2022 Municipal & School Board Elections

How e-voting ensures secrecy and anonymity of your ballot

Often an analogy of e-voting (electronic voting) to the paper voting process offers a reasonable comparison that many voters may find useful.

The secrecy of the ballot, and the anonymity of the voter are key elements in any election, and Intelivote ensures a voter's choices on a cast ballot remain private and cannot be associated to a voter.

The entire voting transaction is encrypted at the voter's device and is verified for authenticity by the system's administration module and stored in an encrypted form in the digital ballot box (an Oracle database).

The use of the PIN and date of birth of each elector is analogous to the check in process that a voter would experience at a paper polling location. The following provides the analogy of E-voting vs traditional paper ballot:

Paper - When voting by paper, the electors present themselves to the Election Official who verifies their name and identity, and crosses their name off the paper elector list, prior to giving them their ballot, which includes the initials of the election official on the back of the ballot. The fact that a voter has been issued a ballot is tracked by the election official in a poll book (a photo ID is not required for verification in municipal elections).

E-voting - The PIN that was delivered to the eligible elector and the elector's date of birth (shared secret) acting as credentials, perform the same function. The system knows who is getting the ballot, and the voter's digital profile is marked as having provided the correct credentials and they are "offered" the ballot for the various races they are eligible to vote.

Paper - When a paper vote is delivered back to the Election Official, the back of the ballot is reviewed for the initials by the Election Official to ensure it is an official ballot, prior to dropping the ballot into the sealed ballot box. The ballot is mixed in the ballot box with all the other ballots so the identity of the voter who cast a ballot cannot be matched to a specific ballot in the box, but a record exists in the struck off list and the poll book that the voter has been given a ballot and it was cast.

E-voting - When the ballot is offered to an online voter their choices are encrypted when they make a candidate selection. The actual candidate names that are selected and transmitted are not clear text names but are actually hashed values and encrypted so that they remain indistinguishable to any entity who may try to intercept them. Like the paper balloting process, the system knows that a ballot has been issued and a "ballot receipt" is created, and

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stored separately, to indicate that the race(s) have been successfully voted but the ballot choices are not recorded with it. Those choices are stored in another database (a digital ballot box), in a random order, similar to the mixed ballot in a paper ballot box.

Paper - The total number of ballot receipts will equal the number of ballots in the ballot box, but which PIN (and hence the voter identity) is not attached to the choices in the ballot record. The voter's profile is updated to show they successfully voted all the races thus preventing the voter from returning and trying to successfully vote again.

E-Voting - At the end of the election, the stored digital ballots are decrypted and tallied when instructed by the Election Official, and the Election Auditor using their modules that they used during the evoting period to monitor other aspects of the election.