CLAIMS

1. A method of transmitting messages, being applicable to a relay node in a blockchain relay communication network, comprising:

registering, based on a registration request submitted by each blockchain node, the blockchain node to a blockchain node set indicated by the registration request;

determining, when receiving a blockchain message sent for a target blockchain node set, a target blockchain node registered to the target blockchain node set and a target relay node in the blockchain relay communication network and connected to the target blockchain node; and

transmitting the blockchain message to the target blockchain node through the target relay node,

wherein the method further comprises: recording, based on role type information comprised in the registration request, a role type corresponding to each blockchain node in the blockchain node set to which the blockchain node pertains; and

determining the target blockchain node registered to the target blockchain node set comprises: reading a target role type indicated in the blockchain message, and taking a blockchain node registered to the target blockchain node set and corresponding to the target role type as the target blockchain node.

2. The method according to claim 1, wherein registering the blockchain node to the blockchain node set indicated by the registration request, comprises:

registering, in a case that the registration request comprises a set identifier, the blockchain node initiating the registration request to a blockchain node set corresponding to the set identifier; and

registering, in a case that the registration request does not comprise a set identifier, the blockchain node initiating the registration request to a default blockchain node set.

3. The method according to claim 2, wherein the default blockchain node set comprises all blockchain nodes in a blockchain network to which the blockchain node initiating the registration request pertains.

4. The method according to claim 1, wherein receiving the blockchain message sent for the target blockchain node set, comprises:

receiving the blockchain message sent for the target blockchain node set from a connected blockchain node; or,

receiving the blockchain message sent for the target blockchain node set from other relay node(s) in the blockchain relay communication network.

5. The method according to claim 1, wherein receiving the blockchain message sent for the target blockchain node set, comprises:

reading a set identifier from the blockchain message after receiving the blockchain message; and

determining a blockchain node set corresponding to the set identifier as the target blockchain node set corresponding to the blockchain message.

6. The method according to claim 1,

wherein the method further comprises: generating a routing table, the routing table is used for recording a blockchain node set to which each blockchain node pertains and a connection relationship between each blockchain node and relay nodes; and

determining the target blockchain node registered to the target blockchain node set and the target relay node in the blockchain relay communication network and connected to the target blockchain node comprises: determining, by querying the routing table, the target blockchain node registered to the target blockchain node set and the target relay node in the blockchain relay communication network and connected to the target blockchain node.

7. The method according to claim 1, wherein transmitting the blockchain message to the target blockchain node through the target relay node, comprises:

transmitting the blockchain message to the connected target blockchain node; and/or,

transmitting the blockchain message to the target relay node, for the target relay node to forward the blockchain message to the connected target blockchain node.

8. The method according to claim 1, further comprising:

determining, when receiving a blockchain message sent for any blockchain node, a relay node in the blockchain relay communication network and connected to the any blockchain node and transmitting the blockchain message to the any blockchain node through the determined relay node.

9. The method according to claim 1,

wherein the blockchain node set indicated by the registration request is irrelevant to other blockchain node set(s); or,

the blockchain node set indicated by the registration request is comprised in one or more other blockchain node sets; or,

the blockchain node set indicated by the registration request comprises one or more other blockchain node sets.

10. An apparatus for transmitting message, being applicable to a relay node in a blockchain relay communication network, comprising:

a registration unit, configured to register, based on a registration request submitted by each blockchain node, the blockchain node to a blockchain node set indicated by the registration request;

a recording unit, configured to record, based on role type information comprised in the registration request, a role type corresponding to each blockchain node in the blockchain node set to which the blockchain node pertains;

a determining unit, configured to determine, when receiving a blockchain message sent for a target blockchain node set, a target blockchain node registered to the target blockchain node set and a target relay node in the blockchain relay communication network and connected to the target blockchain node, by being configured to

read a target role type indicated in the blockchain message, and take a blockchain node registered to the target blockchain node set and corresponding to the target role type as the target blockchain node; and

a transmission unit, configured to transmit the blockchain message to the target blockchain node through the target relay node.

11. An electronic device, comprising:

a processor; and

a memory, configured to store processor executable instructions, wherein the processor executes the executable instructions to implement the method according to any one of claims 1 to 9.

12. A computer-readable storage medium, storing computer instructions, wherein the instructions are executed by a processor to implement steps in the method according to any one of claims 1 to 9.