

WHAT IS CLAIMED IS:

1. A method for providing a refund amount to a payer's account for a payment transaction that occurred using a real-time payment network comprising:
 - 5 receiving, by a supplemental payment services computer from a payment network, a request for a refund of a refund amount originating from an acquirer financial institution (FI) computer associated with a merchant relative to a payment transaction, the refund request comprising a transaction reference and a token representing a customer account;
 - 10 determining, by the supplemental payment services computer, based on the transaction reference that the payment transaction was effected in a real-time payment network and, based on the token, an issuer financial institution (FI) computer of an issuer FI that maintains an account for a payer in the payment transaction;
 - transmitting, by the supplemental payment services computer, the refund
 - 15 request to the issuer FI computer;
 - receiving, by the supplemental payment services computer, a favorable authorization response to the refund request from the issuer FI computer;
 - transmitting, by the supplemental payment services computer, the authorization response via the payment network to the acquirer FI;
 - 20 transmitting, by the supplemental payment services computer, a payment card network funds transfer credit message to the issuer FI computer directing the issuer financial institution to credit the refund amount to the payer's account maintained by the issuer financial institution and to debit a settlement holding account maintained by the issuer financial institution;
 - 25 transmitting, by the supplemental payment services computer, a payment card network funds transfer debit message to the acquirer FI computer to debit the refund amount from an account of the merchant; and
 - settling the refund amount from the acquirer FI computer to the issuer FI computer via a payment card account network settlement system computer.

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2. The method of claim 1, wherein the payer participated as a customer in a purchase transaction settled by the payment transaction.
3. The method of claim 1, wherein the purchase transaction occurred in a retail store operated by the merchant.
4. The method of claim 1, wherein the purchase transaction was an e-commerce transaction.
5. The method of claim 1, wherein the request and the response are transmitted, at least in part, via a payment card network messaging system.
6. The method of claim 1, wherein the request includes data that indicates the refund amount.
7. The method of claim 6, wherein the payer's account is a demand deposit account.
8. A supplemental payment services computer for providing a refund amount to a payer's account for a payment transaction that occurred using a real-time payment network comprising:
 - a supplemental payment services computer processor; and
 - a memory in communication with the supplemental payment services computer processor, the memory storing program instructions, the supplemental payment services computer processor operative with the program instructions to perform functions as follows:
 - receiving a request for a refund of a refund amount from a payment network originating from an acquirer financial institution (FI) computer associated with a merchant relative to a payment transaction, the refund

request comprising a transaction reference and a token representing a customer account;

5 determining, based on the transaction reference, that the payment transaction was effected in a real-time payment network and, based on the token, an issuer financial institution (FI) computer of an issuer FI that maintains an account for a payer in the payment transaction;

transmitting the refund request to the issuer FI computer;

receiving a favorable authorization response to the refund request from the issuer FI computer;

10 transmitting the authorization response via the payment network to the acquirer FI computer;

transmitting a payment card network funds ~~first~~ transfer credit message to the issuer FI computer directing the issuer financial institution to credit the refund amount to the payer's account maintained by the issuer financial institution and to debit a settlement holding account maintained by the issuer financial institution;

15 transmitting a payment card network funds transfer debit message to the acquirer FI computer to debit the refund amount from an account of the merchant; and

20 settling the refund amount from the acquirer FI computer to the issuer FI computer via a payment card account network settlement system computer.

9. The apparatus of claim 8, wherein the payer participated as a customer in a purchase transaction settled by the payment transaction.

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10. The apparatus of claim 8, wherein the purchase transaction occurred in a retail store operated by the merchant.

11. The apparatus of claim 8, wherein the purchase transaction was an e-commerce transaction.

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12. The apparatus of claim 8, wherein the request and the response are transmitted, at least in part, via a payment card network messaging system.

5 13. The apparatus of claim 8, wherein the request includes data that indicates the refund amount.

14. A non-transitory storage medium storing program instructions, the program instructions operative to control a supplemental payment services computer processor
10 to provide a refund amount to a payer's account for a payment transaction that occurred using a real-time payment network as follows:

receiving a request for a refund of a refund amount from a payment network originating from an acquirer financial institution (FI) computer associated with a merchant relative to a payment transaction, the refund request comprising a
15 transaction reference and a token representing a customer account;

determining, based on the transaction reference, that the payment transaction was effected in a real-time payment network and, based on the token, an issuer financial institution (FI) computer of an issuer FI that maintains an account for a payer in the payment transaction;

20 transmitting the refund request to the issuer FI computer;

receiving a favorable authorization response to the refund request from the issuer FI computer;

transmitting the authorization response via the payment network to the acquirer FI computer;

25 transmitting a payment card network funds transfer credit message to the issuer FI computer directing the issuer financial institution to credit the refund amount to the payer's account maintained by the issuer financial institution and to debit a settlement holding account maintained by the issuer financial institution;

30 transmitting a payment card network funds transfer debit message to the acquirer FI computer to debit the refund amount from an account of the merchant; and

settling the refund amount from the acquirer FI computer to the issuer FI computer via a payment card account network settlement system computer.

15. The storage medium of claim 14, wherein the payer participated as a customer
5 in a purchase transaction settled by the payment transaction.