CLAIMS

1. A method for concealing a transaction written to a blockchain, comprising:

obtaining (S200), by an execution node, a target transaction identifier, wherein the execution node is a node having a transaction concealment permission in a blockchain network;

constructing (S202), by the execution node, a concealment instruction comprising the target transaction identifier, and broadcasting the concealment instruction to the blockchain network; and

for each node in the blockchain network, replacing (S204), by the node, a transaction corresponding to the target transaction identifier in the blockchain with concealed data based on the concealment instruction, wherein the concealed data comprises a transaction hash of the transaction corresponding to the target transaction identifier, and wherein the concealed data is generated in the following way by each node obtaining the concealment instruction:

obtaining the transaction hash of the transaction corresponding to the target transaction identifier;

concatenating a predetermined front marking character to a header of the transaction hash; and

determining the concealed data based on data obtained by concatenating the front marking character and the transaction hash.

2. The method according to claim 1, wherein for any transaction written to the blockchain, a correspondence between a transaction identifier of the transaction and a transaction storage position of the transaction in the blockchain is pre-recorded on each node; and

the replacing a transaction corresponding to the target transaction identifier in the blockchain with concealed data based on the concealment instruction specifically comprises the following:

determining a transaction storage position corresponding to the target transaction identifier as a target transaction storage position based on the target transaction identifier comprised in the concealment instruction and the pre-recorded correspondence between the transaction identifier and the transaction storage position; and

replacing, with the concealed data, the transaction stored at the target transaction storage position in the blockchain.

3. The method according to claim 1, wherein the determining the concealed data based on data obtained by concatenating the front marking character and the transaction hash specifically comprises the following:

concatenating a predetermined rear marking character to the end of the transaction hash, and concatenating remark information to the end of the rear marking character; and

determining, as the concealed data, data obtained by concatenating the front marking character, the transaction hash, the rear marking character, and the remark information.

4. The method according to claim 1, wherein the broadcasting the concealment instruction to the blockchain network specifically comprises the following:

packaging the concealment instruction into a transaction and broadcasting the transaction to the blockchain network; and

the method further comprises the following:

for each node in the blockchain network, writing, by the node to the blockchain, the concealment instruction packaged into the transaction.

5. A method for concealing a transaction written to a blockchain, comprising:

obtaining, by an execution node, a target transaction identifier, wherein the execution node is a node having a transaction concealment permission in a blockchain network; and

constructing, by the execution node, a concealment instruction comprising the target transaction identifier, and broadcasting the concealment instruction to the blockchain network so that each node in the blockchain network replaces a transaction corresponding to the target transaction identifier in the blockchain with concealed data based on the concealment instruction, wherein the concealed data comprises a transaction hash of the transaction corresponding to the target transaction identifier, and wherein the concealed data is generated in the following way by each node obtaining the concealment instruction:

obtaining the transaction hash of the transaction corresponding to the target transaction identifier;

concatenating a predetermined front marking character to a header of the transaction hash; and

determining the concealed data based on data obtained by concatenating the front marking character and the transaction hash.

6. A method for concealing a transaction written to a blockchain, comprising:

for each node in a blockchain network, replacing, by the node, a transaction corresponding to a target transaction identifier in the blockchain with concealed data based on a concealment instruction, wherein the concealed data comprises a transaction hash of the transaction corresponding to the target transaction identifier,

wherein the concealed data is generated in the following way by each node obtaining the concealment instruction:

obtaining the transaction hash of the transaction corresponding to the target transaction identifier;

concatenating a predetermined front marking character to a header of the transaction hash; and

determining the concealed data based on data obtained by concatenating the front marking character and the transaction hash, and

wherein the concealment instruction is constructed by an execution node based on the obtained target transaction identifier and is broadcast to the blockchain network; the execution node is a node having a transaction concealment permission in the blockchain network.

7. An apparatus for concealing a transaction written to a blockchain, wherein the apparatus is a node having a transaction concealment permission in a blockchain network, and the apparatus comprises the following:

an acquisition module, configured to obtain a target transaction identifier; and

an execution module, configured to construct a concealment instruction comprising the target transaction identifier and broadcast the concealment instruction to the blockchain network so that each node in the blockchain network replaces a transaction corresponding to the target transaction identifier in the blockchain with concealed data based on the concealment instruction, wherein the concealed data comprises a transaction hash of the transaction corresponding to the target transaction identifier, and wherein the concealed

data is generated in the following way by each node obtaining the concealment instruction:

obtaining the transaction hash of the transaction corresponding to the target transaction identifier;

concatenating a predetermined front marking character to a header of the transaction hash; and

determining the concealed data based on data obtained by concatenating the front marking character and the transaction hash.

8. An apparatus for concealing a transaction written to a blockchain, wherein the apparatus is any node in a blockchain network, and the apparatus comprises the following:

a processing module, configured to replace a transaction corresponding to a target transaction identifier in the blockchain with concealed data based on a concealment instruction, wherein the concealed data comprises a transaction hash of the transaction corresponding to the target transaction identifier, wherein the concealed data is generated in the following way by each node obtaining the concealment instruction:

obtaining the transaction hash of the transaction corresponding to the target transaction identifier;

concatenating a predetermined front marking character to a header of the transaction hash; and

determining the concealed data based on data obtained by concatenating the front marking character and the transaction hash, and

wherein the concealment instruction is constructed by an execution node based on the obtained target transaction identifier and is broadcast to the blockchain network; the execution node is a node having a transaction concealment permission in the blockchain network.

9. A blockchain system, comprising a blockchain network comprising a plurality of nodes, wherein

a node having a transaction concealment permission in the blockchain network obtains a target transaction identifier; and constructs a concealment instruction comprising the target transaction identifier, and broadcasts the concealment instruction to the blockchain network; and

each node in the blockchain network replaces a transaction corresponding to the target transaction identifier in a blockchain with concealed data based on the concealment instruction, wherein the concealed data comprises a transaction hash of the transaction corresponding to the target transaction identifier, wherein the concealed data is generated in the following way by each node obtaining the concealment instruction:

obtaining the transaction hash of the transaction corresponding to the target transaction identifier;

concatenating a predetermined front marking character to a header of the transaction hash; and

determining the concealed data based on data obtained by concatenating the front marking character and the transaction hash.