

CLAIMS

What is claimed is:

1. A method for electing a representative node device, performed by a first node device, the first node device being any node device in a blockchain system, the method comprising:

obtaining voting transaction data, the voting transaction data being used for voting for at least one node device in the blockchain system;

storing the voting transaction data into a target blockchain of the blockchain system when a plurality of node devices in the blockchain system verify the voting transaction data by consensus; and

determining an election result according to quantities of votes for the node devices determined from the voting transaction data in a case that a quantity of generated blocks in the target blockchain reaches a preset quantity, the election result comprising a plurality of representative node devices in the blockchain system, the representative node devices being configured to generate blocks and performing verification on the blocks by consensus,

when the plurality of node devices in the blockchain system verify the voting transaction data by consensus, updating a vote list stored on the node devices according to the voting transaction data, the vote list being used for storing the quantities of votes for the node devices;

wherein the vote list is updated according to different voting manners of the blockchain system, when a voting manner in the blockchain system is full voting, the updating the vote list stored on the node devices comprises: determining voting transaction data of the last voting of users from the voting transaction data stored in first blocks, and updating the vote list stored on the node devices based on the voting transaction data of the last voting of the users.

2. The method according to claim 1, wherein the determining ~~an~~ the election result according to quantities of votes for the node devices determined from the voting transaction data comprises:

determining a plurality of first blocks in the blocks in the target blockchain, the plurality of first blocks being configured to store the voting transaction data of the node devices; and

determining a preset quantity of representative node devices in the blockchain system according to the voting transaction data stored in the plurality of first blocks.

3. The method according to claim 2, wherein the determining ~~a~~ the preset quantity of representative node devices in the blockchain system according to the voting transaction data stored

in the plurality of first blocks comprises:

determining the quantities of votes for the node devices in the blockchain system according to the voting transaction data stored in the plurality of first blocks; and

determining the preset quantity of representative node devices in the blockchain system in a descending order by a quantity of votes.

4. The method according to claim 3, wherein a voting manner in the blockchain system is incremental voting, and the determining the quantities of votes for the node devices in the blockchain system according to the voting transaction data stored in the plurality of first blocks comprises:

determining the quantities of votes for the node devices in the blockchain system according to the voting transaction data of the last voting of the users stored in the plurality of first blocks.

5. The method according to claim 3, wherein a voting manner in the blockchain system is full voting, and the determining the quantities of votes for the node devices in the blockchain system according to the voting transaction data stored in the plurality of first blocks comprises:

determining the voting transaction data of the last voting of the users from the voting transaction data stored in the plurality of first blocks, and determining the quantities of votes for the node devices in the blockchain system based on the voting transaction data of the last voting of the users.

6. The method according to claim 1, wherein a weight is assigned to a vote of each user participating in the voting.

7. The method according to claim 6, wherein the weight of the each user is set based on a user parameter, the user parameter comprising an account balance or a credit value.

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

~~when the plurality of node devices in the blockchain system verify the voting transaction data by consensus, updating a vote list stored on the node devices according to the voting transaction data, the vote list being used for storing the quantities of votes for the node devices.~~

~~9. The method according to claim 8, wherein when a voting manner in the blockchain system is full voting, the updating a vote list stored on the node devices comprises:~~

~~determining transaction data of the last voting of users from the transaction data stored in first blocks, and updating the vote list stored on the node devices based on the transaction data of the last~~

~~voting of the users.~~

~~108.~~ The method according to claim ~~8~~1, wherein when a voting manner in the blockchain system is incremental voting, the updating ~~a~~the vote list stored on the node devices comprises:

updating the vote list stored on the node devices according to all pieces of the voting transaction data of the last voting of the users stored in first blocks.

~~119.~~ An apparatus for electing a representative node device, comprising:

a first obtaining module, configured to obtain voting transaction data, the voting transaction data being used for voting for at least one node device in a blockchain system;

a storage module, configured to store the voting transaction data on a target blockchain of the blockchain system in a case that a plurality of node devices in the blockchain system verify the voting transaction data by consensus; ~~and~~

a determining module, configured to determine an election result according to quantities of votes for the node devices determined from the voting transaction data in a case that a quantity of generated blocks in the target blockchain reaches a preset quantity, the election result comprising a plurality of representative node devices in the blockchain system, the representative node devices being configured to generate blocks and performing verification on the blocks by consensus; and,

an update module, configured to update, when the plurality of node devices in the blockchain system verify the voting transaction data by consensus, a vote list stored on the node devices according to the voting transaction data, the vote list being used for storing the quantities of votes for the node devices,

wherein the vote list is updated according to different voting manners of the blockchain system, the update module is further configured to, when a voting manner in the blockchain system is full voting, determine voting transaction data of the last voting of users from the voting transaction data stored in first blocks, and update the vote list stored on the node devices based on the voting transaction data of the last voting of the users.

~~1210.~~ The apparatus according to claim ~~119~~1, wherein the determining module comprises:

a block determining unit, configured to determine a plurality of first blocks in the blocks in the target blockchain, the plurality of first blocks being configured to store the voting transaction data of the node devices; and

a representative node device determining unit, configured to determine a preset quantity of representative node devices in the blockchain system according to the voting transaction data stored

in the plurality of first blocks.

~~13~~11. The apparatus according to claim ~~12~~10, wherein the representative node device determining unit comprises:

a quantity-of-votes determining subunit, configured to determine the quantities of votes for the node devices in the blockchain system according to the voting transaction data stored in the plurality of first blocks; and

a representative node device determining subunit, configured to determine the preset quantity of representative node devices in the blockchain system in descending order by a quantity of votes.

~~14~~12. The apparatus according to claim ~~13~~11, wherein a voting manner in the blockchain system is incremental voting, and the quantity-of-votes determining subunit is configured to determine the quantities of votes for the node devices in the blockchain system according to the voting transaction data of the last voting of the users stored in the plurality of first blocks.

~~15~~13. The apparatus according to claim ~~13~~11, wherein a voting manner in the blockchain system is full voting, and the quantity-of-votes determining subunit is configured to determine the voting transaction data of the last voting of the users from the voting transaction data stored in the plurality of first blocks, and determine the quantities of votes for the node devices in the blockchain system based on the voting transaction data of the last voting of the users.

~~16~~14. The apparatus according to claim ~~14~~9, wherein a weight is set for a vote of each user participating in the voting.

~~17~~15. The apparatus according to claim ~~16~~14, wherein the weight of the each user is set based on a user parameter, the user parameter comprising an account balance or a credit value.

~~18. The apparatus according to claim 11, further comprising:~~

~~an update module, configured to update, in a case that the plurality of node devices in the blockchain system verify the voting transaction data by consensus, a vote list stored on the node devices according to the voting transaction data, the vote list being used for storing the quantities of votes for the node devices.~~

~~19~~16. A computer device, comprising a processor and a memory, the memory storing computer-readable instructions, the computer-readable instructions, when executed by the processor, causing the processor to perform operations in the method according to any one of claims 1 to ~~10~~8.

~~20~~17. A non-volatile computer-readable storage medium, storing computer-readable

instructions, the computer-readable instructions, when executed by one or more processors, causing the one or more processors to perform operations in the method according to any one of claims 1 to ~~108~~109.