

Summary of the Report

We proposed an E-voting protocol that will work on basis of Blockchain network. Actually, we don't propose to change the entire voting system but integrating these new following techniques with the existing voting system-

(a) Hyperledger Fabric:

This protocol contains Hyperledger Fabric as a FAAS (Framework as A Service) to gain blockchain network. We propose to use permissioned/private ledger in this protocol. In Hyperledger Framework some integrated layer will be contained- like microservices layer, RESTful api layer.

(b) Blind Signature:

In this protocol blind signature will be used to preserve voter's privacy. To cast a vote, voter needs to be approved by vote organizers and inspectors. But there is a possibility to be revealed voter's choice. So, we propose to use blind signature method. In this process organizer and inspector can't know about voter's choice.

(c) Consensus mechanism:

We propose to use Proof of Authority (PAO) as consensus mechanism. That means pre-selected people will be able to approve voters. As approvers will not be able to know voters' choices so there is no doubt to have any illegal activity.

After applying the above methods, we will be able to have such an E-voting protocol that will have these following attributes-

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|----------------------------|--------------------|
| ✓ Auditability Anonymity | ✓ Dependability |
| ✓ Transparency | ✓ Decentralization |
| ✓ Individual Verifiability | ✓ Immutability |
| ✓ Consistency | |