

AUDIT REPORT SUMMARY

Client: ACT Electoral Commission
PO Box 272
Civic Square
ACT 2608

Manufacturer: Software Improvements Pty Ltd

Product Name: eVACS Source code as at 02/09/2020

Date of Issue: 24 September 2020

Project Number: ACTEC.1005

BMM Test Report: ACTEC.1005.01 2020 eVACS Voting

Standards Tested to: N/A

Issues/Observations: None.

BMM Certification: N/A

Auditor: **Johnathan Shaw, Senior Consultant, BMM Testlabs**

Auditor Signature: _____

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1 PURPOSE OF EVALUATION

The ACT Electoral Commission (ACTEC) requested BMM to audit source code for the “voting modules” of eVACS, the electronic Voting And Counting System, for the 2020 election.

The Counting Server and casual vacancy modules are outside the scope of this certification. The Counting Server is subject of a separate audit of source code.

2 BMM EVALUATION PERFORMED

ACTEC provided the eVACS Version components for Audit.

- Documentation and
- Source Code (supplied 2/9/2020) for
 - Polling Place Server.
 - Telephone Voting Server.
 - Polling Place Client.
 - Data Entry Client; and
 - Election Server.

BMM reviewed design documentation and performed a source code review of the above revised eVACS software “voting modules”.

3 DESCRIPTION OF SYSTEM

The **polling place server** manages voting at a polling centre, enabling authorised officers to start and stop voting, check barcodes, authorise voters to cast a (single) vote and to manage the electronic ballot boxes.

The **polling place client** allows voters to enter preferences securely and anonymously and collects votes into secure electronic ballot boxes.

The **data entry client** enables manual entry of paper ballots and maintenance of ballot batches.

The **election server**

- Imports the electorate and candidate configuration from the TIGER system
- Installs the polling place/telephone server’s software, including Operating System and election configuration on the computers used for servers.
- Counts votes and produces reports on the outcome of the election as well audit reports to ensure accuracy and integrity of the election contest database.
- Runs casual vacancy recount.

The major changes in the EVACS software since the 2016 audit were:

- The eVACS program has now been re-written in the “Ada 2012 with Spark” computer language.
- Use of printed QR codes
- Cryptographic hashing algorithm of type SHA-256. Replacing previous MD5
- Polling Place Voting client use touch screen. The keyboard with audio assist is a retained alternative specifically designed for the blind and vision impaired.
- Added a telephone voting server to enable Interactive voice response (DTMF tones from telephone keypad).
- Added loading of ballots from OSEV system

4 SOURCE CODE EVALUATION

Using the documentation as a guide each module was checked. It was not the purpose of the review to verify that the code works correctly, rather it was to verify that the code matched the documented scope of the eVACS system and that no malicious code had been introduced that could insert, alter or delete ballot information unlawfully.

5 EVALUATION OF TESTING

N/A BMM did not perform tests on the current software version.

6 CONCLUSION

Following the audit activities outlined in this report, the Auditor was able to make an informed appraisal of the integrity of the eVACS source code supplied 2/9/2020.

The Auditor's findings were as follows:

- The code has been written in a modular fashion.
- There is no evidence in the source supplied of malicious code that can insert, alter, or delete ballots or otherwise alter the election result.

As a result of the evaluation BMM believes the eVACS "voting modules" are suitable for use in the 2020 elections.