Select the the date and time Voting begins and ends.
5. To manually start and stop Voting or Registration, click **Start Now** or **Stop now** under Manually.

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.

3.5 Data Clear



3.5.1 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 is complete a confirmation message appears.

3.5.2 Erase all Electors

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.

3.5.3 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.

3.6 Download Administration

The screenshot displays the 'Download Administration' page. At the top, there is a navigation bar with 'Home', 'Application Settings', 'Voters List', 'Reports', and 'Logout'. The main content area is titled 'Download Administration' and has two tabs: 'DOWNLOAD PACKAGE CONTENT' and 'DOWNLOAD PACKAGE SETTINGS'. The 'DOWNLOAD PACKAGE SETTINGS' tab is active, showing three main sections: 'Cover Sheet Settings', 'Affidavit Sheet Settings', and 'Return Envelope Settings'. Each section has options to 'Include' (checked), 'Download' (a blue link), and 'Import' (a button). The 'Sub-header Settings' section on the right has a dropdown menu for 'Sub-header text position' set to 'Precinct name on the left and 1'. An 'Update' button is located at the bottom right of the form.

Once the ImageCast Remote voter has completed choice selection, they will be prompted to download the various pieces of the ballot package;

- the Cover Sheet
- the ballot
- the Affidavit Sheet
- the Return Envelope

3.6.1 The Ballot

The ballot is made up of a header containing the ballot title, the QR code, and a human-readable list of the selections which reflect the choices made by the voter. This document is automatically included in what is downloaded as part of the ballot package. The only component of the ballot which is editable using the **Download Administration** feature is the position of the Precinct Name, and the Ballot ID. (See **Sub-header Settings** below.)

3.6.2 Editing the Ballot Package

The other three pieces of the ballot package are able to be managed and edited by the Election Official using the **Download Administration** feature;

- **Cover Sheet** – this enables the Election Official to provide voters with the name and location of the jurisdiction in which the election is taking place, information regarding the election itself, and instructions for the voter regarding completion and return of the ballot.
- **Affidavit** – this enables the Election Official to provide voters with documentation which is to be read and consented to by voters, or confirmed by signature of voters, and returned to the Election Official as part of the ballot.
- **Return Envelope** – this enables the Election Official to provide voters with a printable template for an envelope within which voters will enclose and return all ballot materials

As well as editing the content of these three documents, the election official is enabled to set all, or any combination of these three ballot package documents as included in what the voter will download when choice selection is completed.

3.6.3 Cover Sheet Settings

The **Cover Sheet Settings** provide the ability to include the document as part of the ballot download, as well as to edit the content of the Cover Sheet.

To set the cover sheet as included in what the voter will download when choice selection is completed;

1. Once logged in to the **Administration Panel**, under the **Application Settings** menu, select **Download Administration**.
The **Download Administration** interface is displayed.
2. Click the **Download Package Content** tab.
 - a. in the **Cover Sheet Settings** panel:
 - Selecting **Include Cover Sheet** results in that document being included as part of the downloaded ballot package.
 - b. Click **Update** to apply the parameters.

To download and edit the Cover Sheet;

1. Select **Download** beside the **Current Cover Sheet**. The Cover Sheet will be downloaded.
2. The Cover Sheet is able to be opened and edited in an authoring tool, to achieve the requirements of the Election Official. The edited Cover Sheet is to be saved in PDF format to be re-imported.

To re-import the edited Cover Sheet;

1. Select **Choose File** beside **Import Cover Sheet**.
 - a. Navigate to the saved PDF file.
 - b. Click **Open**.
2. To import the Cover Sheet, select **Import**. When prompted, enter your user name and password, and then click **Authenticate**.
This operation replaces the information from the previous Cover Sheet.

3.6.4 Affidavit Sheet Settings

The **Affidavit Sheet Settings** provide the ability to include the document as part of the ballot download, as well as to edit the content of the Affidavit.

To set the Affidavit as included in what the voter will download when choice selection is completed;

1. Once logged in to the **Administration Panel**, under the **Application Settings** menu, select **Download Administration**.
The **Download Administration** interface is displayed.
2. Click the **Download Package Content** tab.

- a. in the **Affidavit Sheet Settings panel**:
 - Selecting **Include Affidavit Sheet** results in that document being included as part of the downloaded ballot package.
- b. Click **Update** to apply the parameters.

To download and edit the Affidavit Sheet;

1. Select **Download** beside the **Current Affidavit Sheet**. The Affidavit Sheet will be downloaded.
2. The Affidavit Sheet is able to be opened and edited in an authoring tool, to achieve the requirements of the Election Official. The edited Cover Sheet is to be saved in PDF format to be re-imported.

To re-import the edited Affidavit Sheet;

1. Select **Choose File** beside **Import Affidavit Sheet**.
 - a. Navigate to the saved PDF file.
 - b. Click **Open**.
2. To import the Affidavit Sheet, select **Import**. When prompted, enter your user name and password, and then click **Authenticate**.
This operation replaces the information from the previous Affidavit Sheet.

3.6.5 Return Envelope Settings

The **Return Envelope Settings** provide the ability to include the document as part of the ballot download, as well as to edit the content of the Return Envelope.

To set the Return Envelope as included in what the voter will download when choice selection is completed;

1. Once logged in to the **Administration Panel**, under the **Application Settings** menu, select **Download Administration**.
The **Download Administration** interface is displayed.
2. Click the **Download Package Content** tab.
 - a. in the **Return Envelope Settings panel**:
 - Selecting **Include Return Envelope** results in that document being included as part of the downloaded ballot package.
 - b. Click **Update** to apply the parameters.

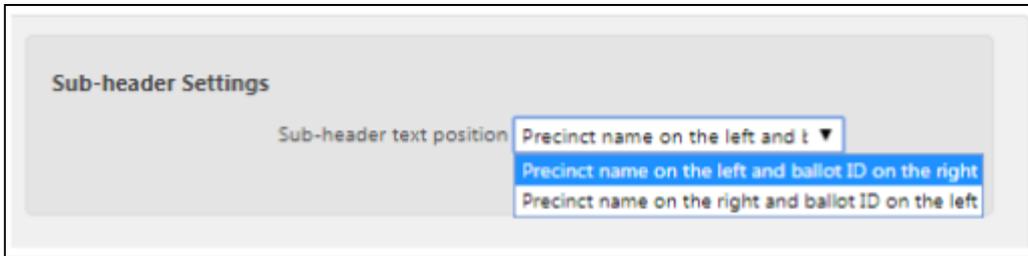
To download and edit the Return Envelope;

1. Select **Download** beside the **Current Return Envelope**. The Return Envelope will be downloaded.
2. The Return Envelope is able to be opened and edited in an authoring tool, to achieve the requirements of the Election Official. The edited Cover Sheet is to be saved in PDF format to be re-imported.

To re-import the edited Return Envelope;

1. Select **Choose File** beside **Import Return Envelope**.
 - a. Navigate to the saved PDF file.
 - b. Click **Open**.
2. To import the Return Envelope, select **Import**. When prompted, enter your user name and password, and then click **Authenticate**.
This operation replaces the information from the previous Return Envelope.

3.6.6 Sub-header Settings



The Sub-header Settings enable the Election Official to control the position of the Precinct Name, and the Ballot ID on the ballot.

To set the Position of Precinct Name and Ballot ID

1. In the Sub-header Settings panel, from the pull down menu beside Sub-header text position, select either;
 - **Precinct Name on the Left and Ballot ID on the Right**

or

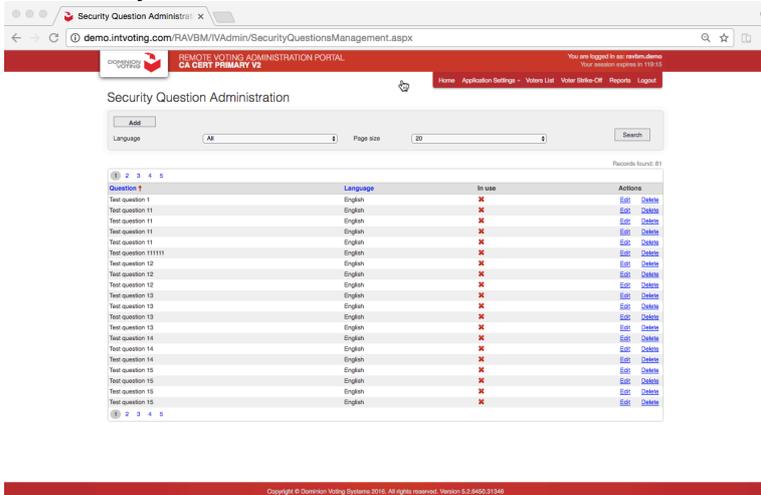
 - **Precinct Name on the Right and Ballot ID on the Left**
2. Click **Update** to apply the parameters.

3.7 Security Question Administration

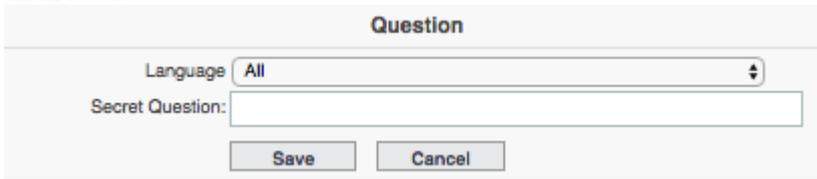
The Security Question Administration page allows the Election Official to create and configure security questions available to an elector during registration. These Questions can be defined for supported languages and does not have to be the same for all languages. The Security Question and Answer can be used later by Help Desk staff to identify the elector 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.



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



3. To delete, edit, or change the language category of a question, select **Actions** column and 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.

3.8 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 added or deleted using the Localization Administration feature.

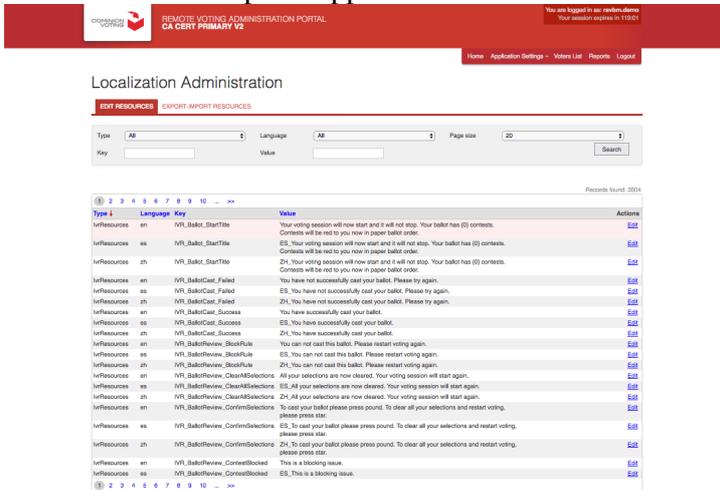
3.8.1 Edit Resources

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.

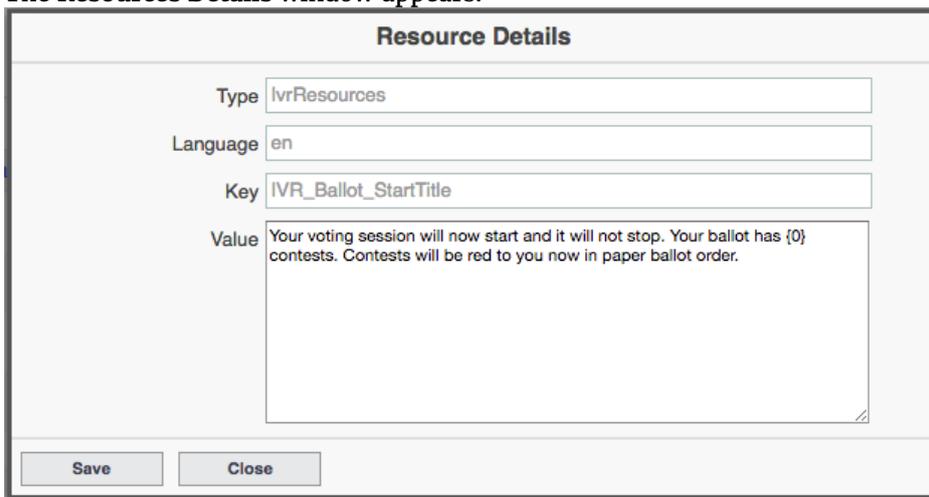
Other elements of the description (Type, Key, Language) are used to provide resource search filters, and as a quick reference to inform the Election Official where the resource is used. These elements are not displayed on the voting pages.

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.



3. To find the resource you wish to edit, scroll through the list.
4. Alternatively, you can enter search criteria and click **Search**.
5. Once you have located the resource, click **Edit**. The **Resources Details** window appears.



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

3.8.2 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:

1. Once logged in to the Administration Panel, expand the **Application Settings** drop-down, and then select **Localization Administration**.
2. Click the **Export-Import Resources** tab.
3. In the **Export-Import Resources** panel, select the parameters required from the drop-down.

- a. For the Type, from the drop-down select the areas of the product for which the Localization export is required.
 - b. For the required Language, from the drop-down select All, or the specific language of the required export.
4. Once the parameters are defined, click **Download Localizations**.
 5. Notification of the successful export will be displayed.

To Import a Localization File:

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

3. 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.
4. Click **Import Resources**.
5. Notification of the successful import will be displayed.

3.9 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.

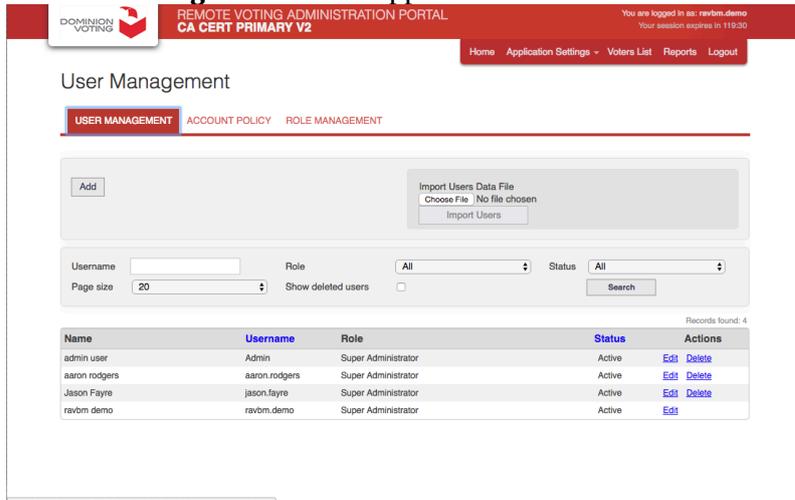
3.9.1 User Management

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.

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.

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 clicking **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 clicking **Search**.
Alternatively, the list of users can be scrolled through.
2. Once the user has been located, click **Delete**.

3.9.2 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.

The screenshot shows the 'User Management' interface with the 'ACCOUNT POLICY' tab selected. The 'Application user security policy' section contains the following fields:

- Maximum Password Age: 0
- Lockout Threshold: 10
- Lockout Duration: 10
- Lockout Reset Timeout: 10
- Lockout notification list: nenad_selic@dominionvoting.com, aleksandar.penic@dominionvoting.com

Buttons for 'Save' and 'Cancel' are visible at the bottom of the form. The top navigation bar includes 'Home', 'Application Settings', 'Voters List', 'Reports', and 'Logout'. The footer contains copyright information for Dominion Voting Systems 2016.

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

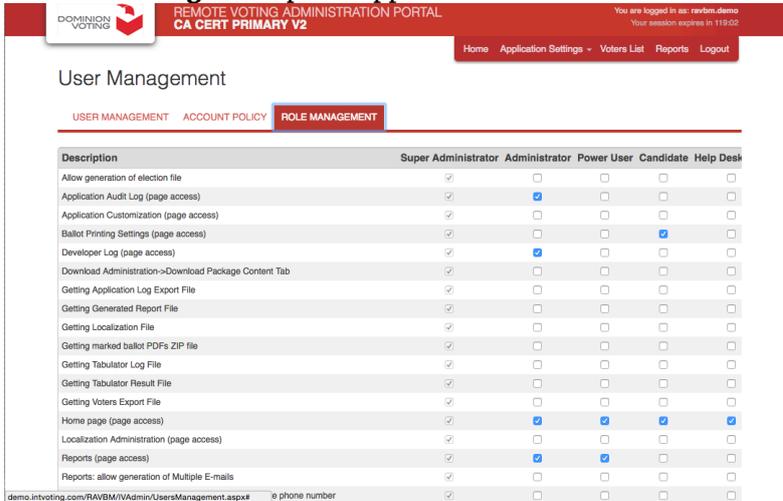
3.9.3 Edit Role Management

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.



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

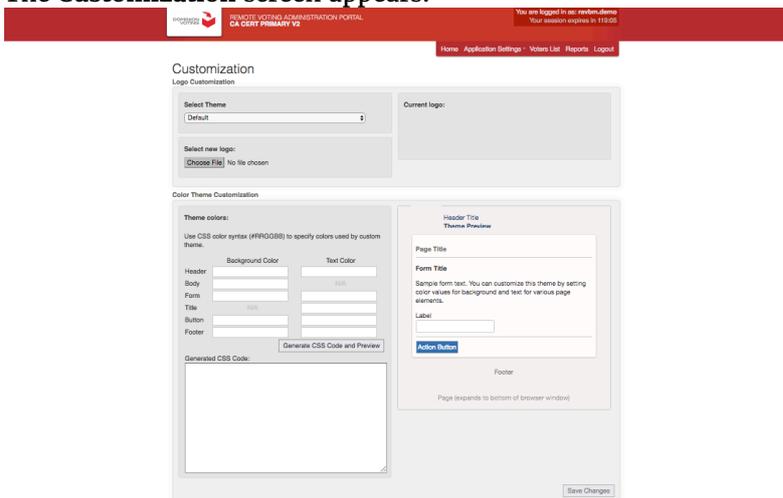
3.10 Customization

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.



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**.
5. Notification indicating successful saving of Customization settings will be displayed.

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**.
5. Notification indicating successful saving of Customization settings will be displayed.

3.11 Voters List

The screenshot shows the 'Voters List' page in the 'Remote Voting Administration Portal'. At the top, there is a navigation bar with 'Home', 'Application Settings', 'Voters List', 'Reports', and 'Logout'. Below this is a search filter form with the following fields: 'Elector ID', 'External ID', 'First Name', 'Last Name', 'Birth Date (DDMM/YYYY)', 'Request Status' (dropdown), 'Registration Match' (dropdown), 'Notification Status' (dropdown), 'Notification Type' (dropdown), 'Eligible' (dropdown), 'Valid Ballot' (dropdown), and a 'Page size' dropdown set to 20. A 'Search' button is located at the bottom right of the filter form. Below the filter form, it says 'Records found: 1013'. The main content is a table with the following columns: 'Elector ID', 'Full Name', 'Birth Date', 'Full Address', 'Eligible', 'Valid Ballot', 'Request', 'Match', 'Notified', and 'Actions'. The table contains 15 rows of voter data. Each row has 'Edit', 'Details', and 'Log' links in the 'Actions' column.

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.

3.11.1 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** in 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**.
6. A notification message indicating successful completion of the operation is displayed.

3.11.2 Re-issue a Voter PIN

If an elector 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 List** 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**.
6. A notification message indicating successful completion of the operation is displayed.

3.11.3 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.

3.11.4 View Voter Actions Log

The Actions column in the Voters List enables the Administrator to view and edit actions of a specific voter in the system. This log provides useful information about the elector's use of the system in order for the Help Desk staff to better assist the elector with questions or difficulties.

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 14:26	10.100.20.65	Voter has successfully logged on for registration.
10/30/2017 14:26	10.100.20.65	Voter has successfully finished registration.
10/30/2017 14:28	10.100.20.65	Voter has successfully logged in. Ballot is successfully resolved.
10/30/2017 14:28	10.100.20.65	Voter has successfully logged in.
10/30/2017 14:29	10.100.20.65	Voter has successfully processed the ballot.

The Voter Activity Log provides as 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.

4. Click **Close** when finished.

3.11.5 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
Elector ID <input type="text" value="258053"/>	Registered <input type="text" value="n/a"/>
External ID <input type="text" value="258053"/>	Request Status <input type="text"/>
First Name <input type="text" value="Patrick"/>	Birth Year <input type="text"/>
Middle Name <input type="text"/>	Notified <input type="text"/>
Last Name <input type="text" value="Aatterson"/>	Notification Type <input type="text"/>
Birth Date (DD/MM/YYYY) <input type="text" value="01/01/1900"/>	E-mail <input type="text"/>
Address <input type="text"/>	Phone <input type="text"/>
City <input type="text"/>	Secret Question: <input type="text"/>
Province <input type="text"/>	Secret Answer <input type="text"/>
Postal Code <input type="text"/>	PIN Generated <input type="text"/>
Eligible <input checked="" type="checkbox"/>	PIN <input type="text"/>
Electoral District <input type="text" value="11400 (1001)"/>	
Electoral Group <input type="text" value="Republican"/>	
Voted <input type="checkbox"/>	
<input type="text" value="n/a"/>	

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

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.

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

The **System Administration** screen appears.

- Click the **Tabulators Management** tab.

System Administration

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

Tabulators List

Import election files

Election Event Data file No file chosen
 EPS data XML file No file chosen

Id	Ext Id	Tabulator Name	Location	Type	Status	Uses Global	Results State	Actions
11	1000	IV	Election Headquarters Countywide	Internet voting	Voting: <input checked="" type="checkbox"/> Registration: <input checked="" type="checkbox"/>		Initial 07/09/2017 14:51	Actions

Records found: 1

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

Tabulator Settings
ICR (Id: 11 | External Id: 999)

Automatic Start & Stop Settings

From To Manually

Registration 14/09/2017 11:12

Voting 14/09/2017 11:12

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"/>

FPTP

Overvotes
 Undervotes

Display options for voters

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

Show Captcha Options

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

Ask For Date of Birth
 Ask For PIN
 Info page timeout (in s)

- Under Automatic Start & Stop Settings, select the following:
 - Date and time Registration begins and ends
 - Date and time Voting begins and ends
- To manually stop Voting or Registration, select **Stop Now** under Manually.
- 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.

3. Under **Language Management**;
 - a. In the Enabled column, by selecting check boxes adjacent to language names, indicate which languages will be included for selection in the voting session
 - b. 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;
 - a. By selecting or deselecting the check box adjacent to 'Language selection on landing page' determine whether this page will be displayed in the voting session.

- b. By selecting or deselecting the check box adjacent to 'Language selection during session' determine whether voters will be provided controls to change languages in the voting session.
5. Click **Update** to save changes.
 6. Notification to indicate the successful completion of the operation is displayed.

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

Internal Testing

The ImageCast 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;
 - a. WebAIM's WAVE evaluation tool <http://wave.webaim.org/>
 - b. AChecker <https://achecker.ca/checker/index.php>
 - c. 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 Remote accessibility testing includes the following;
 - a. 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.

- b. Selection of session preferences such as text size, interface contrast level, and language from the list of available languages.
 - c. 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.
 - d. 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.
 - e. In the Review interface the tester verifies the selections made.
 - f. 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.

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 alpha-numeric 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: interface under Automatic Start & Stop Settings, the Election Official is enabled to set date and time settings to determine when Registration and Voting begin and end. Manual control of Registration and Voting Start and Stop is enabled using Stop Now for Registration or Voting.

4.5 Reporting

The ImageCast Remote product supports the creation of the following reports:

- **Voters List Report:** This report consists of a list of voters at the time of the election.
- **Zero/Results Report:** This report is typically run following the Re-Zero Results functionality, and indicates that no voters have registered, and that no ballots have been processed.

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 been stopped.

To generate a report perform the following:

1. Once logged in to the Administration Panel click the **Reports** menu item.

The **Reports** interface is displayed.

2. From the **Select Report** pull down, select the report you wish to generate.
3. From the **Select Report Format** pull down, select the file format you wish the report to be generated in.
4. Click **Generate**.

The selected Report is generated in the requested format and written to a predetermined folder on the user's system.

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.

5 Manual Recount Procedure

5.1 Recount Procedures

5.1.1 Voting Recount

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

5.1.2 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.

6 Security

6.1 Security Controls

The Dominion Voting ImageCast 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 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.