

Claims

1. A computer-implemented method for controlling restrictions on digital asset, comprising:

detecting a triggering event for derestricting a quantity of a digital asset associated with a tangible asset, wherein the tangible asset corresponds to a blockchain contract deployed on a blockchain;

generating a first blockchain transaction for transferring the quantity of the digital asset from a restricted blockchain account associated with the blockchain to an unrestricted blockchain account associated with the blockchain, wherein the blockchain transaction invokes the blockchain contract corresponding to the tangible asset;

sending the first blockchain transaction to a blockchain node for adding to the blockchain;

obtaining a request for freezing the quantity of the digital asset;

generating, based on the request for freezing the quantity of the digital asset, a second blockchain transaction for transferring the quantity of the digital asset from the unrestricted blockchain account to the restricted blockchain account; and

sending the second blockchain transaction to a blockchain node for adding to the blockchain.

2. The method of claim 1, wherein the first blockchain transaction comprises:

an identifier associated with the blockchain contract; an identifier associated with the restricted blockchain account; an identifier associated with the unrestricted blockchain account; or the quantity of the digital asset to be derestricted.

3. The method of claim 1, wherein the detecting the triggering event for derestricting the quantity of the digital asset comprises:

obtaining a request for derestricting the quantity of the digital asset;
determining, based on the request, one or more permissions associated with a sender of the request; and
verifying that the one or more permissions associated with the sender satisfy one or more required permissions for derestricting the quantity of the digital asset.

4. The method of claim 1, wherein the detecting the triggering event for derestricting the quantity of the digital asset comprises:

determining, based on a current time, that a time-based condition is met.

5. The method of claim 1, wherein the generating the first blockchain transaction comprises:

determining a quantity of the digital asset in the restricted blockchain account; and

determining the quantity of the digital asset to be derestricted as a preset portion of the determined quantity of the digital asset in the restricted blockchain account.

6. The method of claim 1, wherein the detecting the triggering event for derestricting the digital asset comprises:

obtaining, at a pre-scheduled point of time, a plurality of conditions for derestricting a plurality of digital assets, wherein the plurality of digital assets comprise the digital asset associated with the tangible asset; and

determining that one or more of the obtained conditions are met.

7. The method of claim 1, wherein the first blockchain transaction comprises a transfer of a plurality of digital assets from a plurality of restricted blockchain accounts to a plurality of unrestricted blockchain accounts, wherein the plurality of digital assets comprise the digital asset associated with the tangible asset.

8. The method of claim 1, further comprising, before detecting the triggering event:

generating a blockchain transaction for issuing a quantity of the digital asset to the restricted blockchain account, wherein the quantity of the digital asset to be issued is greater than the quantity of the digital asset to be transferred; and

sending, to a blockchain node for adding to the blockchain, the blockchain transaction for issuing the digital asset to the restricted blockchain account.

9. The method of claim 8, wherein the generating the blockchain transaction for issuing the digital asset to the restricted blockchain account comprises:

determining the quantity of the digital asset for issuing; and

verifying that the determined quantity is no greater than a quantity of the digital asset for initial issuance, wherein the quantity of the digital asset for initial issuance is stored in association with the blockchain contract in the blockchain.

10. The method of claim 8, further comprising:

locally storing information associated with the blockchain transaction for issuing the digital asset to the restricted blockchain account; and

locally storing one or more derestriction conditions in correspondence with information associated with the restricted blockchain account.

11. The method of claim 10, wherein the locally stored one or more derestriction conditions comprise a time schedule for derestricting the digital asset.

12. A non-transitory computer-readable storage medium for controlling restrictions on digital asset, configured with instructions executable by one or more processors to cause the one or more processors to perform operations comprising:

detecting a triggering event for derestricting a quantity of a digital asset associated with a tangible asset, wherein the tangible asset corresponds to a blockchain contract deployed on a blockchain;

generating a first blockchain transaction for transferring the quantity of the digital asset from a restricted blockchain account associated with the blockchain to an unrestricted blockchain

account associated with the blockchain, wherein the blockchain transaction invokes the blockchain contract corresponding to the tangible asset;

sending the first blockchain transaction to a blockchain node for adding to the blockchain;

obtaining a request for freezing the quantity of the digital asset;

generating, based on the request for freezing the quantity of the digital asset, a second blockchain transaction for transferring the quantity of the digital asset from the unrestricted blockchain account to the restricted blockchain account; and

sending the second blockchain transaction to a blockchain node for adding to the blockchain.

13. The non-transitory computer-readable storage medium of claim 12, wherein the first blockchain transaction comprises:

an identifier associated with the blockchain contract; an identifier associated with the restricted blockchain account; an identifier associated with the unrestricted blockchain account; or the quantity of the digital asset to be derestricted.

14. The non-transitory computer-readable storage medium of claim 12, wherein the detecting the triggering event for derestricting the quantity of the digital asset comprises:

obtaining a request for derestricting the quantity of the digital asset;

determining, based on the request, one or more permissions associated with a sender of the request; and

verifying that the one or more permissions associated with the sender satisfy one or more required permissions for derestricting the quantity of the digital asset.

15. The non-transitory computer-readable storage medium of claim 12, wherein the detecting the triggering event for derestricting the quantity of the digital asset comprises:

determining, based on a current time, that a time-based condition is met.

16. The non-transitory computer-readable storage medium of claim 12, wherein the generating the first blockchain transaction comprises:

determining a quantity of the digital asset in the restricted blockchain account; and

determining the quantity of the digital asset to be derestricted as a preset portion of the determined quantity of the digital asset in the restricted blockchain account.

17. The non-transitory computer-readable storage medium of claim 12, wherein the detecting the triggering event for derestricting the digital asset comprises:

obtaining, at a pre-scheduled point of time, a plurality of conditions for derestricting a plurality of digital assets, wherein the plurality of digital assets comprise the digital asset associated with the tangible asset; and

determining that one or more of the obtained conditions are met.

18. The non-transitory computer-readable storage medium of claim 12, wherein the first blockchain transaction comprises a transfer of a plurality of digital assets from a plurality of restricted blockchain accounts to a plurality of unrestricted blockchain accounts, wherein the plurality of digital assets comprise the digital asset associated with the tangible asset.

19. A system for controlling restrictions on digital asset, comprising a processor and a non-transitory computer-readable storage medium storing instructions executable by the processor to cause the system to:

detecting a triggering event for derestricting a quantity of a digital asset associated with a tangible asset, wherein the tangible asset corresponds to a blockchain contract deployed on a blockchain;

generating a first blockchain transaction for transferring the quantity of the digital asset from a restricted blockchain account associated with the blockchain to an unrestricted blockchain account associated with the blockchain, wherein the blockchain transaction invokes the blockchain contract corresponding to the tangible asset;

sending the first blockchain transaction to a blockchain node for adding to the blockchain;

obtaining a request for freezing the quantity of the digital asset;

generating, based on the request for freezing the quantity of the digital asset, a second blockchain transaction for transferring the quantity of the digital asset from the unrestricted blockchain account to the restricted blockchain account; and

sending the second blockchain transaction to a blockchain node for adding to the blockchain.