

VeriCount™

Election Audit System

Free and fair elections require voting systems that are transparent and verifiable. Most electronic systems are vulnerable to tampering, however, and some are notoriously easy to defraud. Evidence strongly suggests that many election victories of radical Right candidates in the United States, in State houses and in Congress alike, owe their victories to electronic tampering. Restoring accurate counting will strengthen the moderate middle and reduce gridlock in government.

Free and fair elections are a core principle of democracy. They hold leaders accountable and are the first step in the establishment of trust in government and law.

Ballot box stuffing, vote stealing, vote switching and other electoral frauds are crimes against democracy. They rob citizens of their right to choose their government. Government loses its accountability to the governed, and the disfranchised suffer a slow brownout of their hopes and aspirations. Apathy increases and injustice flourishes.

The VeriCount Election Audit System™ empowers citizens to watchdog their elections and expose fraud when it occurs. Simple-to-use phone and tablet apps are built atop a powerful vote recording and reporting system that stores its data on a robust public blockchain ledger. Citizen auditors - activists, poll watchers, exit surveyors, election monitors and voters – record and securely upload data at every stage of the electoral process. The data becomes available for viewing immediately after the polls close.

There are five apps: The poll-watcher app allows poll watchers to duplicate all the tallies collected by official poll workers, creating an independent record and thus revealing any post-polling tampering. The exit survey app allows voters, upon departing their polling places, to re-record their votes, providing a 1:1 parallel count of the votes cast. The entering-voter app works similarly, but for places where, because of insufficient polling places, voters are forced to stand in line for many hours and may be at risk of leaving before casting their votes. The absentee voter app allows voters to re-record their absentee ballot choices. The election-observer app allows independent election monitors to upload photographs of suspicious activities that may affect the conditions surrounding campaigning and voting.

The effect of this multiple-stream, real-time audit approach is that, for the first time, it will be possible for monitors to collect detailed, high-quality direct evidence of the type required for court challenges. In the event that discrepancies between official results and the VeriCount data point to potential fraud, audit groups will be immediately able to

- Confidently inform government, campaigns and the media of the potential irregularities, thereby setting the stage for a delay in certification of election results, and
- Go into court immediately with the clear and convincing evidence required to enjoin certification and order an investigation of the official system and its data.

How VeriCount works

The VeriCount apps are built upon a vote recording and reporting system called Votabit™. The Votabit software provides functions for voting, recording, counting and end-to-end verification. All data is stored transparently: It is uploaded onto a public ledger system called a blockchain, where anyone with the open-source software can examine it. And it is permanent: Once recorded, all data, including user-verified photographs and screen shots of ballots, tallies and other evidence, cannot be deleted or lost. And it is extremely resistant to fraud: The system's fraud-detection

protocols provide the ability to quickly detect and respond to hacks, which cannot be hidden because of the nature of the blockchain technology.

All digital and photographic data are time and location stamped and cryptographically secured using NSA-strength algorithms. Voter identities and their votes are anonymized. After the polls close, the private key to the citizen-generated data is transmitted, allowing instantaneous display of the detailed data collected. Because the data is time- and location-stamped, pre- and post-election alterations are impossible to hide.

The VeriCount system is absolutely neutral and impartial. It can be deployed by nonpartisan organizations, electoral authorities, independent observer missions, campaigns of any party, and activists of any persuasion. Its use will deprive authoritarian regimes of the ability to rig elections with impunity. Many likely will still try, but their challengers will possess the evidence required to transform the political conversations in their countries, thereby contributing to the transformation of their civil societies.

Progress

We have prototyped one app and are well along in building the cryptographically secure and transparent real-time accounting and storage components of Votabit. Our goal is to roll out the exit-survey and poll-watcher apps in time for use in the American presidential election on November 8, 2016. Shortly afterwards we will release all audit apps to the world and begin spearheading the creation of an International Federation of Election Auditors.

Because so many software-literate people care about the direction democracies are going, we will use crowdsourcing to test and validate the final code. This will save several hundred thousand dollars and take many months off the process.

In 2017 we will begin development of a voting system, for use by government for official elections. Called SolidVote™, and based on the same Votabit engine as VeriCount, its use will make internal audits easy and render external audits such as VeriCount unnecessary.

We will release the code under a standard such as Creative Commons for free use by democracy activists and make licenses very cheap for nonprofit organizations and developing country governments. We will charge corporate prices to businesses and rich governments to underwrite the free and cheap licenses above.

We are seeking support. Please visit www.democracycounts.org for more information, or email Daniel Wolf (contact information below).

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Draft date: March 8, 2016