

CLAIMS

What is claimed is:

1. A computer-implemented method for transferring assets, comprising:

5 obtaining, from a blockchain and by a first blockchain member of the blockchain, an asset transfer condition for a second blockchain member, wherein the asset transfer condition for the second blockchain member indicates a numerical relationship between transferred-in assets that are transferred to the second blockchain member and transferred-out assets that are transferred from the second blockchain member when an asset transfer is performed; and

10 selecting, by the first blockchain member, the second blockchain member as an intermediate blockchain member for a remittance route that includes multiple intermediate blockchain members between a payer and a payee, wherein the selecting comprises selecting the second blockchain member in response to determining, based on information obtained from the blockchain, that:

15 the second blockchain member and an upstream neighboring blockchain member hold respective first blockchain assets that are issued by a first anchor point,

the second blockchain member and a downstream neighboring blockchain member hold respective second blockchain assets that are issued by a second anchor point, and

20 the numerical relationship is satisfied by (i) transferred-in blockchain assets that are issued by the first anchor point and transferred from the upstream neighboring blockchain member to the second blockchain member and (ii) transferred-out blockchain assets issued by the second anchor point and transferred from the second blockchain member to the downstream neighboring blockchain member, wherein each of the first anchor point and the second anchor point comprises a blockchain node that issues respective blockchain assets to a plurality of
25 blockchain members of the blockchain and maintains a mapping between the respective blockchain assets and corresponding off-chain assets; and

initiating, by the first blockchain member, an asset transfer contract operation that completes the asset transfer between the payer and the payee by adjusting an amount of blockchain assets held by each blockchain member in the remittance route, including:

30 transferring first blockchain assets that are issued by the first anchor point

from the upstream neighboring blockchain member to the second blockchain member; and
transferring second blockchain assets issued by the second anchor point
from the second blockchain member to the downstream neighboring blockchain member.

5 2. The computer-implemented method of claim 1, further comprising creating, by the
second blockchain member, the asset transfer condition if remaining blockchain assets held by
the second blockchain member and issued by the first anchor point and remaining blockchain
assets held by the second blockchain member and issued by the second anchor point satisfy a
predetermined condition, wherein the predetermined condition comprises that:

10 the remaining blockchain assets held by the second blockchain member and issued by the
second anchor point is not less than a first predetermined value, and

 the remaining blockchain assets held by the second blockchain member and issued by the
first anchor point allows an amount of blockchain assets issued by the first anchor point to be
transferred in to the second blockchain member, and the amount of the blockchain assets issued
15 by the first anchor point to be transferred in to the second blockchain member is no less than a
second predetermined value.

3. The computer-implemented method of claim 1, further comprising:
obtaining, by the first blockchain member, data indicating that the asset transfer condition
20 has been set to an invalid state when remaining blockchain assets held by the second blockchain
member and issued by the first anchor point and remaining blockchain assets held by the second
blockchain member and issued by the second anchor point do not satisfy a predetermined
condition.

25 4. A non-transitory, computer-readable medium storing one or more instructions executable
by a computer system to perform operations comprising:

 obtaining, from a blockchain and by a first blockchain member of the blockchain, an
asset transfer condition for a second blockchain member, wherein the asset transfer condition for
the second blockchain member indicates a numerical relationship between transferred-in assets
30 that are transferred to the second blockchain member and transferred-out assets that are

transferred from the second blockchain member when an asset transfer is performed; and

selecting, by the first blockchain member, the second blockchain member as an intermediate blockchain member for a remittance route that includes multiple intermediate blockchain members between a payer and a payee, wherein the selecting comprises selecting the second blockchain member in response to determining, based on information obtained from the blockchain, that:

the second blockchain member and an upstream neighboring blockchain member hold respective first blockchain assets that are issued by a first anchor point,

the second blockchain member and a downstream neighboring blockchain member hold respective second blockchain assets that are issued by a second anchor point, and

the numerical relationship is satisfied by (i) transferred-in blockchain assets that are issued by the first anchor point and transferred from the upstream neighboring blockchain member to the second blockchain member and (ii) transferred-out blockchain assets issued by the second anchor point and transferred from the second blockchain member to the downstream neighboring blockchain member, wherein each of the first anchor point and the second anchor point comprises a blockchain node that issues respective blockchain assets to a plurality of blockchain members of the blockchain and maintains a mapping between the respective blockchain assets and corresponding off-chain assets; and

initiating, by the first blockchain member, an asset transfer contract operation that completes the asset transfer between the payer and the payee by adjusting an amount of blockchain assets held by each blockchain member in the remittance route, including:

transferring first blockchain assets that are issued by the first anchor point from the upstream neighboring blockchain member to the second blockchain member; and

transferring second blockchain assets issued by the second anchor point from the second blockchain member to the downstream neighboring blockchain member.

5. The non-transitory, computer-readable medium of claim 4, further comprising creating, by the second blockchain member, the asset transfer condition if remaining blockchain assets held by the second blockchain member and issued by the first anchor point and remaining blockchain assets held by the second blockchain member and issued by the second anchor point

satisfy a predetermined condition, wherein the predetermined condition comprises that:

the remaining blockchain assets held by the second blockchain member and issued by the second anchor point is not less than a first predetermined value, and

the remaining blockchain assets held by the second blockchain member and issued by the first anchor point allows an amount of blockchain assets issued by the first anchor point to be transferred in to the second blockchain member, and the amount of the blockchain assets issued by the first anchor point to be transferred in to the second blockchain member is no less than a second predetermined value.

6. The non-transitory, computer-readable medium of claim 4, wherein the operations comprise:

obtaining, by the first blockchain member, data indicating that the asset transfer condition has been set to an invalid state when remaining blockchain assets held by the second blockchain member and issued by the first anchor point and remaining blockchain assets held by the second blockchain member and issued by the second anchor point do not satisfy a predetermined condition.

7. A computer-implemented system, comprising:

one or more computers; and

one or more computer memory devices interoperably coupled with the one or more computers and having tangible, non-transitory, machine-readable media storing one or more instructions that, when executed by the one or more computers, perform one or more operations comprising:

obtaining, from a blockchain and by a first blockchain member of the blockchain, an asset transfer condition for a second blockchain member, wherein the asset transfer condition for the second blockchain member indicates a numerical relationship between transferred-in assets that are transferred to the second blockchain member and transferred-out assets that are transferred from the second blockchain member when an asset transfer is performed; and

selecting, by the first blockchain member, the second blockchain member as an intermediate blockchain member for a remittance route that includes multiple intermediate

blockchain members between a payer and a payee, wherein the selecting comprises selecting the second blockchain member in response to determining, based on information obtained from the blockchain, that:

the second blockchain member and an upstream neighboring blockchain member hold respective first blockchain assets that are issued by a first anchor point,

the second blockchain member and a downstream neighboring blockchain member hold respective second blockchain assets that are issued by a second anchor point, and

the numerical relationship is satisfied by (i) transferred-in blockchain assets that are issued by the first anchor point and transferred from the upstream neighboring blockchain member to the second blockchain member and (ii) transferred-out blockchain assets issued by the second anchor point and transferred from the second blockchain member to the downstream neighboring blockchain member, wherein each of the first anchor point and the second anchor point comprises a blockchain node that issues respective blockchain assets to a plurality of blockchain members of the blockchain and maintains a mapping between the respective blockchain assets and corresponding off-chain assets; and

initiating, by the first blockchain member, an asset transfer contract operation that completes the asset transfer between the payer and the payee by adjusting an amount of blockchain assets held by each blockchain member in the remittance route, including:

transferring first blockchain assets that are issued by the first anchor point from the upstream neighboring blockchain member to the second blockchain member; and

transferring second blockchain assets issued by the second anchor point from the second blockchain member to the downstream neighboring blockchain member.

8. The computer-implemented system of claim 7, further comprising creating, by the second blockchain member, the asset transfer condition if remaining blockchain assets held by the second blockchain member and issued by the first anchor point and remaining blockchain assets held by the second blockchain member and issued by the second anchor point satisfy a predetermined condition, wherein the predetermined condition comprises that:

the remaining blockchain assets held by the second blockchain member and issued by the

second anchor point is not less than a first predetermined value, and

the remaining blockchain assets held by the second blockchain member and issued by the first anchor point allows an amount of blockchain assets issued by the first anchor point to be transferred in to the second blockchain member, and the amount of the blockchain assets issued
5 by the first anchor point to be transferred in to the second blockchain member is no less than a second predetermined value.

9. The computer-implemented system of claim 7, wherein the one or more operations comprise:

10 obtaining, by the first blockchain member, data indicating that the asset transfer condition has been set to an invalid state when remaining blockchain assets held by the second blockchain member and issued by the first anchor point and remaining blockchain assets held by the second blockchain member and issued by the second anchor point do not satisfy a predetermined condition.