

CLAIMS

What is claimed is:

1. A blockchain-based method for pre-exchanging resource quotas in order to enrich ways in which a creator of a work acquires earnings, wherein a blockchain network comprises a management node and several object nodes, and the method comprises:

selecting, by the management node, a plurality of pre-exchange nodes from a set of object nodes according to a pre-selection rule;

determining, for each pre-exchange node, resource quotas pre-exchanged to the each pre-exchange node;

generating a target smart contract based on the resource quotas pre-exchanged to the each pre-exchange node;

sending the target smart contract to one or more blockchain nodes of the blockchain network to perform consensus verification on the target smart contract and store the target smart contract on the blockchain;

issuing, by the management node, through the blockchain as transaction media, future increments of virtual resources to the plurality of pre-exchange nodes selected by the management node; and

deducting virtual resources corresponding to the resource quota pre-exchanged to the each pre-exchange node from the future increments of virtual resources of the plurality of pre-exchange nodes stored on the blockchain by executing the target smart contract.

2. The method according to claim 1, wherein the selecting, by the management node, a plurality of pre-exchange nodes from a set of object nodes according to a pre-selection rule comprises:

determining, by the management node for each object node, whether an amount of virtual resource increments corresponding to the object node in each of a plurality of first cycles is greater than a designated amount; and

in response to determining that the amount of virtual resource increments corresponding to the object node in each of the plurality of first cycles is greater than the designated amount, determining the object node as the pre-exchange node;

in response to determining that the amount of virtual resource increments corresponding to the object node in each of the plurality of first cycles is not greater than the designated amount, rejecting to determine the object node as the pre-exchange node.

3. The method according to claim 2, wherein the amount of virtual resource increments corresponding to the object node in each of the plurality of first cycles are generated based on copyright use transactions in each of the plurality of first cycles.

4. The method according to claim 1, wherein the determining available resource quotas pre-exchanged to the pre-exchange node specifically comprises:

determining, according to an amount of virtual resource increments corresponding to the pre-exchange node in each of a plurality of second cycles, available resource quotas pre-exchanged to the pre-exchange node.

5. The method according to claim 1, wherein:

the target smart contract is further used to deduct virtual resources corresponding to an interest amount from the future increments of the virtual resources of the pre-exchange node; and

the interest amount is determined according to an amount of virtual resource increments corresponding to the pre-exchange node in each of a plurality of third cycles.

6. One or more non-transitory computer-readable storage media storing instructions executable by one or more processors, wherein execution of the instructions causes the one or more processors to perform operations comprising::

selecting a plurality of pre-exchange nodes from a set of object nodes according to a pre-selection rule;

determining, for each pre-exchange node, resource quotas pre-exchanged to the each pre-exchange node;

generating a target smart contract based on the resource quotas pre-exchanged to the each pre-exchange node;

sending the target smart contract to one or more blockchain nodes of the blockchain network to perform consensus verification on the target smart contract and store the target smart contract on the blockchain;

issuing through the blockchain as transaction media, future increments of virtual resources to the plurality of pre-exchange nodes; and

deducting virtual resources corresponding to the resource quota pre-exchanged to the each pre-exchange node from the future increments of virtual resources of the plurality of pre-

exchange nodes stored on the blockchain by executing the target smart contract.

7. The one or more non-transitory computer-readable storage media according to claim 6, wherein the selecting a plurality of pre-exchange nodes from a set of object nodes according to a pre-selection rule comprises::

determining, for each object node, whether an amount of virtual resource increments corresponding to the object node in each of a plurality of first cycles is greater than a designated amount; and

in response to determining that the amount of virtual resource increments corresponding to the object node in each of the plurality of first cycles is greater than the designated amount, determining the object node as the pre-exchange node;

in response to determining that the amount of virtual resource increments corresponding to the object node in each of the plurality of first cycles is not greater than the designated amount, rejecting to determine the object node as the pre-exchange node.

8. The one or more non-transitory computer-readable storage media according to claim 7, wherein the amount of virtual resource increments corresponding to the object node in each of the plurality of first cycles are generated based on copyright use transactions in each of the plurality of first cycles.

9. The one or more non-transitory computer-readable storage media according to claim 6, wherein the determining resource quotas pre-exchanged to the pre-exchange node specifically comprises:

determining, according to an amount of virtual resource increments corresponding to the pre-exchange node in each of a plurality of second cycles, resource quotas pre-exchanged to the pre-exchange node.

10. The one or more non-transitory computer-readable storage media according to claim 6, wherein:

the target smart contract is further used to deduct virtual resources corresponding to an interest amount from the future increments of the virtual resources of the pre-exchange node; and the interest amount is determined according to an amount of virtual resource increments corresponding to the pre-exchange node in each of a plurality of third cycles.

11. A system f comprising one or more processors and one or more non-transitory computer-readable storage media storing instructions executable by the one or more processors, wherein execution of the instructions causes the one or more processors to perform operations comprising:

- selecting a plurality of pre-exchange nodes from a set of object nodes according to a pre-selection rule;

- determining, for each pre-exchange node, resource quotas pre-exchanged to the each pre-exchange node;

- generating a target smart contract based on the resource quotas pre-exchanged to the each pre-exchange node;

- sending the target smart contract to one or more blockchain nodes of the blockchain network to perform consensus verification on the target smart contract and store the target smart contract on the blockchain;

- issuing through the blockchain as transaction media, future increments of virtual resources to the plurality of pre-exchange nodes; and

- deducting virtual resources corresponding to the resource quota pre-exchanged to the each pre-exchange node from the future increments of virtual resources of the plurality of pre-exchange nodes stored on the blockchain by executing the target smart contract.

12. The system according to claim 11, wherein the selecting a plurality of pre-exchange nodes from a set of object nodes according to a pre-selection rule comprises:

- determining for each object node, whether an amount of virtual resource increments corresponding to the object node in each of a plurality of first cycles is greater than a designated amount; and

- in response to determining that the amount of virtual resource increments corresponding to the object node in each of the plurality of first cycles is greater than the designated amount, determining the object node as the pre-exchange node;

- in response to determining that the amount of virtual resource increments corresponding to the object node in each of the plurality of first cycles is not greater than the designated amount, rejecting to determine the object node as the pre-exchange node.

13. The system according to claim 12, wherein the amount of virtual resource increments corresponding to the object node in each of the plurality of first cycles are generated based on copyright use transactions in each of the plurality of first cycles.

14. The system according to claim 11, wherein the determining resource quotas pre-exchanged to the pre-exchange node specifically comprises:

determining, according to an amount of virtual resource increments corresponding to the pre-exchange node in each of a plurality of second cycles, resource quotas pre-exchanged to the pre-exchange node.

15. The system according to claim 11, wherein:

the target smart contract is further used to deduct virtual resources corresponding to an interest amount from the future increments of the virtual resources of the pre-exchange node;
and

the interest amount is determined according to an amount of virtual resource increments corresponding to the pre-exchange node in each of a plurality of third cycles.