transactions. Accordingly, the use of traditional payment networks and payment systems technologies in combination with blockchain currencies may provide consumers and merchants the benefits of the decentralized blockchain while still maintaining security of account information and provide a strong defense against fraud and theft.

SUMMARY

The present disclosure provides a description of systems and methods for authorization of a blockchain transaction.

In a first aspect, the present disclosure provides a method for authorization of a blockchain transaction, comprising: storing, in an account database of a processing server, a plurality of account profiles, wherein each account profile includes data related to a consumer including at least an account identifier, a fiat currency amount, and one or more a plurality of blockchain currency amounts, each blockchain currency amount being associated with a blockchain network; receiving, by a receiving device of the processing server, via a payment network, a transaction message for a payment transaction, wherein the transaction message is formatted based on one or more standards and includes a plurality of data elements, including a first data element configured to store a personal account number that includes a specific account identifier and a second data element reserved for private use that includes at least a network identifier corresponding to a blockchain network and a transaction amount; identifying, by a processing device of the processing server, a specific account profile stored in the account database where the included account identifier corresponds to the specific account identifier included in the first data element of the received transaction message; identifying, by the processing device of the processing server, a risk value for the payment transaction, wherein the risk value is based on at least the transaction amount included in the second data element of the received transaction message and a combination of: the fiat currency amount and a first blockchain currency amount associated with the blockchain network corresponding to the network identifier included in the second data element of the received transaction message and a second blockchain currency amount

of the plurality of blockchain currency amounts included in the identified specific account profile; determining, by the processing device of the processing server, authorization of the payment transaction based on at least the identified risk value; modifying, by the processing device of the processing server, the received transaction message based on the authorization determination; and transmitting, by a transmitting device, the modified transaction message.

In a second aspect, the present disclosure provides a system for authorization of a blockchain transaction, comprising: an account database of a processing server configured to store a plurality of account profiles, wherein each account profile includes data related to a consumer including at least an account identifier, a fiat currency amount and one or more a plurality of blockchain currency amounts, each blockchain currency amount being associated with a blockchain network; a receiving device of the processing server configured to receive, via a payment network, a transaction message for a payment transaction, wherein the transaction message is formatted based on one or more standards and includes a plurality of data elements, including a first data element configured to store a personal account number that includes a specific account identifier and a second data element reserved for private use that includes at least a network identifier corresponding to a blockchain network and a transaction amount; a processing device of the processing server configured to identify a specific account profile stored in the account database where the included account identifier corresponds to the specific account identifier included in the first data element of the received transaction message, identify a risk value for the payment transaction, wherein the risk value is based on at least the transaction amount included in the second data element of the received transaction message and a combination of: the fiat currency amount and the a first blockchain currency amount associated with a blockchain network corresponding to the network identifier included in the second data element of the received transaction message and a second blockchain currency amount of the plurality of blockchain currency amounts included in the identified specific account profile, determine authorization of the payment transaction based on at least the

identified risk value, and modify the received transaction message based on the authorization determination; and a transmitting device configured to transmit the modified transaction message.

A method for authorization of a blockchain transaction includes: storing, in an account database, a plurality of account profiles, wherein each account profile includes data related to a consumer including at least an account identifier, a fiat currency amount, and one or more blockchain currency amounts, each blockchain currency amount being associated with a blockchain network; receiving, by a receiving device, a transaction message for a payment transaction, wherein the transaction message is formatted based on one or more standards and includes a plurality of data elements, including a first data element configured to store a personal account number that includes a specific account identifier and a second data element reserved for private use that includes at least a network identifier and a transaction amount; identifying, by a processing device, a specific account profile stored in the account database where the included account identifier corresponds to the specific account identifier included in the first data element of the received transaction message; identifying, by the processing device, a risk value for the payment transaction, wherein the risk value is based on at least the transaction amount included in the second data element of the received transaction message and at least one of: the fiat currency amount and a blockchain currency amount associated with a blockchain network corresponding to the network identifier included in the second data element of the received transaction message included in the identified specific account profile; determining, by the processing device, authorization of the payment transaction based on at least the identified risk value; modifying, by the processing device, the received transaction message based on the

CLAIMS

1. A method for authorization of a blockchain transaction, comprising:

storing, in an account database of a processing server, a plurality of account profiles, wherein each account profile includes data related to a consumer including at least an account identifier, a fiat current amount and one or more plurality of blockchain currency amounts, each blockchain currency amount being associated with a blockchain network;

receiving, by a receiving device of the processing server, via a payment network, a transaction message for a payment transaction, wherein the transaction message is formatted based on one or more standards and includes a plurality of data elements, including a first data element configured to store a personal account number that includes a specific account identifier and a second data element reserved for private use that includes at least a network identifier corresponding to a blockchain network and a transaction amount;

identifying, by a processing device of the processing server, a specific account profile stored in the account database where the included account identifier corresponds to the specific account identifier included in the first data element of the received transaction message;

identifying, by the processing device of the processing server, a risk value for the payment transaction, wherein the risk value is based on at least the transaction amount included in the second data element of the received transaction message and a combination of: the fiat currency amount and a first blockchain currency amount

associated with the blockchain network corresponding to the network identifier included in the second data element of the received transaction message and a second blockchain currency amount of the plurality of blockchain currency amounts included in the identified specific account profile;

determining, by the processing device of the processing server, authorization of the payment transaction based on at least the identified risk value;

modifying, by the processing device of the processing server, the received transaction message based on the authorization determination; and

transmitting, by a transmitting device, the modified transaction message.

2. The method of claim 1, wherein the transaction amount is an amount of blockchain currency and identifying a risk value for the payment transaction is based on the transaction amount included in the second data element of the received transaction message and the first blockchain currency amount associated with the blockchain network corresponding to the network identifier included in the second data element of the received transaction message included in the identified specific account profile.

3. The method of claim 1, wherein the transaction amount is an amount of blockchain currency and identifying a risk value for the payment transaction is based on the transaction amount included in the second data element of the received transaction message, the fiat second blockchain currency amount included in the identified specific account profile, and an exchange rate for exchange of the first blockchain currency to and/or from the fiat second blockchain currency.

4. The method of claim 1, wherein modifying the received transaction message includes storing, in a third data element of the

transaction message, a response code indicative of the authorization determination.

5. The method of claim 1, wherein the one or more standards includes at least the ISO 8583 standard.

6. The method of claim 1, further comprising:

generating, by the processing device, an address identifier for each account profile using at least the account identifier included in the respective account profile and one or more hashing and/or encoding algorithms.

7. The method of claim 6, wherein the specific account identifier has a value equivalent to the address identifier generated using the account identifier included in the identified specific account profile.

8. The method of claim 6, wherein the one or more hashing and/or encoding algorithms includes the use of Base58Check encoding.

9. The method of claim 1, further comprising:

initiating, by the processing device, a blockchain transaction using the blockchain network corresponding to the network identifier included in the second data element of the received transaction message for the transaction amount from the specific account identifier.

10. The method of claim 9, wherein modifying the received transaction message further includes adding, to the second data element, a reference identifier generated as a result of initiating the blockchain transaction.

11. A system for authorization of a blockchain transaction, comprising:

an account database of a processing server configured to store a plurality of account profiles, wherein each account profile includes data related to a consumer including at least an account identifier, a fiat currency amount and one or more plurality of blockchain currency amounts, each blockchain currency amount being associated with a blockchain network;

a receiving device of the processing server configured to receive, via a payment network, a transaction message for a payment transaction, wherein the transaction message is formatted based on one or more standards and includes a plurality of data elements, including a first data element configured to store a personal account number that includes a specific account identifier and a second data element reserved for private use that includes at least a network identifier corresponding to a blockchain network and a transaction amount;

a processing device of the processing server configured to

identify a specific account profile stored in the account database where the included account identifier corresponds to the specific account identifier included in the first data element of the received transaction message,

identify a risk value for the payment transaction, wherein the risk value is based on at least the transaction amount included in the second data

element of the received transaction message and a combination of: the fiat currency amount and a first blockchain currency amount associated with a blockchain network corresponding to the network identifier included in the second data element of the received transaction message and a second blockchain currency amount of the plurality of blockchain currency amounts included in the identified specific account profile,

determine authorization of the payment transaction based on at least the identified risk value, and

modify the received transaction message based on the authorization determination; and

a transmitting device configured to transmit the modified transaction message.

12. The system of claim 11, wherein the transaction amount is an amount of blockchain currency and identifying a risk value for the payment transaction is based on the transaction amount included in the second data element of the received transaction message and the first blockchain currency amount associated with the blockchain network corresponding to the network identifier included in the second data element of the received transaction message included in the identified specific account profile.

13. The system of claim 11, wherein the transaction amount is an amount of blockchain currency and identifying a risk value for the payment transaction is based on the transaction amount included in the second data element of the received transaction message, the fiat second blockchain currency amount

included in the identified specific account profile, and an exchange rate for exchange of the first blockchain currency to and/or from the fiat second blockchain currency.

14. The system of claim 11, wherein modifying the received transaction message includes storing, in a third data element of the transaction message, a response code indicative of the authorization determination.

15. The system of claim 11, wherein the one or more standards includes at least the ISO 8583 standard.

16. The system of claim 11, wherein the processing device is further configured to generate an address identifier for each account profile using at least the account identifier included in the respective account profile and one or more hashing and/or encoding algorithms.

17. The system of claim 16, wherein the specific account identifier has a value equivalent to the address identifier generated using the account identifier included in the identified specific account profile.

18. The system of claim 16, wherein the one or more hashing and/or encoding algorithms includes the use of Base58Check encoding.

19. The system of claim 11, wherein the processing device is further configured to initiate a blockchain transaction using the blockchain network

corresponding to the network identifier included in the second data element of the received transaction message for the transaction amount from the specific account identifier.

20. The system of claim 19, wherein modifying the received transaction message further includes adding, to the second data element, a reference identifier generated as a result of initiating the blockchain transaction.