

WHAT IS CLAIMED IS:

1. A computer-implemented method for transfer of a smart asset in a blockchain network, the method being executed by one or more processors and comprising:

5 receiving a transfer request comprising a first identifier of a first node within the blockchain network sending the transfer request, a second identifier of a second node within the blockchain network receiving the transfer request, an identifier of a smart asset within the blockchain network, and a transfer request amount of the smart asset for transfer from the first node to the second node within the blockchain network, wherein the smart asset is a data object
10 comprising multiple fields including a field storing an original amount of the smart asset, and the smart asset is associated with a computer-executable smart contract deployed within the blockchain network;

determining, by execution of the computer-executable smart contract, that the smart asset is capable of transfer from the first node to the second node within the blockchain network
15 at least partially based on the identifier of the smart asset, the transfer request amount, and that the smart asset is a type that can be divided; and

in response to determining that the smart asset is capable of being transferred, transferring, by further execution of the computer-executable smart contract, the smart asset from the first node to the second node within the blockchain network by automatically:

20 providing a first smart asset and a second smart asset, the first smart asset being assigned a first identifier, a first smart asset value presenting a remainder of the original amount of the smart asset less the transfer request amount, and properties of the smart asset, the second smart asset being assigned a second identifier, the transfer request amount, and properties of the smart asset,

25 recording the first smart asset to the first node, and the second smart asset to the second node, and

upon recording the first smart asset to the first node and the second smart asset to the second node within the blockchain network, removing the smart asset from within the blockchain network.

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2. The method of claim 1, wherein determining that the smart asset is capable of transfer from the first node to the second node within the blockchain network is at least partially based on a type identifier associated with the smart asset.

3. The method of claim 1, wherein determining that the smart asset is capable of transfer is at least partially based on the original amount of the smart asset being greater than the transfer request amount.
- 5 4. The method of claim 1, wherein the amount is provided as one of a numerical value, and a string description.
5. The method of claim 1, wherein the string description is provided in Javascript object notation (JSON).
- 10 6. The method of claim 1, wherein the blockchain network is a consortium blockchain network, and wherein:
- the first node is hosted by a first interface layer for a first transaction management system of a first member of the consortium;
- 15 the second node is hosted by a second interface layer for a second transaction management system of a second member of the consortium;
- the first interface layer and the second interface layer each provide a communication connection between their respective transaction management systems and the blockchain network; and
- 20 the transfer request is received from a member of the consortium.
7. The method of claim 1, further comprising:
- determining, upon receiving an automatic merger request after the second smart asset has been recorded to the second node, that the second smart asset is capable of merging with a
- 25 third asset associated with a third node within the blockchain network based on the second identifier of the second smart asset and a third identifier of the third asset; and
- in response to determining that the second smart asset is capable of merging with the third asset, merging the second smart asset with the third asset at the third node within the blockchain network.
- 30 8. 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 for transfer of a smart asset in a blockchain network, the operations comprising:

receiving a transfer request comprising a first identifier of a first node within the blockchain network sending the transfer request, a second identifier of a second node within the blockchain network receiving the transfer request, an identifier of a smart asset within the blockchain network, and a transfer request amount of the smart asset for transfer from the first node to the second node within the blockchain network, wherein the smart asset is a data object comprising multiple fields including a field storing an original amount of the smart asset, and the smart asset is associated with a computer-executable smart contract deployed within the blockchain network;

determining, by execution of the computer-executable smart contract, that the smart asset is capable of transfer from the first node to the second node within the blockchain network at least partially based on the identifier of the smart asset, the transfer request amount, and that the smart asset is a type that can be divided; and

in response to determining that the smart asset is capable of being transferred, transferring, by further execution of the computer-executable smart contract, the smart asset from the first node to the second node within the blockchain network by automatically:

providing a first smart asset and a second smart asset, the first smart asset being assigned a first identifier, a first smart asset value presenting a remainder of the original amount of the smart asset less the transfer request amount, and properties of the smart asset, the second smart asset being assigned a second identifier, the transfer request amount, and properties of the smart asset,

recording the first smart asset to the first node, and the second smart asset to the second node, and

upon recording the first smart asset to the first node and the second smart asset to the second node within the blockchain network, removing the smart asset from within the blockchain network.

9. The computer-readable storage medium of claim 8, wherein determining that the smart asset is capable of transfer from the first node to the second node within the blockchain network is at least partially based on a type identifier associated with the smart asset.

10. The computer-readable storage medium of claim 8, wherein determining that the smart asset is capable of transfer from the first node to the second node within the blockchain network

is at least partially based on the original amount of the smart asset being greater than the transfer request amount.

11. The computer-readable storage medium of claim 8, wherein the amount is provided as
5 one of a numerical value, and a string description.

12. The computer-readable storage medium of claim 8, wherein the string description is provided in Javascript object notation (JSON).

10 13. The computer-readable storage medium of claim 8, wherein the blockchain network is a consortium blockchain network, and wherein:

the first node is hosted by a first interface layer for a first transaction management system of a first member of the consortium;

the second node is hosted by a second interface layer for a second transaction
15 management system of a second member of the consortium;

the first interface layer and the second interface layer each provide a communication connection between their respective transaction management systems and the blockchain network; and

the transfer request is received from a member of the consortium.
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14. The computer-readable storage medium of claim 8, wherein the operations further comprise:

determining, upon receiving an automatic merger request after the second smart asset has been recorded to the second node, that the second smart asset is capable of merging with a
25 third asset associated with a third node within the blockchain network based on the second identifier of the second smart asset and a third identifier of the third asset; and

in response to determining that the second smart asset is capable of merging with the third asset, merging the second smart asset with the third asset at the third node within the blockchain network.
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15. 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 for transfer of a smart asset in a blockchain network, the operations comprising:

5 receiving a transfer request comprising a first identifier of a first node within the blockchain network sending the transfer request, a second identifier of a second node within the blockchain network receiving the transfer request, an identifier of a smart asset within the blockchain network, and a transfer request amount of the smart asset for transfer from the first node to the second node within the blockchain network, wherein the smart asset is a data object comprising multiple fields including a field storing an original amount of the smart asset, and the smart asset is associated with a computer-executable smart contract deployed within the blockchain network;

10 determining, by execution of the computer-executable smart contract, that the smart asset is capable of transfer from the first node to the second node within the blockchain network at least partially based on the identifier of the smart asset, the transfer request amount, and that the smart asset is a type that can be divided; and

15 in response to determining that the smart asset is capable of being transferred, transferring, by further execution of the computer-executable smart contract, the smart asset from the first node to the second node within the blockchain network by automatically:

20 providing a first smart asset and a second smart asset, the first smart asset being assigned a first identifier, a first smart asset value presenting a remainder of the original amount of the smart asset less the transfer request amount, and properties of the smart asset, the second smart asset being assigned a second identifier, the transfer request amount, and properties of the smart asset,

25 recording the first smart asset to the first node, and the second smart asset to the second node, and

upon recording the first smart asset to the first node and the second smart asset to the second node within the blockchain network, removing the smart asset from within the blockchain network.

30 16. The system of claim 15, wherein determining that the smart asset is capable of transfer from the first node to the second node within the blockchain network is at least partially based on a type identifier associated with the smart asset.

17. The system of claim 15, wherein determining that the smart asset is capable of transfer from the first node to the second node within the blockchain network is at least partially based on the original amount of the smart asset being greater than the transfer request amount.
- 5 18. The system of claim 15, wherein the amount is provided as one of a numerical value, and a string description.
19. The system of claim 15, wherein the string description is provided in Javascript object notation (JSON).
- 10 20. The system of claim 15, wherein the blockchain network is a consortium blockchain network, and wherein:
- the first node is hosted by a first interface layer for a first transaction management system of a first member of the consortium;
- 15 the second node is hosted by a second interface layer for a second transaction management system of a second member of the consortium;
- the first interface layer and the second interface layer each provide a communication connection between their respective transaction management systems and the blockchain network; and
- 20 the transfer request is received from a member of the consortium.
21. The system of claim 15, wherein the operations further comprise:
- determining, upon receiving an automatic merger request after the second smart asset has been recorded to the second node, that the second smart asset is capable of merging with a
- 25 third asset associated with a third node within the blockchain network based on the second identifier of the second smart asset and a third identifier of the third asset; and
- in response to determining that the second smart asset is capable of merging with the third asset, merging the second smart asset with the third asset at the third node within the blockchain network.

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