CLAIMS

1. A data processing method for a consensus network, the consensus network comprising N consensus nodes, N being a positive integer, the N consensus nodes comprising a first master node, the method being performed by a first consensus node, the first consensus node being any one of the N consensus nodes other than the first master node, and the method comprising:

receiving a first block broadcast by a second consensus node in a second consensus sub-network after the first block is generated by the first master node, the second consensus sub-network comprising K consensus nodes in the N consensus nodes, both the first consensus node and the second consensus node belonging to the second consensus sub-network, K being a positive integer less than N, the second consensus node being any one of the N consensus nodes other than the first consensus node, and a consensus process for the first block being initiated by the first master node;

performing consensus processing on the first block in the second consensus sub-network, to obtain a consensus result of the first consensus node for the first block;

broadcasting, in response to determining that the consensus result of the first consensus node for the first block is a consensus success result, the first block in a first consensus sub-network to which the first consensus node belongs, to continue to perform consensus processing on the first block in the first consensus sub-network, the first consensus sub-network comprising M consensus nodes in the N consensus nodes and being different from the second consensus sub-network, M being a positive integer less than N; and

broadcasting the consensus success result of the first consensus node for the first block in the consensus network, obtaining a first quantity of consensus success results for the first block in the consensus network, and performing chaining processing on the first block based on the first quantity.

2. The method according to claim 1, wherein first remaining consensus nodes in the K consensus nodes are K–1 consensus nodes that are selected by the second consensus node from the N consensus nodes and are in communication with the second consensus node, wherein the first remaining consensus nodes are consensus nodes in the K consensus nodes other than the second consensus node, and second remaining consensus nodes in the M consensus nodes are M–1 consensus nodes that are selected by the first consensus node from the N consensus nodes and are in communication with the first consensus node, wherein the second remaining consensus nodes are

consensus nodes in the M consensus nodes other than the first consensus node; and

in a case that the second consensus node is the first master node, the first block broadcast by the second consensus node is generated by the second consensus node, and in a case that the second consensus node is not the first master node, the first block broadcast by the second consensus node is obtained by broadcasting by a third consensus node in the N consensus nodes to the second consensus node, wherein the third consensus node is any consensus node in the N consensus nodes other than the first consensus node and the second consensus node.

3. The method according to claim 1, wherein a consensus success result of any consensus node in the consensus network for any block is a node signature of the any consensus node for the any block, the first block has an associated node signature set, and the node signature set comprises a node signature of the first consensus node for the first block; and

the obtaining a first quantity of consensus success results for the first block in the consensus network, and performing chaining processing on the first block based on the first quantity comprises:

receiving, in the process of performing the consensus processing on the first block in the consensus network, node signatures broadcast by third remaining consensus nodes for the first block, and adding the received node signatures to the node signature set, wherein the third remaining consensus nodes are consensus nodes in the N consensus nodes other than the first consensus node; and

obtaining the first quantity of node signatures in the node signature set, and performing chaining processing on the first block in a case that the first quantity is greater than or equal to a quantity threshold.

4. The method according to claim 1, wherein the K consensus nodes comprises a second master node in a case that the second consensus node is the first master node, wherein the second master node is a next master node in the N consensus nodes for master node rotation from the first master node; and

the second master node is configured to initiate a consensus process for a second block in the consensus network after determining that a consensus result of the second consensus node for the first block is a consensus success result, and a block height corresponding to the second block is a next block height of a block height corresponding to the first block.

5. The method according to claim 1, wherein a block height corresponding to the first block is a first block height, and the method further comprises:

obtaining a third block on which consensus processing is to be performed, wherein the third block is a block, on which consensus processing is to be performed, initiated by a third master node in a case of failing to obtain the first block within a preset time period, a block height corresponding to the third block is the first block height, and the third master node is a consensus node in the N consensus nodes for master node rotation after the first master node;

performing consensus processing on the third block; and

caching the third block in a case that the consensus processing on the third block is completed.

6. The method according to claim 5, wherein the method further comprises:

caching the first block in a case that the consensus processing on the first block is completed; and

the method further comprises:

performing, in a case that a second quantity of consensus success results for the third block in the consensus network is obtained and the second quantity is greater than or equal to a quantity threshold, chaining processing on the third block, and deleting the cached first block.

7. The method according to claim 6, wherein the performing chaining processing on the first block based on the first quantity comprises:

performing, in a case that the first quantity is greater than or equal to the quantity threshold, chaining processing on the first block, and deleting the cached third block.

8. The method according to claim 6, further comprising:

determining a block weight of the first block based on a quantity of child blocks of the cached first block; and

determining a block weight of the third block based on a quantity of child blocks of the cached third block, wherein

the block weight of the first block and the block weight of the third block are used for determining a parent block of a fourth block, a block height corresponding to the fourth block is a second block height, and the second block height is a next block height of the first block height.

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

obtaining the fourth block on which consensus processing is to be performed;

determining, in a case that the block weight of the first block is greater than the block weight of the third block, the first block as the parent block of the fourth block, and performing consensus

processing on the fourth block; and

determining, in a case that the block weight of the first block is less than the block weight of the third block, the third block as the parent block of the fourth block, and performing consensus processing on the fourth block.

10. The method according to claim 9, further comprising:

deleting, in a case that it is determined that a quantity of consensus success results for the fourth block in the consensus network is greater than or equal to the quantity threshold and the parent block of the fourth block is the first block, the cached third block and a same-level block of the fourth block, and performing chaining processing on the first block and the fourth block; and

deleting, in a case that it is determined that the quantity of consensus success results for the fourth block in the consensus network is greater than or equal to the quantity threshold and the parent block of the fourth block is the third block, the cached first block and the same-level block of the fourth block, and performing chaining processing on the third block and the fourth block,

wherein a same-level block of any block is a block corresponding to a block height the same as a block height corresponding to the any block, and the first block and the third block are same-level blocks of each other.

11. The method according to claim 9, further comprising:

caching the fourth block in a case that the consensus processing on the fourth block is completed; and

updating the block weight of the first block, the block weight of the third block, and a block weight of the fourth block based on the cached fourth block and the parent block of the fourth block.

12. A data processing apparatus for a consensus network, the consensus network comprising N consensus nodes, N being a positive integer, the N consensus nodes comprising a first master node, the apparatus being applied to a first consensus node, the first consensus node being any one of the N consensus nodes other than the first master node, and the apparatus comprising:

a receiving module, configured to receive a first block broadcast by a second consensus node in a second consensus sub-network after the first block is generated by the first master node, the second consensus sub-network comprising K consensus nodes in the N consensus nodes, both the first consensus node and the second consensus node belonging to the second consensus sub-network, K being a positive integer less than N, the second consensus node being any one of the N consensus

nodes other than the first consensus node, and a consensus process for the first block being initiated by the first master node;

a consensus module, configured to perform consensus processing on the first block in the second consensus sub-network, to obtain a consensus result of the first consensus node for the first block, and broadcast, in response to determining that the consensus result of the first consensus node for the first block is a consensus success result, the first block in a first consensus sub-network to which the first consensus node belongs, to continue to perform consensus processing on the first block in the first consensus sub-network, the first consensus sub-network comprising M consensus nodes in the N consensus nodes and being different from the second consensus sub-network, M being a positive integer less than N; and

an obtaining module, configured to broadcast the consensus success result of the first consensus node for the first block in the consensus network, obtain a first quantity of consensus success results for the first block in the consensus network, and perform chaining processing on the first block based on the first quantity.

13. A computer program product, comprising a computer program, the computer program being executed by a processor to implement the steps of the method according to any one of claims 1 to 11.

14. A computer device, comprising a memory and a processor, the memory storing a computer program, and the computer program, when executed by the processor, causing the processor to perform the steps of the method according to any one of claims 1 to 11.

15. A computer-readable storage medium, storing a computer program, the computer program being configured to be loaded by a processor to perform the method according to any one of claims 1 to 11.