



ETHEREUM TSS

By Oli Beyene

Overview

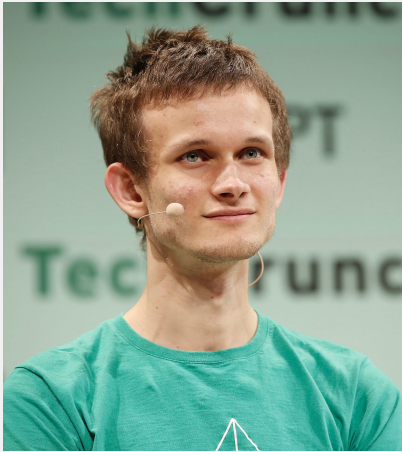
- Ethereum blockchain
- Ethereum Wallets
- Ethereum Transactions
- Smart Contract Wallets at BitGo
- TSS Wallets at BitGo
- TSS or Smart Contract Wallets
- Developer Portal
- Building Session



Setup

Ethereum Blockchain

- General purpose blockchain
- Proof of Stake



Vitalik Buterin



Ethereum Wallets

- EOA (Externally-owned account)
- Smart Contract

Ethereum Wallets

- Ether
- Address
- Smart Contract
- Transactions

Ethereum Transactions

- Recipient
- Value
- Nonce
- Gas Limit
- Max Priority Fee Per Gas
- Max Fee Per Gas
- Data
- Signature

Smart Contract Wallets at BitGo

- Multiple party ownership
- 2 - of - 3



Smart Contract Wallets at BitGo

- Keys



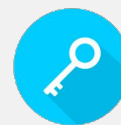
Alice



Backup



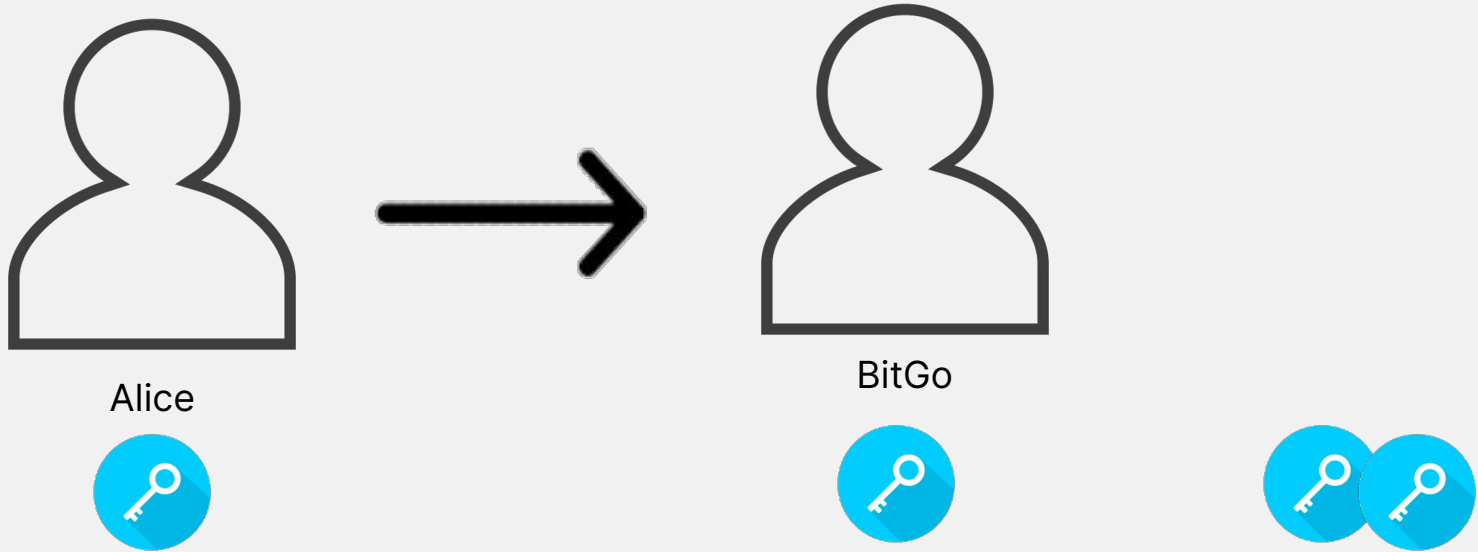
BitGo



Smart Contract Wallets at BitGo

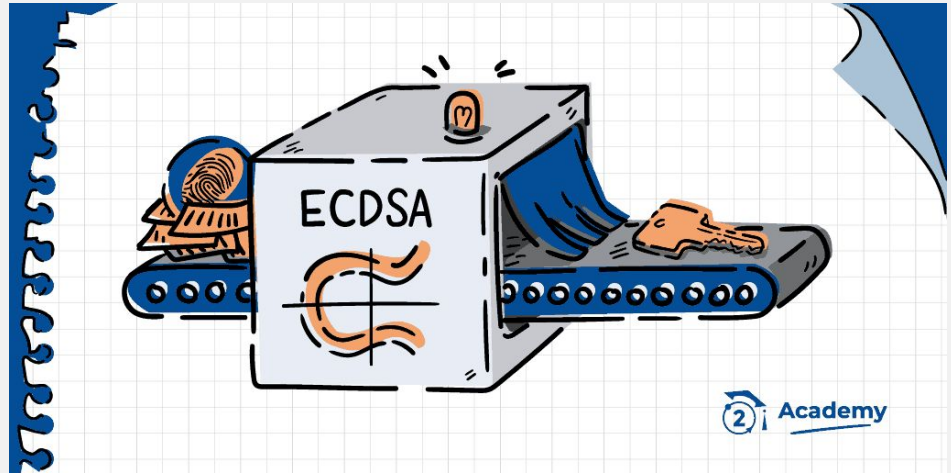


Smart Contract Wallets at BitGo



TSS Wallets at BitGo

- Threshold Signature Scheme
- Multiparty Computation (MPC)
- 2 - of - 3



TSS Wallets at BitGo

- Keys



Alice



Backup



BitGo

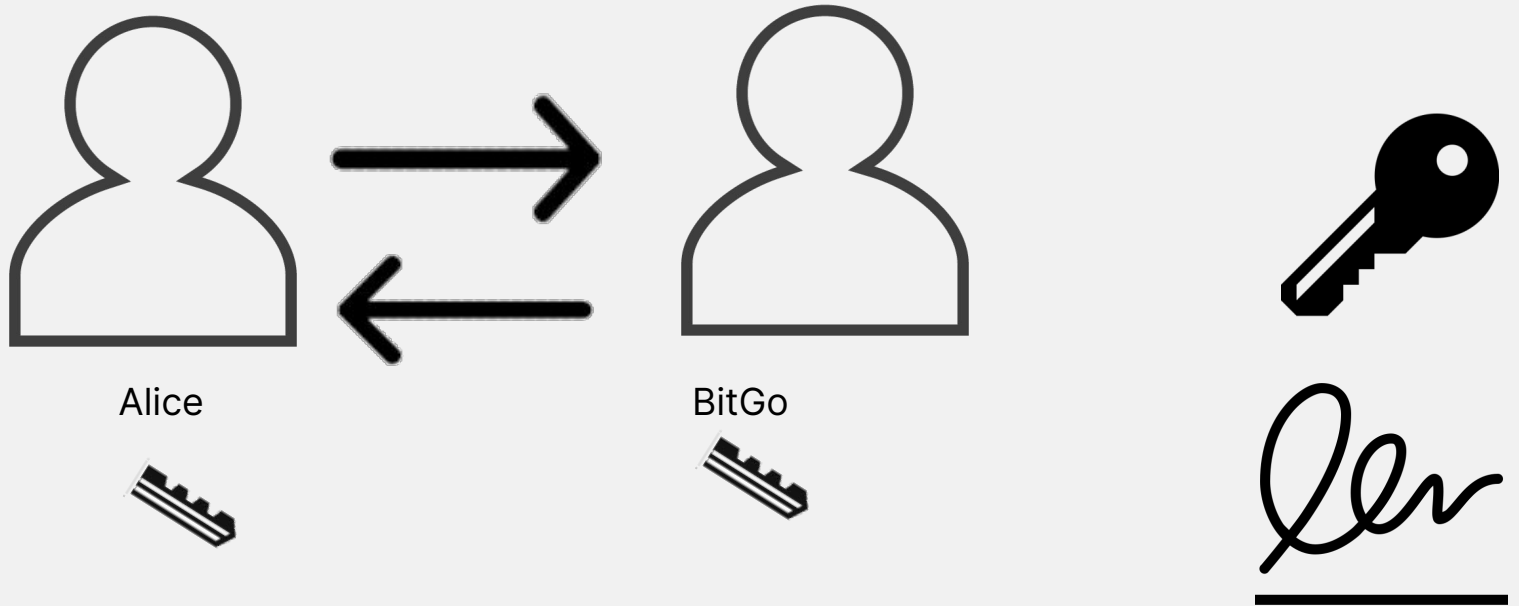


BitGo TSS Wallets



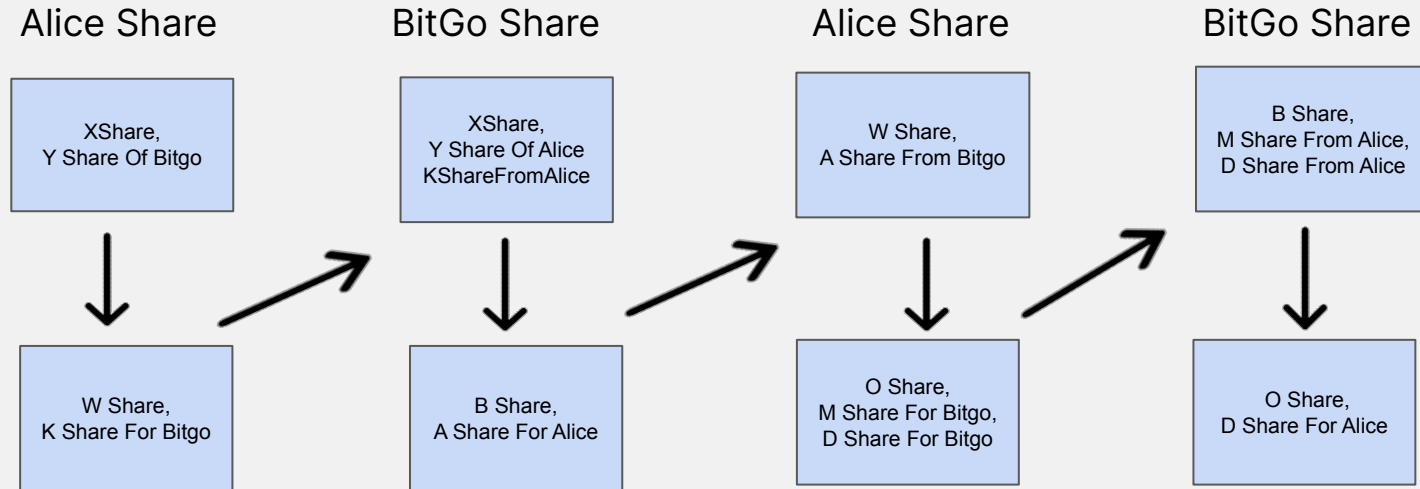
BitGo TSS Wallets

- Signature



ECDSA MPC

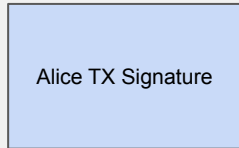
- Signing



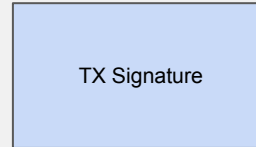
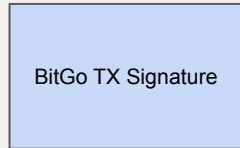
ECDSA MPC

- Signing

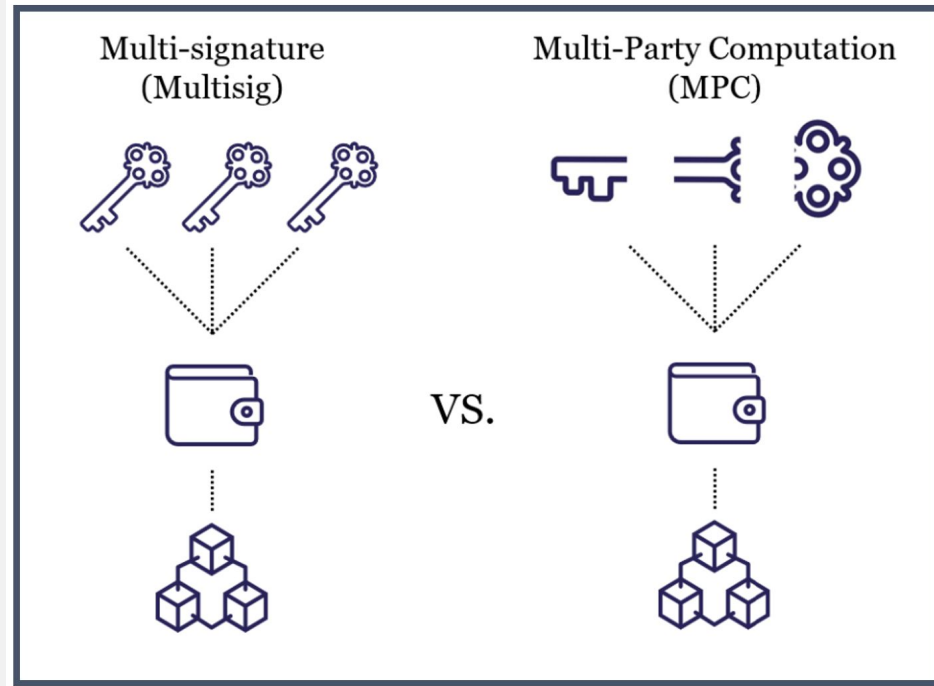
Alice Share



BitGo Share



BitGo Smart Contract vs TSS Wallets



Smart Contract TX

- ## Smart Contract TX

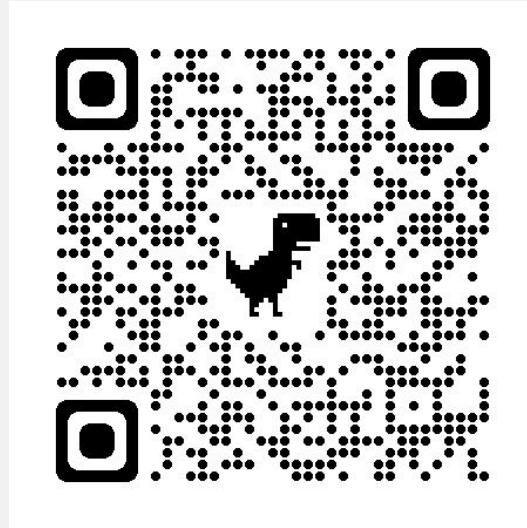
Smart Contract TX

EOA TX

BitGo Developer Portal

- Custody
- Identity
- Liquidity
- Settlement
- Wallet

<https://developers.bitgo-dev.com/>



Let's Build