

PERFORMING PARALLEL EXECUTION OF TRANSACTIONS IN A DISTRIBUTED LEDGER SYSTEM

ABSTRACT

Disclosed herein are methods, systems, and apparatus for performing parallel execution of transactions in a blockchain network. One method includes receiving multiple transactions; determining whether each transaction is a first-type or a second-type transaction; for a first-type transaction, determining accounts affected by the first-type transaction; for a second-type transaction, pre-executing the second-type transaction; and determining accounts affected by the pre-executing the second-type transaction; performing a consensus process of the multiple transactions and the accounts affected by the pre-executing the second-type transaction; dividing the multiple transactions into groups; executing groups of transactions in parallel; committing the executing each first-type transaction; if the each of the accounts affected by the executing a second-type transaction are the same as accounts affected by the pre-executing of the second-type transaction and the accounts affected by the executing the second-type transaction are not affected by any previously executed transactions, committing the executing the second-type transaction.

FIG. 4