2.08 - Democracy Suite® Adjudication System Operation Procedures

Version: 5.11-CO::3

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DOMINION VOTING

Our customers come first.

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CHAPTER 1: INTRODUCTION

1.1 Document Use

This document is intended for use with the Democracy Suite® 5.11 platform.

1.2 Relevant Disclaimers

This document may make reference to certain Democracy Suite® functionalities that are not part of the current 5.11- CO campaign and should be disregarded throughout the document.

For a full list of relevant disclaimers, please see the "Relevant Disclaimers" section in the *2.02 - Democracy Suite System Overview* Document.

1.3 Introduction

EMS Adjudication ("Adjudication") is a client and server application used to review and adjudicate vote results from ImageCast® tabulators. The application uses tabulator result files and scanned images to allow election administrators to make adjudications to ballots with auditing and reporting capabilities.

EMS Adjudication examines such voter exceptions as overvotes, undervotes, blank contests, blank ballots, write-in selections, and marginal marks.

The application works in two basic modes: election project setup and adjudication. Standard adjudication users only have the ability to adjudicate ballots; while adjudication administrator users have additional capabilities, such as viewing configuration settings and generating reports.

The application supports all ImageCast® tabulators and can be used in a multi-client environment. EMS Adjudication eliminates the need to physically rescan ballots, which can potentially damage the originals and cause chain-of-custody concerns.

CHAPTER 2: OPERATIONAL ENVIRONMENT

For all instructions and details please see *2.08 - Democracy Suite® EMS System Operations Procedures, Section Democracy Suite® EMS Operational Environment.*

CHAPTER 3: SYSTEM INSTALLATION

For all instructions and details on installation and configuration of Adjudication and test specification, please see:

- *Democracy Suite® EMS Client Workstation Installation and Configuration Procedure*

- *Democracy Suite® EMS Express Installation and Configuration Procedure*

- *Democracy Suite® EMS Standard System Installation and Configuration Procedure*

- *2.07 - Democracy Suite® System Test and Verification documents.*

CHAPTER 4: CONFIGURING ADJUDICATION

This chapter describes required procedures when using the application for ballot adjudication.

4.1 Adjudication Logging

In some cases the application informs the user to check the logs for more information. To access the logs:

1. Right-click the **Start** button in the lower left of the screen and click **Computer Management**.

2. Click **Event Viewer** > **Applications and Settings** and click **DVS Adjudication.**

3. To ensure all information listed is up to date click **Refresh** on the **Actions** pane to the right.

4. Select an entry to see its details on the bottom pane.

4.2 Locating EMS Adjudication Services

In some cases the application requests that the administrator check to ensure the EMS Adjudication Services are running. To find the services:

1. Right-click the **Start** button in the lower left of the screen and click **Computer Management**.

2. Click **Services and Applications** > **Services**.

3. In the **Services** pane, scroll to the services whose names begin with DVS.

4. The system currently has 10 services; make sure all are listed with a status of "Started".

CHAPTER 5: OPERATIONAL FEATURES

Please refer to the following documents:

- *2.02 - Democracy Suite$^{®}$ System Overview*
- *Democracy Suite$^{®}$ ImageCast$^{®}$ Adjudication User Guide*
- *Democracy Suite$^{®}$ ImageCast$^{®}$ Central User Guide*

CHAPTER 6: OPERATIONAL PROCEDURES

Please refer to the following documents:

- *2.02 - Democracy Suite® System Overview*
- *Democracy Suite® ImageCast® Adjudication User Guide*
- *Democracy Suite® ImageCast® Central User Guide*

CHAPTER 7: OPERATIONAL SUPPORT

Please refer to *2.09 - Democracy Suite® Adjudication System Maintenance Manual.*

APPENDIX A: TROUBLESHOOTING

This section reviews common troubleshooting issues that may occur while installing EMS Adjudication. In some cases there are multiple resolutions to review in order to fully resolve the issue.

A.1 Services Cannot be Started Error

If you receive an error from the EMS Adjudication Services installer that specifies that one of the services cannot be started please do the following:

A.1.1 Find Information about Installation Errors

These instructions can help pinpoint the cause of many installation issues from the EMS Adjudication Services installer or Adjudication client application installer.

1. Right-click the Start button in the lower left of the screen and click Computer Management

2. While the installer is running, i.e, while it is still showing an error, check to see if the DVS Adjudication log is present in the Event Viewer, under Applications and Services Logs. If it is, check if there are any errors logged at the time the installation failed. To understand how to access event viewer please see section 4.1 Adjudication Logging.

3. In the Event Viewer, under Windows Logs, browse the Application and System logs for errors that occurred at the time the installation failed. These usually are from one of the following:

   - MSI Installer
   - One of the EMS Adjudication Services
   - Adjudication client application.

A.2 Authorization or Application Key Errors When Starting up the Client

A.2.1 Verify Group Membership

1. Right-click the Start button in the lower left of the screen and select **Computer Management**.

2. Expand "Local Users and Groups", under "System Tools".

3. Select Groups; find the AdjudicationAdministrators and/or AdjudicationUsers groups on the center pane.

4. If you are on a remote client machine:

- Double-click each group and verify that all the users of the machine that should be authorized are shown on the Members list (regular users on the AdjudicationUsers list, administrators on the AdjudicationAdministrators list).

- If you make changes to the list of members, any affected users must log off and log back in to the machine for changes to apply. If you changed many users, it might be easier to restart the machine.

- Verify that any members of the groups are also members of the groups on the Adjudication server (see next step). Adding a user to the list on a remote machine is required but does not authorize the user; you must add the same user to a group on the server side

- If you are on the Adjudication server (or on a single-machine installation):

- Double-click each group and verify that all users, from this and any remote machines, that should be authorized are shown on the Members list (regular users on the AdjudicationUsers list, administrators on the AdjudicationAdministrators list).

NOTE: User account names must match the user names on remote machines, although case does not matter.

NOTE: The Adjudication system is primarily intended to work with local user accounts, as opposed to Windows domain accounts. If for some reason you need to authorize a domain user to use the system, you must create a local user on the server with the same name as the domain user, and also add it to the Adjudication groups in the same way any other user is added, otherwise authorization errors may occur.

- Verify that the service account (AdjSys) is present in the AdjudicationAdministrators group.

- If you change the service account's membership, then restart the EMS Adjudication Services by following the steps in section A.3.1 Verify That the EMS Adjudication Services are Running, except that at the end you should click Restart, instead of Start. Alternatively, you can restart the machine to force all services to restart.

- If you make changes to any other user membership, any affected users that are local to the machine must log off and log back in for changes to apply. If you changed many users, it might be easier to restart the machine.

A.3 Other Errors when Starting up Adjudication Client Application

For errors that occur when starting up the Adjudication client application, please follow any troubleshooting instructions shown in the error message. If there are no instructions, find the error in the *2.03- Democracy Suite® EMS Functionality Description* document and follow instructions there. Otherwise, please see below:

A.3.1 Verify that the EMS Adjudication Services are Running

1. On the Adjudication server, open Computer Management. Right-click the Start button in the lower left of the screen and click **Computer Management.**

2. Select the **Services** node under "Services and Applications".

3. Scroll down until you find the group of EMS Adjudication Services. These are:

   • DVS Adjudicable Ballot Service

   • DVS Adjudication Data Service

   • DVS Ballot Completion Service

   • DVS Ballot Preparation Service

   • DVS Batch Completion Service

   • DVS Election Data Service

   • DVS Election File Manager

   • DVS Report Builder Service

   • DVS Report Service

   • DVS Statistics Service

4. Make sure all EMS Adjudication Services are running under the correct service account, AdjSys, by reviewing the **Log On As** column.

5. If any of the services are running under an incorrect account, change them as follows:

   • Double-click the service name.

   • Click the **Log On** tab and make sure **This account** is selected.

   • Enter the correct service account (and password) and click **OK.**

   • Right-click the service and click **Restart** (if this is not available, click **Start**).

6. Make sure all the EMS Adjudication Services show "Started" for the Status column. If any of them is not started, try to start them by right-clicking on them, and then selecting Start. If this fails, note the error, and contact technical support.

A.3.2 Verify Remote Machines can Reach the Adjudication Server

1. On a remote machine, open the Windows command prompt.

2. Type the command ping server , where server is the name or IP address of the Adjudication server. You should use the same name or IP you entered when installing the Adjudication client application. Example: ping ADJSERVER.

3. If you see replies from the server, e.g., lines starting with "Reply from", then the server is reachable. In this case, look for other troubleshooting steps in this section that may help. If there are no replies, then there is a problem with the network configuration; in this case:

   • Check that network cables are properly connected.

   • Check network configuration issues using Windows Network and Sharing Center. Mainly, check that DNS/DHCP settings are correct, and that all computers are on the same network profile (e.g., Work or Public) with network discovery turned on. Please view *Democracy Suite® EMS System Installation and Configuration Procedure* for the DNS/DHCP settings.

A.3.3 Find Information about System Operation or Errors

1. Right-click the **Start** button in the lower left of the screen and click **Computer Management**.

2. Expand **System Tools** and then **Event Viewer**.

3. Select the "DVS Adjudication" log under "Applications and Services Logs".

4. To ensure all information listed is up to date, select the **Refresh** button in the **Actions** pane on the right.

5. On the center pane, entries logged by Adjudication components are displayed. The Source column identifies the exact component (e.g., one of the services, or the client).

6. If you are on the Adjudication server (or on a single-machine installation):

- Errors from the "Election Data Service", "Election File Manager" or "Ballot Preparer" usually indicate problems with the initial loading of batches or ballots from result files, including failures to obtain election information from the EMS system.

- Errors from other services usually indicate communication or other processing problems once ballots have been adjudicated.

- Note that some of the services retry operations automatically, so you may see the same error repeat every few seconds. Some errors are corrected automatically after retrying, at which point the error stops repeating, and no other action should be required.

7. If you are on a remote Adjudication machine, only entries from the "Adjudication client application" are displayed. Most processing problems occur on the server, so you should always check the server side logs as indicated in the previous step.

A.4 Client Starts but No Ballots or Batches Received

If the Client has started, but no ballots or batches have been received, please ensure results have been loaded through RTR. Also note that it may take a few minutes for batches and ballots to appear.

If you still can't see ballots on the client, review the previous section A.3.3. Find Information about System Operation or Errors, or continue to the other instructions in this section.

A.4.1 Verify Communication over Message Queues

If you are having problems on a specific client, follow these instructions on the machine where that client is open. If you are having problems with many clients, follow these instructions on the server first, and continue to remote client machines if needed.

1. Right-click the Start button in the lower left of the screen and click **Computer Management**.

2. Expand "Message Queuing", under "Services and Applications".

3. Select "Outgoing Queues", right-click, and then **Refresh**.

4. The center pane should show established connections (if there are none, then start the Adjudication client application; if you are on the server, start a remote client). If the State column for any of the connections shows "Waiting to connect":

   - Sometimes restarting the MSMQ service resolves this. To do this:

     - Open the Services node (under "Services and Applications").

- Right-click the "Message Queuing" service and then select Restart.

NOTE: If you are on the server, you will be asked if you want to restart the services that depend on the MSMQ service, select **Yes** to restart them.

- Restart the client if it's open. If you did this on the server, restart any open clients on remote machines.
- This is usually a problem with network settings on the server or clients.
- Check that computers on the network can reach each other using IP addresses. See section A.3.2 Verify Remote Machines Can Reach the Adjudication Server.
- Use Windows Network and Sharing Center to check DNS/DHCP settings, and ensure that all computers are on the same network profile (e.g., Work or Public) with network discovery turned on. Please see *Democracy Suite® EMS Standard System Installation and Configuration Procedure* for the correct DNS/DHCP settings.

A.4.2 Verify EMS Services are Running

1. Open a Web browser on the server machine.
2. Enter the URL **http://localhost/EMSApplicationServer/ CvrService.svc** into the address bar.
3. Verify that the **CvrService Service** screen appears.

Figure A-1: CvrService Service

REVISION HISTORY

Rev.	Date	Author	Summary
3	05-28-2019	tijana.todorovic	Resolving discrepancies for 5.11-CO
2	04-17-2019	tijana.todorovic	Resolving discrepancies for 5.11-CO
1	03-06-2019	blair.beauchesne	Branched for 5.11.

LIST OF FIGURES

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