

CLAIMS

What is claimed is:

1. A method for digital coin issuance, comprising:
receiving, at a ledger interoperability service and from a gateway communication service, a request to deposit a digital coin balance for an amount of funds for a client to a client digital coin wallet on a distributed ledger;
receiving, at an omnibus account, a transfer of the funds from a client demand deposit account for the client;
identifying, by the ledger interoperability service, an address for the client digital coin wallet on the distributed ledger using an address book;
submitting, by the ledger interoperability service, a request to the gateway communication service to issue the digital coin balance to the client digital coin wallet and to generate postings for the digital coin balance for the distributed ledger; and
receiving, by the ledger interoperability service, confirmation from gateway communication service of writing the digital coin balance to the client digital coin wallet.
2. The method of claim 1, wherein the address book comprises an association for the client and the address for the client digital coin wallet on the distributed ledger.
3. The method of claim 1, further comprising:
orchestrating, by the ledger interoperability service, postings to the client demand deposit account and the client digital coin wallet using the gateway communication service.

4. The method of claim 1, further comprising:
digitally signing, by the ledger interoperability service, the request to the gateway communication service to issue the digital coin balance to the client digital coin wallet and to generate postings for the digital coin balance for the distributed ledger.

5. The method of claim 1, wherein the request to the gateway communication service to issue the digital coin balance to the client digital coin wallet and to generate postings for the digital coin balance for the distributed ledger comprises an identifier for the client on the distributed ledger, a unique reference for the request generated by the ledger interoperability service, the address for the client digital coin wallet, and the amount of digital coins to be deposited to the client digital coin wallet.

6. The method of claim 1, wherein the request to the gateway communication service to issue the digital coin balance to the client digital coin wallet and to generate postings for the digital coin balance for the distributed ledger comprises an application programmable interface call.

7. A method for digital coin transfer, comprising:
receiving, at a gateway communication service, a request to transfer a digital coin balance from a payor to a beneficiary, wherein the request comprises payment information comprising a payor name, a payor account number, a beneficiary name, a beneficiary account number, and a purpose of the transfer;

identifying, by the gateway communication service, a beneficiary digital coin wallet address for a beneficiary digital coin wallet on a distributed ledger;

validating, by the gateway communication service, the payment information with the beneficiary;

receiving, at the gateway communication service, validation from the beneficiary, wherein the validation is digitally signed by the beneficiary;

storing, by the gateway communication service, the validation;

receiving, at the gateway communication service, a transfer execution request from the payor, wherein the transfer execution request comprises a payor digital coin wallet address for a payor digital coin wallet on the distributed ledger and a digital coin balance to be transferred;

writing, by the gateway communication service, the transfer to the payor digital coin wallet address and to the beneficiary digital coin wallet address, wherein the digital coin balance is withdrawn from the payor digital coin wallet and the digital coin balance is deposited to the beneficiary digital coin wallet; and

generating, by the gateway communication service and using a ledger interoperability service, postings to the distributed ledger and to the payor digital coin wallet and to the beneficiary digital coin wallet.

8. The method of claim 7, wherein the gateway communication service identifies the beneficiary digital coin wallet address on the distributed ledger using an address book.

9. The method of claim 8, wherein the address book comprises an association for the beneficiary and the beneficiary digital coin wallet address.

10. The method of claim 7, further comprising:

orchestrating, by the ledger interoperability service, postings to the payor digital coin wallet and the beneficiary digital coin wallet using the gateway communication service.

11. The method of claim 7, wherein the validation from the beneficiary comprises a hash of the payment information.

12. The method of claim 11, wherein the transfer execution request further comprises a unique identifier that maps the validation to the transfer execution request and a hash of the payment information.

13. The method of claim 7, wherein the digital coin balance is withdrawn from the payor digital coin wallet by cancelling the digital coin balance from the payor digital coin wallet, and the digital coin balance is deposited to the beneficiary digital coin wallet by adding the digital coin balance to the beneficiary digital coin wallet.

14. The method of claim 7, wherein the transfer execution request comprises an application programmable interface call.

15. A method for digital coin redemption, comprising:
receiving, at a gateway communication service, a request to redeem a digital coin balance to a cash account for a client, wherein the request comprises a client identifier, a client digital coin wallet address on a distributed ledger address, and a digital coin balance to be redeemed;
initiating, by the gateway communication service, a redemption smart contract, wherein the redemption smart contract cancels the digital coin balance in the client digital coin balance;

communicating, to a ledger interoperability service, a notification of the redemption, wherein the ledger interoperability service identifies a client cash account for the client, and transfers a cash amount for the digital coin balance from an omnibus account to the client cash account; and

generating, by the gateway communication service and using a ledger interoperability service, postings to the distributed ledger and to the client cash account.

16. The method of claim 15, wherein the ledger interoperability service identifies a client cash account for the client using an address book, wherein the address book comprises an association for the client and the client cash account.

17. The method of claim 15, further comprising:
orchestrating, by the ledger interoperability service, postings to the client demand deposit account and the client digital coin wallet.

18. The method of claim 15, further comprising:
digitally signing, by the ledger interoperability service, the request to the gateway communication service to redeem the digital coin balance.

19. The method of claim 15, wherein the request to the gateway communication service to redeem the digital coin balance to the client digital coin wallet comprises an identifier for the client on the distributed ledger, a unique reference for the request generated by the ledger interoperability service, the address for the client digital coin wallet, and the amount of digital coins to be withdrawn from the client digital coin wallet.

20. The method of claim 15, wherein the request to the gateway communication service to redeem the digital coin balance to the client digital coin wallet and to generate postings for the digital coin balance for the distributed ledger comprises an application programmable interface call.