b-voting

INTEGRATED ELECTRONIC VOTING SYSTEM



IMPROVED MANAGEMENT OF THE ELECTORAL EVENT

B-Voting (Blockchain-Voting) is the **innovative electronic voting system** engineered and developed by Net Service, **integrated with one or more electoral event management procedures** (system set-up, distribution of credentials, voting, collection of ballot papers, counting of preferences, publication of results).

B-Voting overcomes the current limits of the so-called *e-voting* systems, uplifting the organising authority's responsibility of guaranteeing anonymity and non-alterability of the vote and transferring such responsibilities to the voting platform.

B-Voting guarantees accomplishment of essential requirements for a digital voting system, particularly for elective votes:

?

The vote cannot be tracked back to a voter



The vote cannot be altered



The vote can be verified



The vote count can be verified

Case study

ELECTRONIC BALLOT BOX FOR ... INSTITUTIONAL ADMINISTRATIVE ELECTIONS VOTING PROCESS



Phase 1 | Preparation

Forwarding OTP: all users with a right to vote receive a unique (anonymous) key in the form of a QR-code and proceed to registration.

Generating accounts: accounts ("wallets") are created on the Blockchain, to allow voting and verification procedures. Wallet initialisation: the Institution's wallet is created and filled with the necessary cryptocurrency (voting token) which is transferred to all the wallets recorded in the accounts generation stage, which will allow future voting.



Phase 2 | Voting procedure

Vote opening: the candidates list is encrypted via the Institution's public key. The encrypted vote is then recorded on the blockchain **Voting**: the candidates list is encrypted via the Institution's public key. The encrypted vote is then recorded on the blockchain.

Votes collection: votes are collected by the Institution by accessing a dedicated Smart Contract method provided via API. The Institution knows in real time the number of accounts who have voted.

Vote closure: The Institution initiates a private smart contract method close vote collection. This stage provides details of how many voters have actually voted.



Phase 3 | Vote Count

Decryption of votes: the encrypted information (individual votes) is decrypted using the election's private (secret) key. The vote is recorded and displayed on the vote-count Smart Contract.

Vote Count: the counting process (smart contract) provides for the real-time calculation of the voting's outcome.

Verification: each voter can invoke the methods of the vote-count Smart Contract to access vote-count operations in real-time. Publication of the results: the voting ends upon publication

of the results.

MAIN BENEFITS OF THE B-VOTING PLATFORM



Transparency

Based on the Smart Contract paradigm, B-Voting guarantees the publication of all the specifications and rules used to ensure the highest level of transparency in the voting process. B-Voting also allows to check the outcome of the voting transaction at any moment in time.



Flexibility

The platform is fully configurable. Each user can design the desired voting system model. The system can be released both as a Web Application and as a mobile DApp.



Safety

Using Blockchain via the B-Voting environment guarantees the immutability of the secret ballot for each voter and the expression of a single vote per voter (Privacy by Design).



Traceability

Traceability of all transactions at all stages allows to certify the origin of the transaction.

Disintermediation

Transactions are managed without intermediaries and without a central management authority.

Limited maintenance

Developing B-Vote with Open Source technology, allows to save management costs. Blockchain-based technologies do not require major maintenance and technical support.

0

One platfom, multiple Blockchains

The Blockchain technologies currently supported are Ethereum, Hyperledger, EOS. Nevertheless the platform can be configured to work with any type of Blockchain, public, private or a consortium.

SUPPORTED BLOCKCHAINS

EOS

ETHEREUM



NET SERVICE GROUP

BOLOGNA - via Monte Grappa, 4/d ROME - viale Luca Gaurico, 9/11 CAGLIARI - via Cesare Battisti, 14 LECCE - via Ludovico Maremonti, 41 RENDE - via Pedro Alvares Cabrai SNC SALERNO - via Roma, 7



netservice

LONDON 7/10 Chandos Street, W1G 9DQ

LUXEMBOURG Rue du Puits Romain, 20A - Bertrange

flosslab

CAGLIARI Via Cesare Battisti, 14

CONTACTS

www.netservice.eu info@netservice.eu (+39) 051 6241989

CONTACTS

www.netservice-digitalhub.com info@netservice-digitalhub.com

CONTACTS

www.netservice.eu/en info@netservice.eu +44 (0) 20 7631 9037

CONTACTS

www.netservice.eu/en info@netservice.eu

CONTACTS

www.flosslab.com info@flosslab.com +39 070 751 2011

