National Association of Secretaries of State

Policy Considerations White Paper | February, 2018

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Executive Summary

As Chief Elections Officers, you are well aware that voter trust is fundamental to a sound democratic process and, without it, election results have little to no value to those participating. Despite the tremendous efforts put forth by every dedicated elections official across the U.S. during the 2016 election cycle, **less than 1/3 of all Americans were confident that votes *nationwide* were counted as intended** and only **66% of Americans were confident that their *own* vote was counted as intended**.[1]

This is indeed a crisis of trust and indicative of a tremendous civic problem as confidence in elections has been falling over time and today is at historic lows. It is clearly time to rethink our voting systems and processes to restore trust in the constituents you serve. In fact, we believe that it warrants a full analysis of how to improve voter trust and facilitate access to and participation in the democratic process.

Ultimately, a process that is independently and easily verifiable by election management bodies and *individually by each voter*, is the only true solution to push democratic decision making towards greater dependability, accuracy, and accountability. Verifying that a person's vote was cast and counted as intended should be as easy as tracking your shipment from Amazon!

> "We should be guided by the dynamics of the voting public we serve:
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> - Seniors whose needs include accessibility and readability of materials;
> - People with disabilities who have a reasonable expectation of fair and respectful service that enables a private, independent, and secure voting experience;
> - Busy professionals who seek options for voting that match their mobile lifestyles
> - Citizens with an array of cultural and ethnic backgrounds who depend on increased language accessibility and voter assistance;
> - ...and future voters whose needs may include things not yet considered.
>
> - Dean C. Logan, Registrar-Recorder/County Clerk, LA County

[1] Massachusetts Institute of Technology - Department of Political Science 2016 Survey of the Performance of American Elections

To the Future

When envisioning the future of democracy, most people would argue that electoral modernization in the form of digitalization of voting is inevitable. As future-facing technologies like mobile and online voting (as implemented at scale in countries around the world like Estonia, Switzerland, Australia, Canada, and others), strong authentication methodologies like biometrics, and secure and publicly verifiable technology like blockchain, become more prevalent in our lives, it's important to explore these proven systems for election systems in an effort to better serve our citizenry.

However, we understand the real risks and perceived threats of moving too fast in this direction. In the wake of foreign state malfeasance and future threats of interference,[2] there has been a visceral movement away from electronic voting considerations which we believe has caused trust and access to suffer as a result. The only path forward is not to abandon technology, but to work with a consortium of vendors, policy-makers, and security experts to collectively lay the technological foundation for running more verifiable elections and take a leadership role in the world.

No system, electronic or manual, is without the potential for compromise. There always exists an optimum balance between the underlying security and integrity of a voting system and the cost and complexity of its attainment; compromises are made to optimize for this tradeoff.

Society no longer rides horse and buggy despite the risk introduced by cars, nor travels across the world on sailboats despite the risk introduced by airplane; the mere existence of risk does not preclude technological adoption. This is because the human benefit of these technologies outweighed the potential risks, for which support structures are in place to mitigate their likelihood of transpiring and their magnitude in effect. In the spirit of Dean Logan's quote above, these technologies have adapted and improved, guided by the dynamic of the public which they serve.

In a world where mobile transactions are long past the point of ubiquity and global adoption - with nearly 2 billion smartphones in use and a significant and growing portion of banking, payments, shopping, taxes, and communication taking place online - it makes sense to reconsider voting in the context of the dynamics of the increasingly connected and technologically inclined voting public which it serves. Particularly when you consider that the largest voting bloc in the

[2] National Intelligence Council, Background to "Assessing Russian Activities and Intentions in Recent US Elections": The Analytic Process and Cyber Incident Attribution, 2017

US (millennials) will demand this channel and that their activism and voting participation will only increase in the near future.

This is not to forgo any considerations of the risks introduced by bringing voting into the 21st century; by bringing elections online, the standard should in fact be raised. Security, the integrity of the vote, the confidentiality of the voters' choices, the accessibility of the system, and verifiability of each of these are all non-negotiable, regardless of the medium.

Simply, as a complementary channel of voting, remote e-voting affords the convenience and flexibility of voting at any time with the strong potential to improve trust and voter access for individuals while providing vastly superior privacy, transparency, administrative efficiency (reduced spoiled ballots, ballot errors, rejected ballots, counting errors, expedited tabulation), and overall equality of the voting process. [3,4]

The U.S. Census Bureau surveyed 47,593,000 Americans on why they did not vote in 2014 and found **54% of respondents referred to their inability to make it to the polls as the primary reason -** there exists a real opportunity for verifiable and accessible voting technology to bolster trust and access in the electoral process.[5]

Mobile Voting & Blockchain – The Perfect Combination

Blockchains are a type of distributed system that is replicated over a peer-to-peer network which differ from traditional distributed databases by allowing network participants to independently and cryptographically verify the integrity of transactions creating an immutable record of those transactions without having to rely on a trusted third party.

While blockchain does not serve as a panacea for all the concerns raised by remote voting, in combination with procedural, organizational, and technical support structures, its inherent transparency, fault-tolerance, and irreversibility does fill many of the security shortcomings of traditional e-voting - it introduces desirable characteristics to the voting process such as verifiability, auditability, reduced cost, and data integrity.

The combination of mobile or e-voting and blockchain is a nascent but promising approach to reduce the level of blind trust required of voters in election officials without sacrificing all the desired security properties like voter anonymity. Despite the recent volume of articles, blockchain is an established technology that has proven itself to be a stable, secure, and fault-tolerant platform; and there are billions of dollars being spent to improve it.

[3] Elections BC. (2014.) Independent Panel on Internet Voting: Recommendations Report to the Legislative Assembly of British Columbia.

[4] Goodman, N. J., Pammett, J. H., & DeBardeleben, J. (2010). A Comparative Assessment of Electronic Voting. Ottawa, ON: Elections Canada.

[5] https://www.census.gov/topics/public-sector/voting.html

Conclusion

As your states, districts, counties, and cities consider ways to best serve your public with a focus on restoring trust, improving access, and operating secure, well-run elections, we encourage you to think about the lifespan of the systems and methods you are deploying to ensure they will meet the needs of your changing electorate. Consider voting systems and methods built for the future, while honoring the past methods that are still relevant; systems that prudently embrace technological change rather than heedlessly fear it; systems that incorporate *real-time* auditing and verification by trusted parties rather than retroactively allow for it; systems that earn the trust of participants rather than demand it; systems that are built for and guided by the dynamics of the voting public you serve.

Moving towards a more cost effective and verifiable future of voting is not without risk, but neither is the current method of in-person paper-based voting, and those Elections Officials who pilot and test these new methods will better meet the needs of their public now and into the future.

About Votem®. *Votem is a blockchain-based mobile voting platform enabling citizens around the world to easily vote online with unprecedented verifiability, accessibility, security, and transparency.*

Votem simply believes it should be easy to vote and impossible to cheat. We are launching a full out offensive in order to change the way we vote and believe that mobile voting will create positive change in the world by bringing modern voting to the world.

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