

CLAIMS

1. A computer-implemented method for deleting a node in a blockchain network, comprising:

obtaining, by a first consensus node of the blockchain network, a transaction comprising a request for deleting a second consensus node of the blockchain network;

in response to that consensus verification of the transaction succeeds, executing the transaction and sequentially numbering in a node list a plurality of remaining consensus nodes of the blockchain network excluding the second consensus node; and

performing view change for the remaining consensus nodes to participate in future consensus verification.

2. The method of claim 1, wherein the transaction is configured to invoke a blockchain contract deployed in a blockchain that is maintained by the blockchain network.

3. The method of claim 2, wherein the blockchain contract comprises a genesis contract or a system contract.

4. The method of any of claims 1-3, wherein the obtaining, by a first consensus node, a transaction comprises:

obtaining the transaction from a client-side device or a command console of a controller.

5. The method of any of claims 1-4, wherein:

the first consensus node locally maintains the node list, the node list comprising one or more of the following: consensus node identifier, consensus node IP address, and consensus node port number; and

prior to the sequentially numbering in a node list a plurality of remaining consensus nodes of the blockchain network excluding the second consensus node, all consensus nodes of the blockchain network including the second consensus node were numbered sequentially in the node list.

6. The method of any of claims 1-5, wherein the node list is in a world state of a blockchain maintained by the blockchain network.

7. The method of any of claims 1-6, wherein the executing the transaction comprises: deleting the second consensus node from the node list; or

configuring the second consensus node to an inactivated state in the node list.

8. The method of any of claims 1-7, wherein the performing view change comprises initiating the view change in response to detecting any of the following conditions:

a number of consensus nodes in the node list is inconsistent with a number of consensus nodes in a current view;

consensus node identifiers in the node list are inconsistent with consensus node identifiers in the current view;

a number of activated consensus nodes in the node list is inconsistent with a number of consensus nodes in a current view; and

identifiers of activated consensus nodes in the node list are inconsistent with identifiers of the consensus nodes in the current view.

9. The method of any of claims 1-8, wherein the performing view change comprises initiating the view change in response to receiving a message broadcast by the second consensus node for initiating view change.

10. The method of any of claims 1-9, wherein a number of replicas in the view change is a total number of the remaining consensus nodes excluding the second consensus node.

11. The method of any of claims 1-10, wherein the obtaining a transaction comprises:

obtaining the transaction from the second consensus node, a third consensus node of the blockchain network, or an external device.

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

participating in consensus verification without the second consensus node.

13. A system for deleting a node in a blockchain network, 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 1-12.

14. An apparatus for deleting a node in a blockchain network comprising a plurality of modules for performing the method of any of claims 1-12.

15. A non-transitory computer-readable storage medium configured with instructions executable by one or more processors to cause the one or more processors to perform the method of any of claims 1-12.