

CLAIMS

What is claimed is:

1. A method for communication between blockchain nodes, wherein blockchain nodes in a blockchain network comprise service nodes, and service nodes participating in a same service have a mapping relationship; and

the method comprises:

receiving, by a first blockchain node, a communication request sent by a second blockchain node;

determining whether the second blockchain node has a mapping relationship with the first blockchain node; and

if yes, establishing a communication connection to the second blockchain node;

or

otherwise, refusing to establish a communication connection to the second blockchain node.

2. The method according to claim 1, wherein the blockchain node further comprises a consensus node;

for each service node, a consensus node that performs consensus verification on service data generated by the service node has a mapping relationship with the service node; and/or

for each service node, different consensus nodes that perform consensus verification on service data generated by the service node have a mapping relationship.

3. The method according to claim 1 or 2, wherein the receiving, by a first blockchain node, a communication request sent by a second blockchain node specifically comprises:

receiving, by the first blockchain node, a communication request sent by the second blockchain node that comprises a certificate of the second blockchain node.

4. The method according to claim 3, wherein the certificate of the second blockchain node comprises a node identifier of the second blockchain node; and

the determining whether the second blockchain node has a mapping relationship with the first blockchain node specifically comprises:

obtaining the node identifier from the certificate of the second blockchain node;

and

determining, based on the obtained node identifier, whether the obtained node identifier has a mapping relationship with a node identifier of the first blockchain node.

5 5. The method according to claim 1 or 2, wherein the establishing a communication connection to the second blockchain node specifically comprises:

 sending a verification request to the second blockchain node, so that the second blockchain node determines, based on the verification request, whether the first blockchain node has a mapping relationship with the second blockchain node; and if
10 yes, the second blockchain node establishes a communication connection to the first blockchain node; or otherwise, the second blockchain node refuses to establish a communication connection to the first blockchain node.

 6. An apparatus for communication between blockchain nodes, wherein blockchain nodes in a blockchain network comprise service nodes, and service nodes
15 participating in a same service have a mapping relationship; and

 the apparatus is applied to a first blockchain node, and the apparatus comprises:

 a receiving module, configured to receive a communication request sent by a second blockchain node; and

 a determining and processing module, configured to determine whether the
20 second blockchain node has a mapping relationship with the apparatus; and if yes, establish a communication connection to the second blockchain node; or otherwise, refuse to establish a communication connection to the second blockchain node.

 7. The apparatus according to claim 6, wherein the blockchain node further comprises a consensus node;

25 for each service node, a consensus node that performs consensus verification on service data generated by the service node has a mapping relationship with the service node; and/or

 for each service node, different consensus nodes that perform consensus verification on service data generated by the service node have a mapping
30 relationship.

 8. The apparatus according to claim 6 or 7, wherein the receiving module receives a communication request sent by the second blockchain node that comprises a certificate of the second blockchain node.

 9. The apparatus according to claim 8, wherein the certificate of the second

blockchain node comprises a node identifier of the second blockchain node; and

the determining and processing module obtains the node identifier from the certificate of the second blockchain node, and determines, based on the obtained node identifier, whether the obtained node identifier has a mapping relationship with a node

5 identifier of the apparatus.

10. The apparatus according to claim 6 or 7, wherein the determining and processing module sends a verification request to the second blockchain node, so that the second blockchain node determines, based on the verification request, whether the apparatus has a mapping relationship with the second blockchain node; and if yes, the
10 second blockchain node establishes a communication connection to the apparatus; or otherwise, the second blockchain node refuses to establish a communication connection to the apparatus.

11. A device for communication between blockchain nodes, the device is applied to a first blockchain node, wherein the device comprises one or more processors and a
15 memory, the memory stores a program, and the program executed by the one or more processors to perform the following steps:

receiving a communication request sent by a second blockchain node;

determining whether the second blockchain node has a mapping relationship with the device; and

20 if yes, establishing a communication connection to the second blockchain node;
or

otherwise, refusing to establish a communication connection to the second blockchain node; wherein

blockchain nodes in a blockchain network comprise service nodes, and service
25 nodes participating in a same service have a mapping relationship.