Field Audit Report

Dominion Voting Systems
Democracy Suite (D-Suite) System
Version 5.5-A

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December 2, 2020

1.0 INTRODUCTION

The purpose of this Report is to document the procedures that Pro V&V, Inc. followed to perform a Field Audit of the Dominion Democracy Suite (D-Suite) 5.5-AVoting System as fielded in selected counties in the State of Georgia.

1.1 References

The documents listed below were utilized in the development of this Report:

- Election Assistance Commission (EAC) 2005 Voluntary Voting System Guidelines (VVSG) Version 1.0, Volume I, "Voting System Performance Guidelines", and Volume II, "National Certification Testing Guidelines"
- Election Assistance Commission Testing and Certification Program Manual, Version 2.0
- Election Assistance Commission Voting System Test Laboratory Program Manual, Version 2.0
- National Voluntary Laboratory Accreditation Program NIST Handbook 150-2016, "NVLAP Procedures and General Requirements (NIST Handbook 150)", dated July 2016
- National Voluntary Laboratory Accreditation Program NIST Handbook 150-22, 2008 Edition, "Voting System Testing (NIST Handbook 150-22)", dated May 2008
- United States 107th Congress Help America Vote Act (HAVA) of 2002 (Public Law 107-252), dated October 2002
- Pro V&V, Inc. Quality Assurance Manual, Version 7.0
- EAC Requests for Interpretation (RFI) (listed on www.eac.gov)
- EAC Notices of Clarification (NOC) (listed on www.eac.gov)

1.2 Terms and Abbreviations

The terms and abbreviations applicable to the development of this Test Report are listed below:

"COTS" – Commercial Off-The-Shelf

"DRE" – Direct Record Electronic

"EAC" – United States Election Assistance Commission

"EMS" – Election Management System

"FCA" – Functional Configuration Audit

"HAVA" – Help America Vote Act

"ICC" – ImageCast Central

"ICX" – ImageCast X

"ICP" – ImageCast Precinct

"ISO" – International Organization for Standardization

"NOC" – Notice of Clarification

"QA" – Quality Assurance

"RFI" – Request for Interpretation

"VSTL" – Voting System Test Laboratory

"VVSG" – Voluntary Voting System Guidelines

1.3   Background

On Thursday, November 12, 2020, Pro V&V received a request from the Office of the Georgia Secretary of State to perform a Field Audit of the Dominion Democray Suite (D-Suite) 5.5-A Voting System in multiple counties, as selected by the Office, throughout the State. The purpose of this Field Audit was to verify the software/firmware and hardware used during the 2020 General Election was the same as the software/firmware and hardware that were Certified for Use by Georgia's Secretary of State Office.

1.4   System Description

The Democracy Suite 5.5-A Voting System is a paper-based optical voting system consisting of the following major components: the ImageCast Central (ICC) optical ballot scanner, the ImageCast Precinct (ICP) precinct count tabulator, and ImageCast X (ICX) BMD ballot marking device.

ImageCast Central (ICC) Count Scanner

The ICC is a high-speed, central ballot scan tabulator based on Commercial off the Shelf (COTS) hardware, coupled with the custom-made ballot processing application software. It is used for high speed scanning and counting of paper ballots.

ImageCast X (ICX) Ballot Marking Device (BMD)

The ICX consists exclusively of COTS available hardware and operating system, while the applications installed on top customize its behavior to turn it into a Ballot Marking Device (BMD). The ICX is designed to perform the following functions: ballot review and second chance voting, accessible voting, and ballot marking.

ImageCast Precinct (ICP)

The ICP device is a precinct optical scan paper ballot counter designed to provide six major functionalities: ballot scanning, second chance voting, ballot review, tabulation, and poll worker functions.

For ballot scanning functionality the ICP scans marked paper ballots, interprets voter marks on the paper ballots and stores the ballots for tabulation when the polls are closed.

Second Chance voting refers to scenarios in which an error has been detected on the voter's paper ballot (e.g., blank ballot, undervoted ballot, overvoted ballot, misread ballot, cross-over voted ballot), and the ICP notifies the voter by displaying a message or providing an audio visual cue, that one of these situations has been detected, and offers the voter an opportunity to reject and fix their ballot, or to cast the ballot as-is.

The Ballot Review feature allows a voter to review their vote selections using a visual representation, which displays to the voter a complete listing of all contests contained on the ballot and an indication of the results which will be recorded for each contest once the voter's ballot is cast.

The Tabulation of paper ballots cast by voters is performed when the polls are closed on the ICP unit and the unit tabulates the results, generates results files for aggregation into RTR, and prints a results report containing the results of the ballots cast.

For poll worker functions the ICP contains a small touch-screen LCD to allow the poll worker to initiate polling place activities, diagnostics and reports..

1.5   Scope

Pro V&V randomly selected components of the D-Suite system (an ICP, an ICX, and an ICC) from the system in each county that had been utilized in the November 2020 General Election. It was at the discretion of the Pro V&V on-site team which units were subject to verification. The Georgia Secretary of State Office contacted the selected counties and arranged for the Pro V&V team to be granted access to the systems. The selected counties were given less than six hours notice before the Pro V&V team arrived.

2.0   AUDIT OVERVIEW

The evaluation of the D-Suite 5.5-A Voting System consisted of removing a copy of the software/firmware from each component and evaluating the software/firmware against a known SHA-256 hash value outside of the system.

3.0   AUDIT PROCESS AND RESULTS

The following sections outline the audit process that was followed to evaluate the D-Suite 5.5-A Voting System under the scope defined in Section 1.5.

3.1   General Information

The Field Audit was conducted under the guidance of Pro V&V by personnel verified by Pro V&V to be qualified to perform the audit.

3.2   Audit Configuration

An ICX was selected at random from the warehouse in each county. The team member then photographed the seals and the device. All seals that needed to be removed were then removed. After all photographs were taken, the team member inserted a clean USB drive from Pro V&V into left hand access compartment. Next the team member then plugged in the unit and powered it on. At the prompt the team member inserted a Tech Key smart card and selected the option to "Extract Application". The team member then verified the SHA-256 generated by the unit and photographed the popup screen. The team then took the USB drive containing the exported application to a Pro V&V laptop to compare the SHA-256 hash values to the known value from previous testing.

An ICP was selected at random from the warehouse in each county. The team member then photographed the seals and the device. All seals that needed to be removed were then removed. After all photographs were taken, the team member removed any compact flash cards under county supervision and inserted two compact flash cards (one blank and the other containing techextract.enc that was created by Pro V&V during certification testing). The unit was plugged in and powered on. A password was entered and a tech iButton was then read by the ICP and the option to "Extract Firmware" was selected. The compact flash cards, if present, were returned to the same ICP. The team member then took the compact flash card containing the exported firmware to a Pro V&V laptop to compare the SHA-256 hash values to the known value from previous testing.

An ICC was selected at random in each county central office if there were multiple units. The team member then photographed the device. The county provided the creditals to login to the workstation.   The Pro V&V team member navigated to the ICC folder on the root of the workstation and copied all application files onto a Pro V&V USB drive. The team member then took the USB drive containing the exported firmware to a Pro V&V laptop to compare the SHA-256 hash values to the known value from previous testing.

3.3   Summary Findings

During the Field Audit, a total of eighteen (18) components located among six (6) counties were evaluated to verify the version of software/firmware running on each device. It was discovered that allversions on all components matched the known certified SHA-256 hash value.

4.0   CONCLUSIONS

Based on the results obtained during the Field Audit, Pro V&V determines the D-Suite 5.5-A Voting System, on all evaluated components, is the voting system certified by the Georgia Secretary of State Office.