

CLAIMS:

1. A computer-implemented method for updating data in blockchain, comprising:
obtaining one or more requests for updating a plurality of pieces of data in one or more blockchains; and
updating the plurality of pieces of data in the one or more blockchains.
2. The method of claim 1, wherein:
obtaining the one or more requests for updating the plurality of pieces of data in the one or more blockchains comprises: obtaining the one or more requests for updating the plurality of pieces of data correspondingly in a plurality of blockchains in association with one local account; and
updating the plurality of pieces of data of the one or more blockchains comprises: correspondingly in the plurality of blockchains, updating in a batch the plurality of pieces of data.
3. The method of claim 1, wherein:
obtaining the one or more requests for updating the plurality of pieces of data in the one or more blockchains comprises: obtaining the one or more requests for updating the plurality of pieces of data in one blockchain correspondingly in association with a plurality of local accounts; and
updating the plurality of pieces of data of the one or more blockchains comprises: in the one blockchain, updating in a batch the plurality of pieces of data.
4. The method of claim 1, wherein:
obtaining the one or more requests for updating the plurality of pieces of data in the one or more blockchains comprises: obtaining the one or more requests for updating the plurality of pieces of data correspondingly in a plurality of blockchains in association with a plurality of local accounts; and
updating the plurality of pieces of data of the one or more blockchains comprises: correspondingly in the plurality of blockchains, updating in a batch the plurality pieces of data.
5. The method of any of claims 1-4, wherein:

obtaining the one or more requests for updating the plurality of pieces of data in the one or more blockchains comprises: obtaining one or more local accounts, one or more unsigned blockchain transactions to be executed for correspondingly updating the plurality of pieces of data associated with the one or more local accounts, information of the plurality of pieces of data, and one or more identifications of the one or more blockchains corresponding to the one or more blockchain transactions; and

the information of the plurality of pieces of data comprises: new data to add to the one or more blockchains or changes to make to existing data in the one or more blockchains.

6. The method of claim 5, wherein updating the plurality of pieces of data of the one or more blockchains comprises:

obtaining one or more blockchain addresses associated with the one or more local accounts and one or more private keys correspondingly associated with the one or more blockchain addresses;

correspondingly updating the one or more unsigned blockchain transactions based on the one or more blockchain addresses;

correspondingly signing the one or more updated blockchain transactions with the one or more private keys; and

transmitting the signed one or more blockchain transactions to one or more blockchain nodes of the one or more blockchains for execution.

7. The method of claim 6, wherein transmitting the signed one or more blockchain transactions to one or more blockchain nodes for execution comprises:

constructing a master blockchain transaction comprising the signed one or more blockchain transactions; and

sending the master blockchain transaction to the one or more blockchain nodes of the one or more blockchains according to the one or more identifications of the one or more blockchains for execution.

8. The method of any of claims 6-7, wherein:

obtaining the one or more requests for updating the plurality of pieces of data in the one or more blockchains comprises: obtaining, from a client, the one or more requests for updating the plurality of pieces of data in the one or more blockchains; and

the client does not store (1) the one or more blockchain addresses associated with the one or more local accounts and/or (2) the one or more private keys associated with the one or more blockchain addresses.

9. The method of any of claims 6-8, wherein:

obtaining the one or more private keys correspondingly associated with the one or more blockchain addresses comprises: retrieving the one or more private keys in an encrypted form;

correspondingly updating the one or more unsigned blockchain transactions based on the one or more blockchain addresses comprises: correspondingly adding the one or more blockchain addresses to the one or more unsigned blockchain transactions; and

correspondingly signing the one or more updated blockchain transactions with the one or more private keys comprises: decrypting the retrieved one or more private keys in the encrypted form and correspondingly signing the one or more updated blockchain transactions with the one or more private keys in a decrypted form.

10. The method of claim 9, wherein:

retrieving the one or more private keys in the encrypted form comprises: retrieving the one or more private keys in the encrypted form from a Key Management System (KMS) according to one or more KMS directories in one or more mapping relationships;

the one or more mapping relationships associate the one or more local accounts with the one or more blockchain addresses and the one or more KMS directories; and

the one or more KMS directories link to the one or more private keys in the encrypted form.

11. The method of any of claims 9-10, wherein:

decrypting the retrieved one or more private keys in the encrypted form and correspondingly signing the one or more updated blockchain transactions with the one or more private keys in the decrypted form comprises: in a Trusted Execution Environment (TEE), decrypting the retrieved one or more private keys in the encrypted form and correspondingly signing the one or more updated blockchain transactions with the one or more private keys in the decrypted form.

12. The method of any of claims 1-11, wherein:

obtaining the one or more requests for updating the plurality of pieces of data in the one or more blockchains comprises: obtaining, from a client, the one or more requests for updating the plurality of pieces of data in the one or more blockchains in accordance with a Lightweight Directory Access Protocol (LDAP).

13. A system for updating data in blockchain, comprising:
one or more processors; and
one or more computer-readable memories coupled to the one or more processors and having instructions stored thereon that are executable by the one or more processors to perform the method of any of claims 1 to 12.
14. An apparatus for updating data in blockchain, comprising a plurality of modules for performing the method of any of claims 1 to 12.
15. A non-transitory computer-readable medium having stored therein instructions that, when executed by a processor of a device, cause the device to perform the method of any of claims 1 to 12.