Claims

1. A payment network server for processing a payment transaction at a point-of-sale (POS) terminal, the server comprising:

at least one processor; and

one or more non-transitory computer-readable media having stored thereon program code for processing the payment transaction from the POS terminal, the program code causing the at least one processor to:

create a token associated with a client;

receive, from the POS terminal via an acquirer server, a payment transaction request comprising at least transaction details and a fund transfer indicator, the transaction details comprising the token associated with the client provided to the POS terminal from a client device, a customer identifier, a merchant identifier, and a payment amount, the fund transfer indicator indicating that the payment transaction is to be processed by fund transfer;

transmit, to the POS terminal via the acquirer server, a payment transaction response indicating if the payment transaction is approved or refused to proceed;

query a payment network database to determine if the token and the customer identifier are associated with a customer mandate and if the merchant identifier is associated with a merchant mandate, the customer mandate being associated with a customer transfer instruction for transferring funds from a customer account to an intermediate account and the merchant mandate being associated with a merchant transfer instruction for transferring funds from the intermediate account to a merchant account;

retrieve the customer mandate and the merchant mandate if it is determined that the customer identifier and the merchant identifier is associated with the customer mandate and the merchant mandate respectively; and

request an electronic payment system to perform fund transfers using the customer mandate, the merchant mandate and the payment amount, so as to transfer the payment amount from the customer account to the intermediate account, hold the payment amount specifically for a merchant in the intermediate account, and transfer the payment amount being held in the intermediate account for the merchant from the intermediate account to the merchant account.

2. The server of claim 1, wherein the program code is further configured to cause the at least one processor to:

receive, from a customer electronic device, a customer registration request to register the customer account for processing payment transactions using fund transfer, the customer registration request comprising at least the customer identifier; and

create the customer mandate associated with the customer identifier;

register the customer mandate with the electronic payment system; and

store, at the payment network database, the customer mandate.

3. The server of claim 1, wherein the program code is further configured to cause the at least one processor to:

receive, from a customer electronic device, customer account details associated with the customer account, the customer account details comprising at least a customer account number, the customer account number identifying an issuer server associated with the customer account;

substitute the customer account details with the token;

transmit the token to the customer electronic device; and

associate the customer mandate with the token;

wherein the token is used as a customer identifier for processing the payment transaction.

4. The server of claim 2, wherein the program code is further configured to cause the at least one processor to:

receive, from a merchant associated with the merchant account, a merchant registration request to register the merchant account for processing payment transactions using fund transfer, the merchant registration request comprising the merchant identifier;

create the merchant mandate associated with the merchant identifier;

register the merchant mandate with the electronic payment system; and

store, at the payment network database, the merchant mandate.

5. The server of claim 4, wherein the program code is further configured to cause the at least one processor to:

notify the customer electronic device of a result of the payment transaction request.

6. The server of claim 4, wherein the electronic payment system is a payment system that facilitates real-time payment.

7. The server of claim 4, further comprising a POS terminal for use with the payment network server, the POS terminal configured to:

receive a transaction request comprising at least the transaction details;

receive a mode of payment instruction, the mode of payment instruction indicating that the payment transaction is to be completed using fund transfer;

generate a fund transfer indicator;

transmit the payment transaction request comprising the transaction details and the fund transfer indicator; and

receive the payment transaction response.

8. The server of claim 7, wherein the POS terminal is further configured to:

transmit, to the payment network server, the merchant registration request to register the merchant account for processing payment transactions using fund transfer.

9. A computer-implemented method for processing a payment transaction at a point-of-sale (POS) terminal, the computer-implemented method comprising:

creating a token associated with a client;

receiving, from the POS terminal via an acquirer server, a payment transaction request comprising at least transaction details and a fund transfer indicator, wherein the transaction details comprise the token associated with the client provided to the POS terminal from a client device, a customer identifier, a merchant identifier, and a payment amount, the fund transfer indicator indicating that the payment transaction is to be processed by fund transfer;

querying a payment network database to determine if the token and the customer identifier are associated with a customer mandate and if the merchant identifier is associated with a merchant mandate, the customer mandate being associated with a customer transfer instruction for transferring funds from a customer account to an intermediate account and the merchant mandate being associated with a merchant transfer instruction for transferring funds from the intermediate account to a merchant account;

retrieving the customer mandate and the merchant mandate if it is determined that the customer identifier and the merchant identifier is associated with the customer mandate and the merchant mandate respectively;

requesting an electronic payment system to perform fund transfers using the customer mandate, the merchant mandate and the payment amount, so as to transfer the payment amount from the customer account to the intermediate account, hold the payment amount specifically for a merchant in the intermediate account, and transfer the payment amount being held in the intermediate account for the merchant from the intermediate account to the merchant account; and

transmitting, to the POS terminal via the acquirer server, a payment transaction response indicating if the payment transaction is approved or refused to proceed.

10. The method of claim 9, further comprising:

receiving, from a customer electronic device, a customer registration request to register the customer account for processing payment transactions using fund transfer, the customer registration request comprising at least the customer identifier; and

creating the customer mandate associated with the customer identifier;

registering the customer mandate with the electronic payment system; and

storing, at the payment network database, the customer mandate.

11. The method of claim 10 further comprising:

receiving, from a customer electronic device, customer account details associated with the customer account, the customer account details comprising at least a customer account number, the customer account number identifying an issuer server associated with the customer account;

substituting the customer account details with the token;

transmitting the token to the customer electronic device;

associating the customer mandate with the token; and

wherein the token is used as a customer identifier for processing the payment transaction.

12. The method of claim 9, further comprising:

receiving, from a merchant associated with the merchant account, a merchant registration request to register the merchant account for processing payment transactions using fund transfer, the merchant registration request comprising the merchant identifier;

creating the merchant mandate, the merchant mandate associated with the merchant identifier;

registering the merchant mandate with the electronic payment system; and

storing, at the payment network database, the merchant mandate.

13. The method of claim 9, further comprising:

notifying a customer electronic device of a result of the payment transaction request.

14. The method of claim 9 wherein the intermediate account is associated with a payment network server.

15. The method of claim 9 wherein the steps of i) transferring funds from the customer account to the intermediate account and ii) transferring the payment amount being held in the intermediate account to the merchant account are carried out within 10 seconds, 20 seconds, 30 seconds, 1 minute, 5 minutes, 10 minutes, 20 minutes, 30 minutes, 1 hour, 2

hours, 3 hours, 6 hours, 12 hours or 1 day from a time the payment transaction request is received.

16. A non-transitory computer-readable medium having stored thereon program instructions for processing a payment transaction at a point-of-sale (POS) terminal, the instructions causing at least one processor to:

create a token associated with a client;

receive, from a payment network server, a fund transfer request comprising at least a customer mandate, a merchant mandate, a payment amount, and the token associated with the client provided to the POS terminal from a client device;

query an electronic payment database to determine if the token and the customer mandate are associated with a customer transfer instruction for transferring funds from a customer account to an intermediate account associated with a payment network and if the merchant mandate is associated with a merchant transfer instruction for transferring funds from the intermediate account to a merchant account;

retrieve the customer transfer instruction and the merchant transfer instruction if it is determined that the customer mandate is associated with the customer transfer instruction and the merchant mandate is associated with the merchant transfer instruction respectively;

transfer an incoming fund associated with the payment amount from the customer account to the intermediate account;

hold the payment amount specifically for a merchant in the intermediate account; and

transfer the payment amount being held in the intermediate account for the merchant from the intermediate account to the merchant account.

17. The non-transitory computer-readable medium of claim 16, the instructions further causing at least one processor to:

receive, from the payment network server, a customer transfer registration request for creating the customer transfer instruction for transferring funds from the customer account to the intermediate account;

receive, from the payment network server, a merchant transfer registration request for creating the merchant transfer instruction for transferring funds from the intermediate account to the merchant account;

create the customer transfer instruction associated with the customer mandate;

create the merchant transfer instruction associated with the merchant mandate;

transmit, to the payment network server, a customer transfer registration response indicating if the customer transfer instruction is created; and

transmit, to the payment network server, a merchant transfer registration response indicating if the merchant transfer instruction is created.

18. The non-transitory computer-readable medium of claim 16, the instructions further causing at least one processor to:

receive, from a customer electronic device, a customer registration request to register the customer account for processing payment transactions using fund transfer, the customer registration request comprising at least a customer identifier;

create the customer mandate associated with the customer identifier;

register the customer mandate with an associated electronic payment system; and

store, at a payment network database, the customer mandate.

19. The non-transitory computer-readable medium of claim 16, wherein the instructions are associated with an electronic payment system that facilitates real-time payment.

20. The non-transitory computer-readable medium of claim 16, wherein the token comprises encrypted customer account details that are stored locally on the client device.