How the VeriCount™ Election Audit System Works

Democracy Counts!

(A Nonprofit Organization)

Defending the Vote in November, 2016

Ballot box stuffing, vote stealing, vote switching and other electoral frauds are crimes against democracy. They rob citizens of their right to choose their governments. Governments lose their accountability to the governed and injustice flourishes. The disenfranchised suffer a slow brownout of their hopes and aspirations and their apathy increases.

Most American electronic voting systems are vulnerable to tampering, and some systems are notoriously easy to defraud. Indeed, there is considerable evidence that many elections have been "tweaked", likely resulting in illegitimate victories in State legislatures and Congress alike.

The VeriCount election audit system empowers citizens to audit their elections and to expose fraud wherever it occurs. Audit data will enable legal challenges to suspect elections. Conversely, honest elections can be verified, thereby reducing public cynicism.

The system uses trained volunteer auditors, stationed inside and outside of polling places, to continuously record and upload evidence of voter intentions. These independent data streams will produce detailed, high-quality direct evidence of the type required for court challenges. In the event that discrepancies between official results and the audit data point to potential fraud, the auditing organizations will be able to immediately and confidently inform government, campaigns and the media of the irregularities, and go into court with the clear and convincing evidence required to enjoin certification of the results pending a full investigation of the official system and its data.

<u>How the audit system works</u>

The audit comprises an open-source software engine that provides secure functions for voting, recording, counting, and end-to-end verification, plus multiple user-facing apps to transmit audit data to the engine. The two most important apps are the Poll Watcher App and the Exit Voting App. The first allows poll watchers to duplicate all the data collected by official poll workers, creating an independent record that will reveal any tampering that occurs after the polls close. The second allows voters, upon departing their polling places, to sign in as before and anonymously re-record their votes. This will provide a parallel vote count that will reveal any tampering that occurs invisibly inside the polling place.

If there is no fraud the audit data and official results should line up; discrepancies, however, will provide the legal basis required for courts to order investigations to determine their cause.

All data are stored permanently: Data are uploaded onto a public ledger system called a blockchain, which is stored on thousands of computers around the world. Once recorded, data cannot be deleted or lost because blockchains always add data and never subtract it. The system is transparent: After the polls close and the private keys are released, anyone with the open-source software can decrypt and examine the raw data.

All data transmissions are time- and location-stamped and encrypted using NSA-strength "secure hashing algorithms" (SHA-256 and SHA-512). And the blockchain we are using is extremely resistant to hacking: The system's protocols provide the ability to quickly detect and respond to hacks, which cannot be hidden because of the additive nature of the blockchain technology and the nature of the hashing algorithms, which exponentially magnify even tiny changes in the original data.

The audit system is absolutely neutral and impartial. It can be deployed by nonpartisan organizations, electoral authorities, independent observer missions, partisan campaigns, and activists of any persuasion. To assure that professional audit standards are adhered to Democracy Counts! will provide training and logistical support to all users.

Progress

We have prototyped one app and are well along in building the software engine, which is composed of robust and well-understood components that we are lacing together to suit the needs of the audit functions. Before final deployment we will use crowdsourcing to test and validate the final code.

After the November 2016 elections we will release the VeriCount apps to the world and begin spearheading the creation of an International Federation of Election Auditors.

In 2017 we will repurpose the Exit Voting App to create a voting system, called SolidVote™, for use by governments in official elections. Its use will make internal audits easy and render external audits unnecessary.

We will release the source code under a standard such as Creative Commons for free or cheap use by democracy activists, nonprofit organizations and developing-country governments. We will charge commercial prices to others, which will help underwrite the audit system.

Please visit www.democracycounts.org for more information, or contact Daniel Wolf (information below).

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The days of election fraud are numbered…