

November 20, 2012

The Honorable Barack Obama
President of the United States
The White House
1600 Pennsylvania Avenue, N.W.
Washington, DC 20500

RE: Election Reform and Verification

Dear President Obama:

Congratulations on your re-election. We write to you as the nation's leading experts in election verification regarding a topic central to the integrity of our representative democracy: the reliability, security and auditability of the voting technology used to administer our federal elections.

We applaud your Election Night recognition of the need to fix the problem of voters waiting in long lines for hours to cast a ballot. Citizens should not have to choose between carrying out their family and work obligations and exercising their fundamental voting rights.

Unequal access to voting rights in the U.S. is a longstanding problem that has marred too many elections. We deeply appreciate your commitment to address this fundamental flaw of our electoral process. For some voters, unequal access results from the lack of adequate time, opportunity and resources to vote. For others, it means having their ballots subjected to an insecure, unverifiable voting system.

We are computer scientists, lawyers, activists, academics and election officials working together to educate the public and seek the elimination of unverifiable voting systems. We have focused on a state-by-state basis with considerable success to implement improved voting systems and procedures. Now leadership is required at the federal level to achieve equal protection for all voters.

Although many states have eliminated paperless electronic voting machines (also known as direct record electronic, or DRE machines), a substantial number of jurisdictions continue to use them. Approximately 25 percent of voters nationwide must still cast ballots on this type of equipment, which has been widely discredited because of fundamental usability, security, accessibility, reliability and auditability issues.

It is not possible to do audits or recounts of elections conducted with paperless, electronic voting machines because they provide no independent record of how voters intended to vote. Such unverifiable systems do not belong in U.S. elections. By contrast, paper-based optical scan voting systems are far preferable. In addition to producing fast, accurate results, optical scan systems also:

- are much more "low tech" than DREs: they don't limit voting in polling places to the number of machines available or require electricity, equipment or even a voting booth, thus reducing the potential for bottlenecks and long wait times;

- create a durable paper record that the voter has directly marked;
- require much less technical expertise on the part of pollworkers; and
- most importantly, produce a vote count that can be meaningfully recounted and publicly and independently audited and verified.

We urge you to take steps at the federal level to eliminate the use of nonverifiable voting equipment in the U.S. as rapidly as possible. We suggest these steps include:

- Reviving and re-invigorating the U.S. Election Assistance Commission with new leadership to provide better support and accountability to voters nationwide.
- Supporting changes in federal law to require post-election audits of federal election results so that the hardware and software used to count ballots is routinely and independently verified everywhere. Currently, only half of the states conduct any kind of post-election audit of vote counts (meaning hand counts of voted ballots compared against corresponding electronic tallies in order to verify accuracy).
- Strengthening the federal voting system testing program and expanding the role of the National Institute of Standards and Technology (NIST) to provide permanent, ongoing technical support and standards development for voting systems.
- Providing federal funding to states in order to retire aging and unverifiable equipment and replace it with transparent, resilient systems. Replacement systems should be resilient enough to ensure that even if software or hardware fails, it will still be available to voters, avoiding long lines – and it will be possible to determine the will of the electorate without re-running the election.
- Opposing the suggestion by some that Internet voting is the “solution” to voting technology issues and overburdened polling locations. Internet voting is vulnerable to remote attacks by cyber criminals or rival nations from anywhere in the world, not auditable, and not ready for use in U.S. elections.

An Internet voting system would, like paperless DREs, also produce results that cannot be verified. In addition, the fundamental computer security problem of securely casting votes online while retaining strong ballot secrecy remains unsolved. Banks and merchants that allow online transactions accept a certain degree of fraud as part of their business expense, but we cannot accept a similar degree of fraud in the voting process. The Internet can help with voter registration, ballot delivery and voter education but it should not be used at this time to cast votes.

While insufficient voting equipment was not the only cause for long wait times, it no doubt contributed to the problems we saw on Election Day. The need to improve our voting systems is urgent. Much of the voting equipment in use today is nearing the end of its life cycle, making equipment attrition and obsolescence a serious and growing threat.

Security problems of electronic voting systems, including both vulnerabilities specific to certain machines and vulnerabilities intrinsic to computer technology, are well established. Secretary of Defense Leon Panetta's recent warning of the country's vulnerability to catastrophic cyber attacks against critical infrastructure applies at least as much to voting technology as to any other type of computer system.

We are ready to assist you however we can. If you choose to appoint a commission to review the election process we strongly urge you to include members who have technical, administrative, and policy expertise in election technology, cyber security and verification issues. We would be pleased to suggest such persons and to work with you and your staff to further the goals outlined above.

We wish you success and look forward to working with you toward our shared goal of an electoral process that inspires participation and merits the highest confidence of the American people.

Respectfully,

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