

# **A Double-Linked Blockchain Approach Based on Proof-of-Refundable-Tax Consensus Algorithm**

**Cloud Computing Paper Presentation**

# Basic Information about the Paper

- Topic: A Double-Linked Blockchain Approach Based on Proof-of-Refundable-Tax Consensus Algorithm
- Author: 江政勳 (Zheng-Xun Jiang)
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- Publish Method: Theses in NTHU EE
- Link: <https://arxiv.org/pdf/2109.06520.pdf>

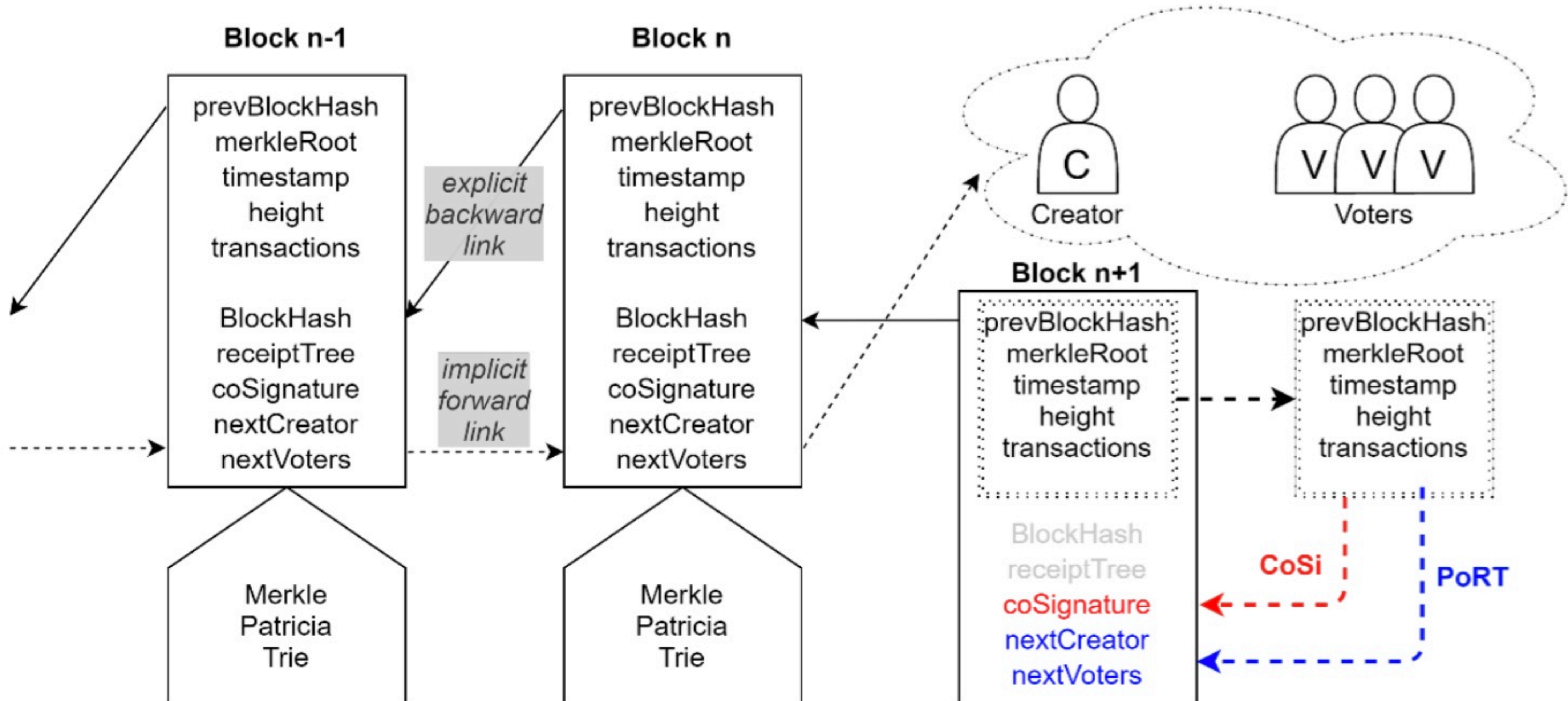
# Motivation

- Proof-of-Work (PoW)
- Proof-of-Stake (PoS)
- Delegated Proof-of-Stake (DPoS)
- Algorand



# **Double-Linked Blockchain & Proof-of-Refundable-Tax (PoRT)**

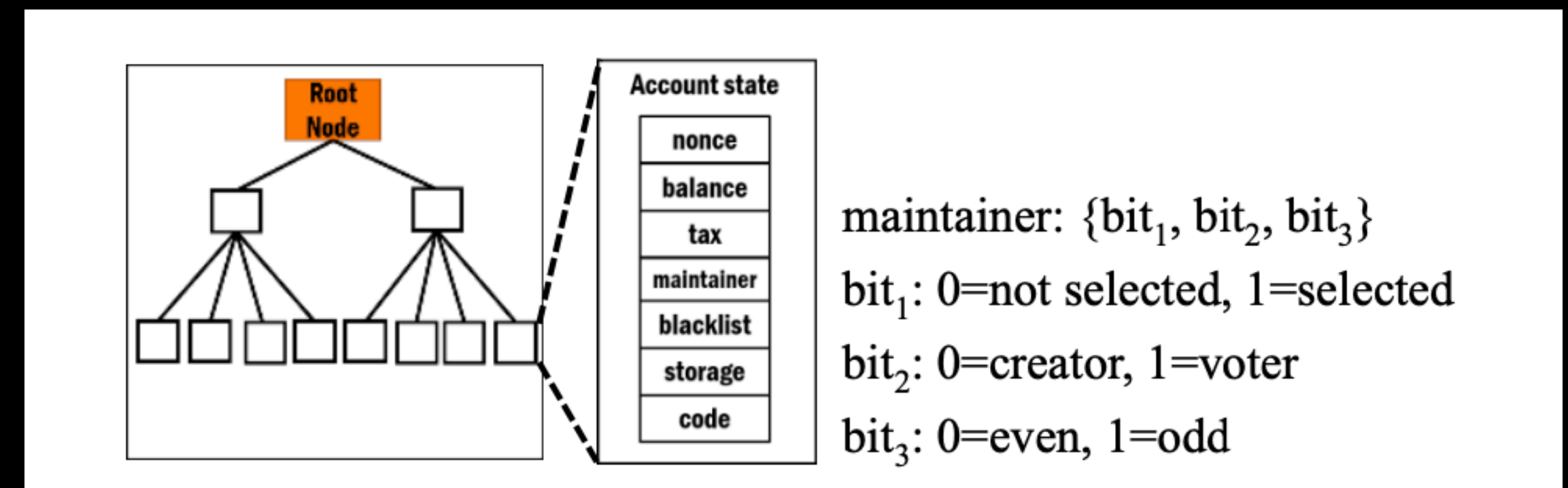
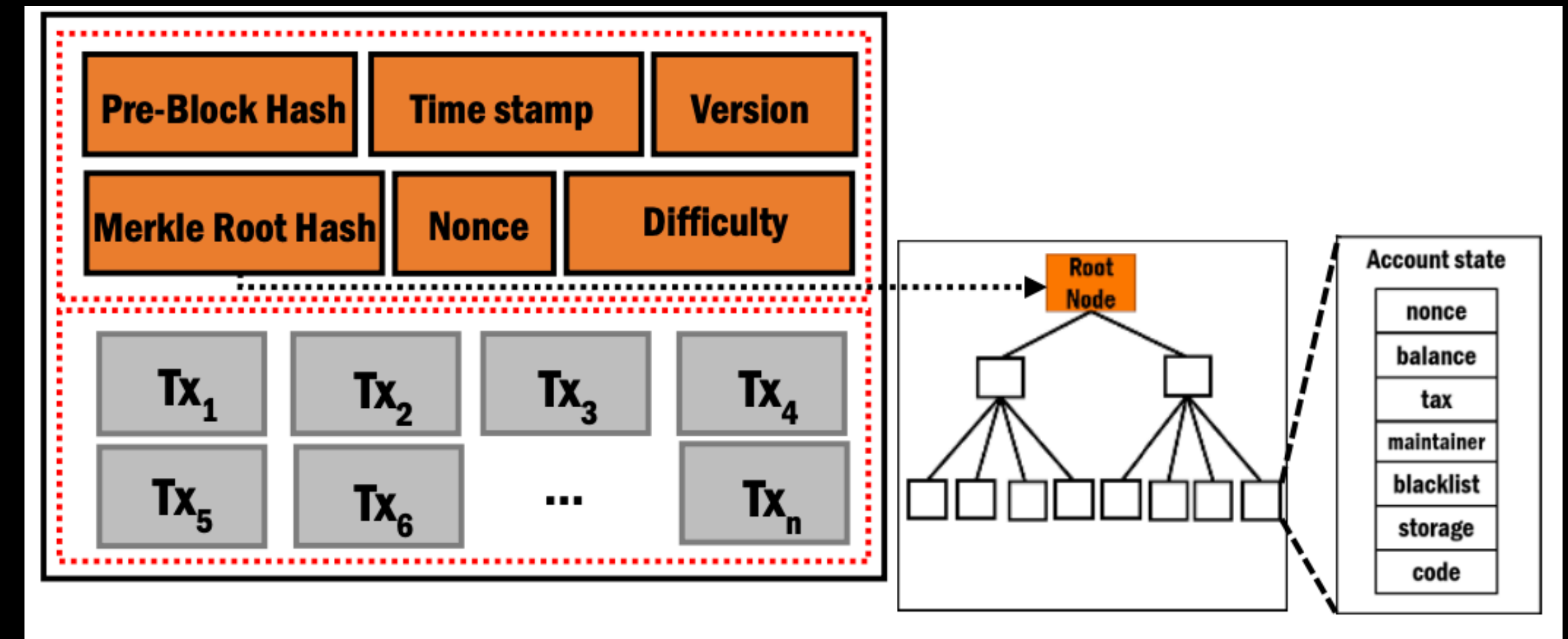
# Main Concept





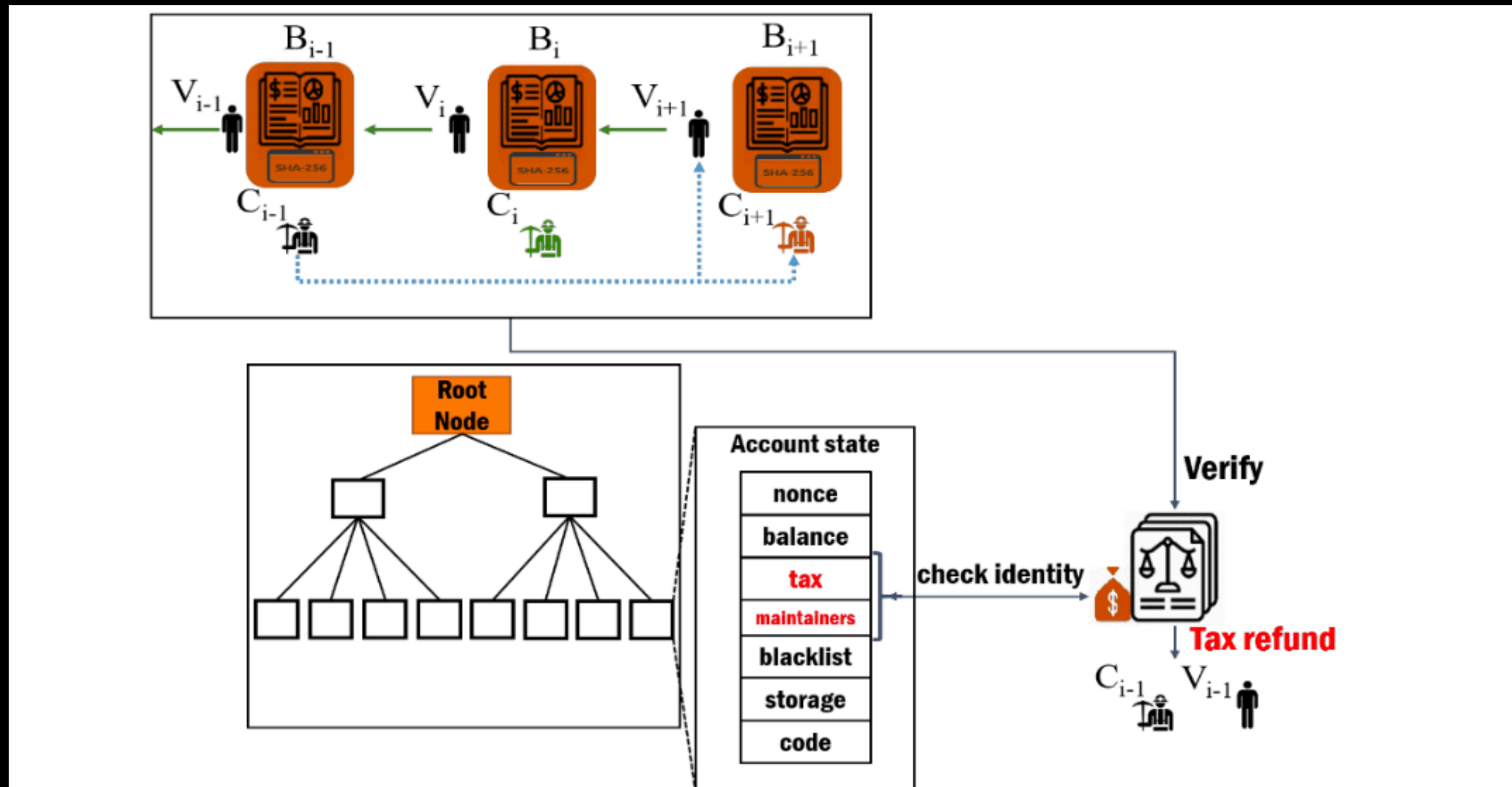
# Modified Data Structure

- Tax for each account
- Maintainer for each account



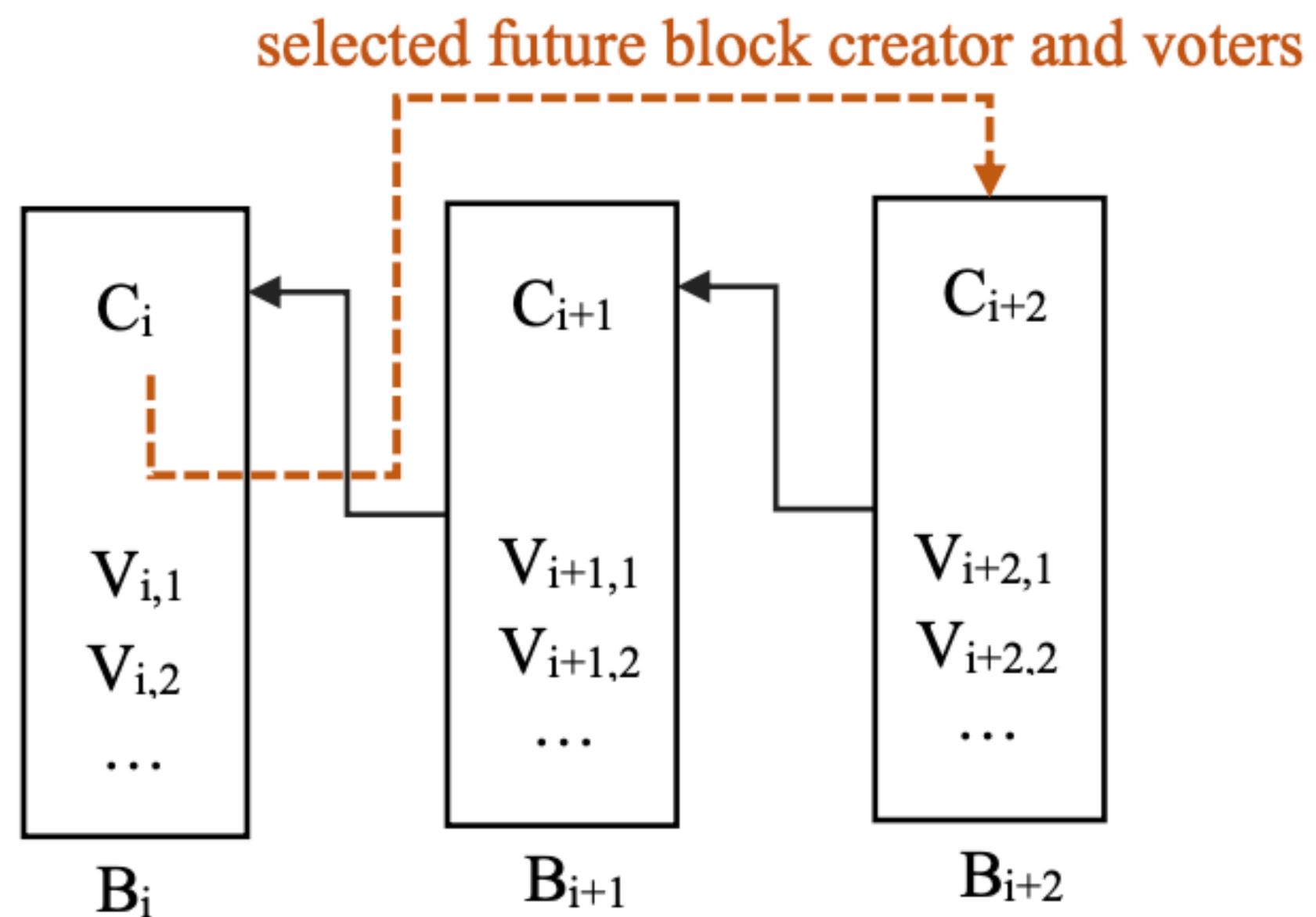
# Refund mechanism

- High tax, high probability become maintainer
- Refund tax after finishing maintainer's work.



# Jump-Step Design

- Creator and Voters for each Block
- $C_i$  maintain Block  $i$
- $V_i$  maintain Block  $i-1$





## Other detail

- Blacklist and refund penalty
- Cosignature technique to verify block

# Conclusion & Opinion

- Ethereum PoW -> PoS
- Market Policy
  - No gain
  - No initial funds