![votingapp logo]

How Tooele County Protected the Privacy of Uniformed and Overseas Voters

JURISDICTION
Tooele County, Utah

ELECTION
November 2022
General Election

CHALLENGE
Due to their location, uniform and overseas voters must vote remotely. All available remote methods expose a voter's identity when revealing their ballot choices.

SOLUTION
VotingApp's end-to-end verifiable election system which never associates individual voter information and marked ballot data.

RESULT
For the first time, voters returned their ballots electronically without sacrificing their privacy.

Tooele County, Utah, was on a mission to offer their uniformed and overseas voters a tool that would allow them to vote remotely without having to be reliant on the long lead times and delays of international mail. With a technically savvy County Clerk, they were ready to pilot new ideas and what particularly got them excited was the ability to provide a voting experience that would protect the voters privacy, in other words, a system that would allow the Clerk to verify the authenticity and signature of the voter without being able to simultaneously see how they voted.

CHALLENGE: Due to their location, uniform and overseas voters vote remotely, outside of a standard polling place or vote center. All remote voting methods expose a voter's identity when revealing their ballot choices.

When a voter votes a paper ballot in a polling place or vote center, that voter signs a roster at which point they are given a ballot. The voter marks the ballot and drops that ballot into a ballot box or a precinct scanner. This is all done privately, the ballot resides in a receptacle with all other ballots in that precinct and nothing ties a ballot to a voter's identity.

With electronic ballot delivery options for uniform and overseas voters that privacy is infringed. In the most common cases, a voter will receive a ballot electronically and return it either online, by fax, email attachment or by mail. The voter's signature is then verified, and if it matches, the envelope is open and the ballot will get tabulated. So the election worker can effectively match a voter's vote to their identity during this process. This is why most electronic ballot delivery affidavits make voters aware that they are giving up their privacy when they vote using this method.

Remote voting is not just absentee voting anymore, it's a convenient and cost-effective way to run elections. More and more people are voting remotely in the United States, and this has been accelerated due to the pandemic. While all states offer remote voting to voters in certain circumstances, eight states, representing 19% of the population, conduct all-mail elections - and Utah happens to be one of those states.

Utah has been an innovative state, in that they have allowed counties to pilot systems to uniformed and overseas voters that allow them to mark and submit their ballot online. These systems make it much easier for these voters to get their ballots submitted on-time without having to worry about mail delays, scanners or fax machines. However, even in these systems, the privacy issue remains. A voter's identity and virtual signature is verified - and their ballot selections are tied to that identity.

SOLUTION: VotingApp's end-to-end verifiable election system which never associates individual voter information and marked ballot data.

VotingApp has created a solution that solves the problem of voter privacy in remote voting. At the core of the backend of the system, is an air-gapped, non-networked custom made Security Device, which enables us not to link voter identity and marked data.

When an election is over, a jurisdiction uses a standard browser to access the VotingApp Administration Interface to verify that signatures match with the signatures stored in their voter registration system. After the signatures are verified, the jurisdiction will take an export from the Administration Interface via USB drive and enter into the Security Device. The Security Device will effectively separate the voter identity from the voted ballots. The jurisdiction will then reimport the anonymous voted ballot data from Security Device back into the Administration Interface, at which point they will be able to access the ballots for processing in a manner that completely separates them from voter identity.

For a deeper dive into the technology behind VotingApp and the Security Device, access our white paper at https://pub.votingapp.com/e2ev-whitepaper.pdf.

RESULT: For the first time, voters returned their ballots electronically without sacrificing their privacy.

Tooele County offered VotingApp to their uniformed and overseas voters for their November 8, 2022, General Election.These voters were given the option of using:

- VotingApp to mark and submit their ballot or
- The cumbersome default method of printing and hand-marking pdfs of a ballot and an affidavit; and then scanning those documents back into a computer to return via email.

A majority of these voters chose the VotingApp option, and the voters were able to access the system beginning on September 22, 2022. The county was also able to add more voters into the system even after the access period started. And VotingApp produced a video explaining the features of VotingApp, highlighting the fact that their voter privacy will be kept, even from the election officials.

After the election closed, Tooele County verified the signatures to their states Voter Registration database, and they decided that all but one were a match. Following the process described above, they exported the data from the Administration Interface into the Security

Device, where the separating of the voter identity from the voted ballots occurred; then imported the data back into the Administration Interface and were able to process and tabulate the 19 voted ballots without being able to tie the identity of a voter to a ballot. As for the voter whose signature did not match, at a later time the county was able to get an updated signature from the voter and their vote was processed as well.

Thus, Tooele County conducted the first remote voting pilot in which a voter's privacy was not compromised. Voters were given a survey and responded positively to the security and ease of use of the system saying:

> "It was so convenient and easy to use. I sure hope it is going to be reused for future elections!" and "I just wanted to say, bravo on the new voting app. Absolutely brilliant and needed."

Further,

- **90%** of the county's current UOCAVA voters chose to use VotingApp
- **85%** said that they would use VotingApp again
- **100%** rated the security of VotingApp as Good or Very Good
- **100%** rated the ease of selecting candidates as Very Good

Finally, Tooele County also chose to speak on their experience with VotingApp and having the ability to protect the privacy of uniformed and overseas voters at the statewide County Conference the week after the election. The County also plans on using VotingApp in the future.

> "My #1 reason for utilizing [VotingApp] over others available is due to the ability to protect the secret ballot of the voter while still being able to audit the votes, in the event it's needed. The ease of use for voters was also a top priority. This app saves voters' time and provides greater security—a win-win in my book."
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> Tracy Shaw, Tooele County Clerk