CLAIMS

1. A method of processing a transaction based on a dedicated blockchain node device, wherein the dedicated blockchain node device comprises a Central Processing Unit, CPU, and a smart network card and is any node of a blockchain network, and the method comprises:

when the dedicated blockchain node device accepts a transaction through the smart network card, writing (S300), by the smart network card, the accepted transaction into a network card cache, sending, by the smart network card, the accepted transaction to the CPU and writing, by the CPU, the accepted transaction into a CPU cache;

performing (S302), by the smart network card, a consensus interaction with other nodes of the blockchain network based on the transaction in the network card cache in a process that the dedicated blockchain node device participates in a blockchain consensus;

determining and sending (S304), by the smart network card, a to-be-executed transaction list to the CPU based on a result of the blockchain consensus, wherein the to-be-executed transaction list comprises a transaction identifier of each to-be-executed transaction determined based on the present blockchain consensus; and

executing (S306), by the CPU, transaction based on the to-be-executed transaction list and completing transaction chaining.

2. The method according to claim 1, wherein the to-be-executed transaction list includes a transaction hash of each to-be-executed transaction determined based on the present blockchain consensus and wherein, when the dedicated blockchain node device accepts the transaction through the smart network card, the smart network card sends the accepted transaction to the CPU while writing the accepted transaction into the network card cache.

3. The method according to claim 1, further comprising:

in the process that the dedicated blockchain node device participates in the blockchain consensus, sending, by the smart network card, consensus configuration modification information to the CPU if receiving the consensus configuration modification information; and

modifying, by the CPU, a consensus configuration locally stored in the dedicated blockchain node device based on the consensus configuration modification information.

4. The method according to claim 1, further comprising:

sending, by the CPU, an execution result generated by executing transaction based on the to-be-executed transaction list to the smart network card; and

receiving, by the smart network card, the execution result as reference information of a next blockchain consensus.

5. A dedicated blockchain node device, comprising a Central Processing Unit, CPU, and a smart network card, and the dedicated blockchain node device being any node of a blockchain network, wherein the dedicated blockchain node device is configured to carry out the method of any of the preceding claims.

6. A blockchain system, comprising a blockchain network, wherein at least one node of the blockchain network is the dedicated blockchain node device according to claim 5.