

ABSTRACT

The present application relates to a blockchain system based on Ethereum, including a master node configured to receive a transaction request transmitted by a client terminal, perform transaction processing by calling a smart contract deployed in a consortium blockchain according to the transaction request to obtain transaction data; and use the transaction data to generate a block, and broadcast the block is to the plurality of backup nodes; backup node configured to receive the block and verify the transaction data of the block; the master node is further configured to generate a first-stage certificate using complete block information, and transmit the first-stage certificate to the plurality of backup nodes; the backup node is further configured to respectively generate a second-stage certificate and a third-stage certificate according to a block hash value in the first-stage certificate, and the second-stage certificate and the third-stage certificate are respectively used to negotiate on the block to obtain a negotiation result; and when the block verification is passed and the negotiation result is a successful negotiation, the master node and the plurality of backup nodes are configured respectively to add the block to the copy of the local consortium blockchain.