

CLAIMS

What is claimed is:

1. A blockchain smart contract-based encoding method, wherein an instruction set of a blockchain virtual machine comprises a BASE64 encoding instruction, and
5 BASE64 encoding logic corresponding to the BASE64 encoding instruction is deployed in the blockchain virtual machine;

an instruction set of a smart contract compiler comprises the BASE64 encoding instruction, and a service smart contract compiled by using the smart contract compiler comprises the BASE64 encoding instruction;

10 the service smart contract is deployed in a blockchain network; and

the encoding method comprises:

obtaining, by a node in the blockchain network, a service initiation transaction, and broadcasting the service initiation transaction to other nodes;

when executing the service initiation transaction, invoking, by each node in the
15 blockchain network, the service smart contract by using the blockchain virtual machine; and

triggering, by the node, execution of the BASE64 encoding logic based on the BASE64 encoding instruction in the service smart contract by using the blockchain virtual machine, to perform an encoding operation on data to be encoded.

20 wherein the data to be encoded is generated when the service initiation transaction is executed.

2. The method according to claim 1, wherein the service initiation transaction comprises the data to be encoded; or

25 the service smart contract comprises the data to be encoded;~~or~~
~~the data to be encoded is generated when the service initiation transaction is executed.~~

3. A blockchain smart contract-based encoding method, wherein an instruction set of a blockchain virtual machine comprises a BASE64 encoding instruction, and
30 BASE64 encoding logic corresponding to the BASE64 encoding instruction is deployed in the blockchain virtual machine;

an instruction set of a smart contract compiler comprises the BASE64 encoding instruction, a service smart contract compiled by using the smart contract compiler comprises a contract identifier of a BASE64 encoding smart contract, and the BASE64 encoding smart contract is a smart contract pre-deployed in a blockchain network;

5 the service smart contract is deployed in the blockchain network; and
the encoding method comprises:

obtaining, by a node in the blockchain network, a service initiation transaction, and broadcasting the service initiation transaction to other nodes;

when executing the service initiation transaction, invoking, by each node in the
10 blockchain network, the service smart contract by using the blockchain virtual machine;

invoking, by the node, the BASE64 encoding smart contract based on the contract identifier of the BASE64 encoding smart contract in the service smart contract by using the blockchain virtual machine; and

triggering, by the node, execution of the BASE64 encoding logic based on the
15 BASE64 encoding instruction in the BASE64 encoding smart contract by using the blockchain virtual machine, to perform an encoding operation on data to be encoded;

wherein the data to be encoded is generated when the service initiation transaction is executed.

4. A blockchain smart contract-based decoding method, wherein an instruction set
20 of a blockchain virtual machine comprises a BASE64 decoding instruction, and BASE64 decoding logic corresponding to the BASE64 decoding instruction is deployed in the blockchain virtual machine;

an instruction set of a smart contract compiler comprises the BASE64 decoding instruction, and a service smart contract compiled by using the smart contract compiler
25 comprises the BASE64 decoding instruction;

the service smart contract is deployed in a blockchain network; and

the decoding method comprises:

obtaining, by a node in the blockchain network, a service initiation transaction, and broadcasting the service initiation transaction to other nodes;

30 when executing the service initiation transaction, invoking, by each node in the blockchain network, the service smart contract by using the blockchain virtual machine; and

triggering, by the node, execution of the BASE64 decoding logic based on the BASE64 decoding instruction in the service smart contract by using the blockchain virtual machine, to perform a decoding operation on data to be decoded.

5 wherein the data to be decoded is generated when the service initiation transaction is executed.

5. The method according to claim 4, wherein the service initiation transaction comprises the data to be decoded; or

10 the service smart contract comprises the data to be decoded;~~or~~
~~the data to be decoded is generated when the service initiation transaction is executed.~~

6. A blockchain smart contract-based decoding method, wherein an instruction set of a blockchain virtual machine comprises a BASE64 decoding instruction, and BASE64 decoding logic corresponding to the BASE64 decoding instruction is
15 deployed in the blockchain virtual machine;

an instruction set of a smart contract compiler comprises the BASE64 decoding instruction, a service smart contract compiled by using the smart contract compiler comprises a contract identifier of a BASE64 decoding smart contract, and the BASE64 decoding smart contract is a smart contract pre-deployed in a blockchain network;

20 the service smart contract is deployed in the blockchain network; and
the decoding method comprises:

obtaining, by a node in the blockchain network, a service initiation transaction, and broadcasting the service initiation transaction to other nodes;

25 when executing the service initiation transaction, invoking, by each node in the blockchain network, the service smart contract by using the blockchain virtual machine;

invoking, by the node, the BASE64 decoding smart contract based on the contract identifier of the BASE64 decoding smart contract in the service smart contract by using the blockchain virtual machine; and

30 triggering, by the node, execution of the BASE64 decoding logic based on the BASE64 decoding instruction in the BASE64 decoding smart contract by using the blockchain virtual machine, to perform a decoding operation on data to be decoded.

wherein the data to be decoded is generated when the service initiation transaction is executed.

7. A blockchain virtual machine, configured to implement the method according to any one of claims 1 to 3, wherein

an instruction set of the blockchain virtual machine comprises a BASE64 encoding instruction, and BASE64 encoding logic corresponding to the BASE64 encoding instruction is deployed in the blockchain virtual machine.

8. The blockchain virtual machine according to claim 7, wherein the instruction set of the blockchain virtual machine further comprises at least one Ethereum instruction, and the Ethereum instruction is an instruction in an instruction set of an Ethereum virtual machine; and

relevant logic corresponding to each Ethereum instruction comprised in the instruction set of the blockchain virtual machine is deployed in the blockchain virtual machine.

9. A blockchain virtual machine, configured to implement the method according to any one of claims 4 to 6, wherein

an instruction set of the blockchain virtual machine comprises a BASE64 decoding instruction, and BASE64 decoding logic corresponding to the BASE64 decoding instruction is deployed in the blockchain virtual machine.

10. A smart contract compiler, configured to implement the method according to claim 1, wherein

an instruction set of the smart contract compiler comprises a BASE64 encoding instruction, and a service smart contract compiled by using the smart contract compiler comprises the BASE64 encoding instruction.

11. The smart contract compiler according to claim 10, wherein the instruction set of the smart contract compiler further comprises at least one Ethereum instruction, and the Ethereum instruction is an instruction in an instruction set of an Ethereum virtual machine.

12. A smart contract compiler, configured to implement the method according to claim 3, wherein

an instruction set of the smart contract compiler comprises a BASE64 encoding instruction, a service smart contract compiled by using the smart contract compiler comprises a contract identifier of a BASE64 encoding smart contract, and the BASE64 encoding smart contract is a smart contract pre-deployed in a blockchain network.

13. A smart contract compiler, configured to implement the method according to claim 4, wherein

an instruction set of the smart contract compiler comprises a BASE64 decoding instruction, and a service smart contract compiled by using the smart contract compiler comprises the BASE64 decoding instruction.

14. A smart contract compiler, configured to implement the method according to claim 6, wherein

an instruction set of the smart contract compiler comprises a BASE64 decoding instruction, a service smart contract compiled by using the smart contract compiler comprises a contract identifier of a BASE64 decoding smart contract, and the BASE64 decoding smart contract is a smart contract pre-deployed in a blockchain network.

15. A blockchain system, comprising a blockchain network, wherein

an instruction set of a blockchain virtual machine comprises a BASE64 encoding instruction, BASE64 encoding logic corresponding to the BASE64 encoding instruction is deployed in the blockchain virtual machine, an instruction set of a smart contract compiler comprises the BASE64 encoding instruction, a service smart contract compiled by using the smart contract compiler comprises the BASE64 encoding instruction, and the service smart contract is deployed in the blockchain network;

a node in the blockchain network obtains a service initiation transaction, and broadcasts the service initiation transaction to other nodes; and

when executing the service initiation transaction, each node in the blockchain network invokes the service smart contract by using the blockchain virtual machine, and triggers execution of the BASE64 encoding logic based on the BASE64 encoding instruction in the service smart contract by using the blockchain virtual machine, to perform an encoding operation on data to be encoded;

wherein the data to be encoded is generated when the service initiation transaction is executed.

16. A blockchain system, comprising a blockchain network, wherein

an instruction set of a blockchain virtual machine comprises a BASE64 encoding instruction, BASE64 encoding logic corresponding to the BASE64 encoding instruction is deployed in the blockchain virtual machine, an instruction set of a smart contract compiler comprises the BASE64 encoding instruction, a service smart contract compiled by using the smart contract compiler comprises a contract identifier of a BASE64 encoding smart contract, the BASE64 encoding smart contract is a smart contract pre-deployed in the blockchain network, and the service smart contract is deployed in the blockchain network;

a node in the blockchain network obtains a service initiation transaction, and broadcasts the service initiation transaction to other nodes; and

when executing the service initiation transaction, each node in the blockchain network invokes the service smart contract by using the blockchain virtual machine, invokes the BASE64 encoding smart contract based on the contract identifier of the BASE64 encoding smart contract in the service smart contract by using the blockchain virtual machine, and triggers execution of the BASE64 encoding logic based on the BASE64 encoding instruction in the BASE64 encoding smart contract by using the blockchain virtual machine, to perform an encoding operation on data to be encoded.

wherein the data to be encoded is generated when the service initiation transaction is executed.

17. A blockchain system, comprising a blockchain network, wherein

an instruction set of a blockchain virtual machine comprises a BASE64 decoding instruction, BASE64 decoding logic corresponding to the BASE64 decoding instruction is deployed in the blockchain virtual machine, an instruction set of a smart contract compiler comprises the BASE64 decoding instruction, a service smart contract compiled by using the smart contract compiler comprises the BASE64 decoding instruction, and the service smart contract is deployed in the blockchain network;

a node in the blockchain network obtains a service initiation transaction, and broadcasts the service initiation transaction to other nodes; and

when executing the service initiation transaction, each node in the blockchain network invokes the service smart contract by using the blockchain virtual machine, and triggers execution of the BASE64 decoding logic based on the BASE64 decoding instruction in the service smart contract by using the blockchain virtual machine, to perform a decoding operation on data to be decoded.

wherein the data to be decoded is generated when the service initiation transaction is executed.

18. A blockchain system, comprising a blockchain network, wherein

an instruction set of a blockchain virtual machine comprises a BASE64 decoding instruction, BASE64 decoding logic corresponding to the BASE64 decoding instruction is deployed in the blockchain virtual machine, an instruction set of a smart contract compiler comprises the BASE64 decoding instruction, a service smart contract compiled by using the smart contract compiler comprises a contract identifier of a BASE64 decoding smart contract, the BASE64 decoding smart contract is a smart

contract pre-deployed in the blockchain network, and the service smart contract is deployed in the blockchain network;

a node in the blockchain network obtains a service initiation transaction, and broadcasts the service initiation transaction to other nodes; and

5 when executing the service initiation transaction, each node in the blockchain network invokes the service smart contract by using the blockchain virtual machine, invokes the BASE64 decoding smart contract based on the contract identifier of the BASE64 decoding smart contract in the service smart contract by using the blockchain virtual machine, and triggers execution of the BASE64 decoding logic based on the
10 BASE64 decoding instruction in the BASE64 decoding smart contract by using the blockchain virtual machine, to perform a decoding operation on data to be decoded;

wherein the data to be decoded is generated when the service initiation transaction is executed.

19. A computer device, comprising a memory, a processor, and a computer
15 program that is stored in the memory and that can run on the processor, wherein when executing the program, the processor implements the method according to any one of claims 1 and 6.