

CLAIMS

1. A method, comprising:

receiving a request to write transaction data in a blockchain system, wherein the transaction

5 data comprises transaction feature information reflecting a first transaction type of the transaction data, wherein the blockchain system comprises one or more blockchains;

determining, according to a blockchain data record table and the transaction feature information, a first blockchain of the blockchains that matches the transaction data, wherein the blockchain data record table comprises: (i) one or more correspondences between one or more
10 transaction type identifiers and the one or more blockchains, (ii) a first record of a hash value of a last block of the first blockchain, and (iii) a second record of a time stamp corresponding to the last block; and

after determining the first blockchain:

extracting the first hash value and the first time stamp;

15 writing an execution result of the transaction data, the first hash value, and the first time stamp into a new block of the first blockchain;

updating the first record with a second hash value of the new block; and

updating the second record with a second time stamp corresponding to the new block.

20 2. The method of claim 1, wherein determining the first blockchain comprises: determining, based on the one or more correspondences, that the first transaction type corresponds to a first transaction type identifier of the one or more transaction type identifiers.

3. The method of claim 2, wherein the transaction feature information comprises a value of
25 N^{th} power of 2, where N is 0 or a positive integer; and wherein the first transaction identifier is a sum of different pieces of transaction feature information of transaction data stored in the first blockchain.

4. The method of claim 1, wherein the one or more blockchains comprise a main chain, the
30 method further comprising after receiving the request, in response to determining that a preset condition is satisfied, adding a sidechain blockchain

into the blockchain system; and

adding, in the blockchain data record table, a record corresponding to the sidechain and a second transaction type identifier of the sidechain.

5 5. The method of claim 4, wherein the preset condition comprises: the transaction feature information matches preset transaction feature information.

6. The method of claim 4, wherein the preset condition comprises: a concurrent number of received blockchain transaction data writing requests reaches a preset threshold value.

10

7. The method of claim 4, wherein the preset condition comprises: a preset time for adding the sidechain is reached.

8. The method of claim 1, wherein the one or more blockchains comprises a main chain and
15 a sidechain, the method further comprising: when a preset condition is satisfied:
terminating the first blockchain as the sidechain; and
updating a third record in the blockchain data record table corresponding to the sidechain to indicate that the sidechain has been terminated.

20 9. The method of claim 8, wherein the preset condition comprises: a concurrent number of received blockchain transaction data writing requests is smaller than a preset threshold value.

10. The method of claim 8, wherein the preset condition comprises: a time of validity of the sidechain has been reached.

25

11. The method of claim 8, wherein updating the third record comprises: deleting the third record.

12. The method of claim 8, wherein updating the third record comprises: changing state
30 information of the sidechain to an invalid state.

13. A non-transitory computer-readable storage medium storing instructions that, when executed by a processor, cause the processor to perform a method comprising:

receiving a request to write transaction data in a blockchain system, wherein the transaction data comprises transaction feature information reflecting a first transaction type of the

5 transaction data, wherein the blockchain system comprises one or more blockchains;

determining, according to a blockchain data record table and the transaction feature information, a first blockchain of the blockchains that matches the transaction data, wherein the blockchain data record table comprises: (i) one or more correspondences between one or more transaction type identifiers and the one or more blockchains, (ii) a first record of a hash value of
10 a last block of the first blockchain, and (iii) a second record of a time stamp corresponding to the last block; and

after determining the first blockchain:

extracting the first hash value and the first time stamp;

writing an execution result of the transaction data, the first hash value, and the first time

15 stamp into a new block of the first blockchain;

updating the first record with a second hash value of the new block; and

updating the second record with a second time stamp corresponding to the new block.

14. The non-transitory computer-readable storage medium of claim 13, wherein determining
20 the first blockchain comprises: determining, based on the one or more correspondences, that the first transaction type corresponds to a first transaction type identifier of the one or more transaction type identifiers.

15. The non-transitory computer-readable storage medium of claim 14, wherein the
25 transaction feature information comprises a value of N^{th} power of 2, where N is 0 or a positive integer; and wherein the first transaction identifier is a sum of different pieces of transaction feature information of transaction data stored in the first blockchain.

16. The non-transitory computer-readable storage medium of claim 13, wherein the one or
30 more blockchains comprise a main chain, the method further comprising: after receiving the request,

in response to determining that a preset condition is satisfied, adding a sidechain blockchain into the blockchain system; and

adding, in the blockchain data record table, a record corresponding to the sidechain and a second transaction type identifier of the sidechain.

5

17. The non-transitory computer-readable storage medium of claim 16, wherein the preset condition comprises: the transaction feature information matches preset transaction feature information.

10 18. A system comprising:

one or more processors; and

one or more non-transitory computer-readable storage medium storing instructions that, when executed by the one or more processors, cause the one or more processors to perform a method comprising:

15 receiving a request to write transaction data in a blockchain system, wherein the transaction data comprises transaction feature information reflecting a first transaction type of the transaction data, wherein the blockchain system comprises one or more blockchains;

determining, according to a blockchain data record table and the transaction feature information, a first blockchain of the blockchains that matches the transaction data, wherein the
20 blockchain data record table comprises: (i) one or more correspondences between one or more transaction type identifiers and the one or more blockchains, (ii) a first record of a hash value of a last block of the first blockchain, and (iii) a second record of a time stamp corresponding to the last block; and

after determining the first blockchain:

25 extracting the first hash value and the first time stamp;

writing an execution result of the transaction data, the first hash value, and the first time stamp into a new block of the first blockchain;

updating the first record i with a second hash value of the new block; and

30 updating the second record with a second time stamp corresponding to the new block.

19. The system of claim 18, wherein determining the first blockchain comprises:
determining, based on the one or more correspondences, that the first transaction type
corresponds to a first transaction type identifier of the one or more transaction type identifiers.

5 20. The system of claim 19, wherein the transaction feature information comprises a value of
 N^{th} power of 2, where N is 0 or a positive integer; and wherein the first transaction identifier is a
sum of different pieces of transaction feature information of transaction data stored in the first
blockchain.