

CLAIMS

1. A computer-implemented method for writing data to blockchain, the 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, and wherein the blockchain system comprises a plurality of blockchains;
determining, from the plurality of blockchains according to a blockchain data record table
and the transaction feature information, a first blockchain that matches the first transaction type,
wherein the blockchain data record table comprises: (i) a plurality of correspondences
10 respectively between a plurality of transaction type identifiers and the plurality of blockchains,
(ii) a first record of a first hash value of a newest block of the first blockchain, and (iii) a second
record of a first timestamp corresponding to the newest block;
extracting the first hash value and the first timestamp from the blockchain data record table
based on the determined first blockchain;
15 writing an execution result of the transaction data, the first hash value, and the first
timestamp into a new block of the first blockchain;
updating the first record in the blockchain data record table with a second hash value of the
new block; and
updating the second record in the blockchain data record table with a second timestamp
20 corresponding to the new block.
2. The method of claim 1, wherein determining the first blockchain comprises: determining,
based on the plurality of correspondences, that the first transaction type corresponds to a first
transaction type identifier of the plurality of transaction type identifiers.
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3. The method of claim 2, wherein the first transaction type identifier is a sum of different
pieces of transaction feature information of transaction data stored in the first blockchain.
4. The method of claim 3, wherein each of the different pieces of transaction feature
30 information corresponds to a value of N^{th} power of 2, where N is 0 or a positive integer.

5. The method of claim 1, wherein the plurality of blockchains comprise a main chain, and after receiving the request, the method further comprises:

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

5 adding, in the blockchain data record table, a record corresponding to the side chain and a second transaction type identifier corresponding to the side chain.

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

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7. The method of claim 5, wherein the preset condition comprises: a concurrent number of received requests to write transaction data in the blockchain system reaches a preset threshold value.

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8. The method of claim 5, wherein the preset condition comprises: a preset time for adding the side chain into the blockchain system is reached.

9. The method of claim 1, wherein the plurality of blockchains comprise a main chain and a side chain, the first blockchain is the side chain, and the method further comprises, when a preset condition is satisfied:

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terminating the first blockchain as the side chain; and

updating a third record in the blockchain data record table corresponding to the side chain to indicate that the side chain has been terminated.

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10. The method of claim 9, wherein the preset condition comprises: a concurrent number of received requests to write transaction data in the blockchain system is smaller than a preset threshold value.

11. The method of claim 9, wherein the preset condition comprises: a time of validity of the side chain has been reached.

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12. The method of claim 9, wherein updating the third record comprises: deleting the third record.

13. The method of claim 9, wherein updating the third record comprises: changing state
5 information of the side chain to an invalid state.

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

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

determining, from the plurality of blockchains according to a blockchain data record table and the transaction feature information, a first blockchain that matches the first transaction type, wherein the blockchain data record table comprises: (i) a plurality of correspondences
15 respectively between a plurality of transaction type identifiers and the plurality of blockchains, (ii) a first record of a first hash value of a newest block of the first blockchain, and (iii) a second record of a first timestamp corresponding to the newest block;

extracting the first hash value and the first timestamp from the blockchain data record table based on the determined first blockchain;

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

updating the first record in the blockchain data record table with a second hash value of the new block; and

updating the second record in the blockchain data record table with a second timestamp
25 corresponding to the new block.

15. The non-transitory computer-readable storage medium of claim 14, wherein determining the first blockchain comprises: determining, based on the plurality of correspondences, that the first transaction type corresponds to a first transaction type identifier of the plurality of
30 transaction type identifiers.

16. The non-transitory computer-readable storage medium of claim 15, wherein the first transaction type identifier is a sum of different pieces of transaction feature information of transaction data stored in the first blockchain.

5 17. The non-transitory computer-readable storage medium of claim 16, wherein each of the different pieces of transaction feature information corresponds to a value of N^{th} power of 2, where N is 0 or a positive integer.

10 18. The non-transitory computer-readable storage medium of claim 14, wherein the plurality of blockchains comprise a main chain, and after receiving the request, the method further comprises:

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

15 adding, in the blockchain data record table, a record corresponding to the side chain and a second transaction type identifier corresponding to the side chain.

19. The non-transitory computer-readable storage medium of claim 14, wherein the plurality of blockchains comprise a main chain and a side chain, the first blockchain is the side chain, and the method further comprises, when a preset condition is satisfied:

20 terminating the first blockchain as the side chain; and

updating a third record in the blockchain data record table corresponding to the side chain to indicate that the side chain has been terminated.

25 20. A system comprising one or more processors and one or more memories storing instructions that, when executed by the one or more processors, cause the system to perform operations 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 transaction data, and wherein the blockchain system comprises a plurality of blockchains;

30 determining, from the plurality of blockchains according to a blockchain data record table and the transaction feature information, a first blockchain that matches the first transaction type,

wherein the blockchain data record table comprises: (i) a plurality of correspondences respectively between a plurality of transaction type identifiers and the plurality of blockchains, (ii) a first record of a first hash value of a newest block of the first blockchain, and (iii) a second record of a first timestamp corresponding to the newest block;

5 extracting the first hash value and the first timestamp from the blockchain data record table based on the determined first blockchain;

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

 updating the first record in the blockchain data record table with a second hash value of the
10 new block; and

 updating the second record in the blockchain data record table with a second timestamp corresponding to the new block.