

WHAT IS CLAIMED IS:

1. A computer-implemented method executed by one or more processors and comprising:

5 receiving a transfer request that comprises a sending node identifier of a sending node in a blockchain network, a receiving node identifier of a receiving node in the blockchain network, an identifier of an original smart asset, and a transfer value that represents a quantity of the original smart asset that is to be transferred from the sending node to the receiving node;

10 determining that the original smart asset is transferrable, and then:

generating, from the original smart asset, a remainder smart asset and a transfer smart asset that each include the same properties as the original smart asset;

15 assigning a first identifier and a first value to the remainder smart asset, wherein the first value is a remainder of an original value of the original smart asset minus the transfer value, and assigning a second identifier and the transfer value to the transfer smart asset;

recording the remainder smart asset to the sending node of the blockchain network and recording the transfer smart asset to the receiving node of the blockchain network; and

20 deleting the original smart asset upon recording the remainder and the transfer smart assets;

receiving a merger request upon a successful completion of the transfer request, the merger request comprising an identifier of the receiving node and an identifier of the transfer smart asset;

25 determining whether the transfer smart asset is capable of merger with a target smart asset associated with the receiving node at least partially based on the identifier of the transfer smart asset and an identifier of the target smart asset; and

in response to determining that the transfer smart asset is capable of being merged with the target smart asset, automatically:

30 updating the target smart asset to include properties of the transfer smart asset and a new value,

recording the updated target smart asset to the receiving node, and
deleting the transfer smart asset; and

in response to determining that the transfer smart asset is not capable of being
merged with the target smart asset, automatically recording the transfer smart asset to the
5 receiving node.

2. The method of claim 1, The method of claim 1, wherein determining whether the
transfer smart asset is capable of merger is determined by executing a function provided in
computer-executable smart contract associated with the transfer smart asset.

3. The method of claim 1, wherein determining whether the transfer smart asset is
capable of merger is determined at least partially based on a determination that the
identifier of the transfer smart asset is the same as the identifier of the target smart asset.

4. The method of claim 1, wherein the first value is provided as one of a numerical
value, and a string description.

5. The method of claim 4, wherein the string description is provided in Javascript
object notation (JSON).

6. The method of claim 1, wherein the new value is a sum of the transfer value plus
an original value of the target smart asset.

7. The method of claim 1, wherein the blockchain network is a consortium blockchain
network.

8. The method of claim 1, wherein the transfer smart asset and the target smart asset
are each defined by an underlying data object having multiple fields.

9. A non-transitory computer-readable storage medium coupled to one or more processors and having instructions stored thereon which, when executed by the one or more processors, cause the one or more processors to perform operations comprising:

receiving a transfer request that comprises a sending node identifier of a sending node in a blockchain network, a receiving node identifier of a receiving node in the blockchain network, an identifier of an original smart asset, and a transfer value that represents a quantity of the original smart asset that is to be transferred from the sending node to the receiving node;

determining that the original smart asset is transferrable, and then:

generating, from the original smart asset, a remainder smart asset and a transfer smart asset that each include the same properties as the original smart asset;

assigning a first identifier and a first value to the remainder smart asset, wherein the first value is a remainder of an original value of the original smart asset minus the transfer value, and assigning a second identifier and the transfer value to the transfer smart asset;

recording the remainder smart asset to the sending node of the blockchain network and recording the transfer smart asset to the receiving node of the blockchain network; and

deleting the original smart asset upon recording the remainder and the transfer smart assets;

receiving a merger request upon a successful completion of the transfer request, the merger request comprising an identifier of the receiving node and an identifier of the transfer smart asset;

determining whether the transfer smart asset is capable of merger with a target smart asset associated with the receiving node at least partially based on the identifier of the transfer smart asset and an identifier of the target smart asset; and

in response to determining that the transfer smart asset is capable of being merged with the target smart asset, automatically:

updating the target smart asset to include properties of the transfer smart asset and a new value,

recording the updated target smart asset to the receiving node, and

deleting the transfer smart asset; and

in response to determining that the transfer smart asset is not capable of being merged with the target smart asset, automatically recording the transfer smart asset to the receiving node.

5

10. The computer-readable storage medium of claim 9, wherein determining whether the transfer smart asset is capable of merger is determined by executing a function provided in computer-executable smart contract associated with the transfer smart asset.

10

11. The computer-readable storage medium of claim 9, wherein determining whether the transfer smart asset is capable of merger is determined at least partially based on a determination that the identifier of the transfer smart asset is the same as the identifier of the target smart asset.

15

12. The computer-readable storage medium of claim 9, wherein the first value is provided as one of a numerical value, and a string description.

13. The computer-readable storage medium of claim 12, wherein the string description is provided in Javascript object notation (JSON).

20

14. The computer-readable storage medium of claim 9, wherein the new value is a sum of the transfer value plus an original value of the target smart asset.

25

15. The computer-readable storage medium of claim 9, wherein the blockchain network is a consortium blockchain network.

16. The computer-readable storage medium of claim 9, wherein the transfer smart asset and the target smart asset are each defined by an underlying data object having multiple fields.

30

17. A system, comprising:

a computing device; and

a computer-readable storage device coupled to the computing device and having instructions stored thereon which, when executed by the computing device, cause the computing device to perform operations comprising:

5 receiving a transfer request that comprises a sending node identifier of a sending node in a blockchain network, a receiving node identifier of a receiving node in the blockchain network, an identifier of an original smart asset, and a transfer value that represents a quantity of the original smart asset that is to be transferred from the sending node to the receiving node;

10 determining that the original smart asset is transferrable, and then:

 generating, from the original smart asset, a remainder smart asset and a transfer smart asset that each include the same properties as the original smart asset;

 assigning a first identifier and a first value to the remainder smart asset, wherein the first value is a remainder of an original value of the original smart asset minus the transfer value, and assigning a second identifier and the transfer value to the transfer smart asset;

15 recording the remainder smart asset to the sending node of the blockchain network and recording the transfer smart asset to the receiving node of the blockchain network; and

20 deleting the original smart asset upon recording the remainder and the transfer smart assets;

 receiving a merger request upon a successful completion of the transfer request, the merger request comprising an identifier of the receiving node and an identifier of the transfer smart asset;

25 determining whether the transfer smart asset is capable of merger with a target smart asset associated with the receiving node at least partially based on the identifier of the transfer smart asset and an identifier of the target smart asset; and

 in response to determining that the transfer smart asset is capable of being merged with the target smart asset, automatically:

30

updating the target smart asset to include properties of the transfer smart asset and a new value,

recording the updated target smart asset to the receiving node, and deleting the transfer smart asset; and

5 in response to determining that the transfer smart asset is not capable of being merged with the target smart asset, automatically recording the transfer smart asset to the receiving node.

10 18. The system of claim 17, wherein determining whether the transfer smart asset is capable of merger is determined by executing a function provided in computer-executable smart contract associated with the transfer smart asset.

15 19. The system of claim 17, wherein determining whether the transfer smart asset is capable of merger is determined at least partially based on a determination that the identifier of the transfer smart asset is the same as the identifier of the target smart asset.

20. The system of claim 17, wherein the first value is provided as one of a numerical value, and a string description.

20 21. The system of claim 20, wherein the string description is provided in Javascript object notation (JSON).

22. The system of claim 17, wherein the new value is a sum of the transfer value plus an original value of the target smart asset.

25

23. The system of claim 17, wherein the blockchain network is a consortium blockchain network.

24. The system of claim 17, wherein the transfer smart asset and the target smart asset are each defined by an underlying data object having multiple fields.

30