

Claims

1. A credit card payment processing method performed by a payment server, comprising:

receiving, from a client, credit card information input by a user for initiating a payment transaction, wherein the payment server operates in a PCI (Payment Card Industry) region;

generating a respective temporary payment token representing the credit card information for each of a plurality of payment transactions which are initiated by the user;

storing, in a table, the temporary payment token, a valid period of each temporary payment token, and a corresponding relationship between the credit card information and each temporary payment token;

sending the temporary payment token to the client for the client to submit the temporary payment token in a payment request to an application server that processes the payment request, wherein processing the payment request comprises deleting unnecessary user information and changing sender information and receiver information to information of the application server and payment server, respectively;

receiving, from the application server, the processed payment request including the temporary payment token, wherein the processed payment request is generated by the application server based on the payment request, the application server does not receive the credit card information, and the application server does not operate in the PCI region;

determining that the temporary payment token included in the processed payment request matches the stored temporary payment token in the table;

locating, in the table, the credit card information and the valid period based on the corresponding relationship; and

if the valid period of the temporary payment token has not expired, processing the processed payment request based on the credit card information.

2. The method of claim 1, wherein processing the processed payment request based on the credit card information comprises:

restructuring the processed payment request to replace the temporary payment token included in the processed payment request with the credit card information; and

sending the restructured payment request to a bank side to complete the payment transaction.

3. The method of claim 1, wherein the temporary payment token comprises a combination of letters and/or numbers.

4. The method of any preceding claim, wherein the credit card information comprises a credit card security code.

5. The method of any preceding claim, wherein the receiving, from a client, credit card information input by a user for initiating a payment comprises:

receiving the credit card information from a client via an API interface of the payment server.

6. A system for processing credit card payment, comprising:
one or more processors; and

one or more computer-readable memories coupled to the one or more processors and having instructions stored thereon that are executable by the one or more processors to perform the method of any of claims 1 to 5.

7. A computer program product comprising program instructions operative to be executed by a processor to cause the processor to perform the method of any of claims 1 to 5.

8. A credit card payment processing method performed by an application server, comprising:

receiving a payment request from a client, the payment request including a temporary payment token generated by a payment server, the temporary payment token representing credit card information input by a user for initiating a payment transaction, wherein the temporary payment token, a valid period of the temporary payment token and a corresponding relationship between the credit card information and the temporary payment token are stored, in a table, at the payment server, wherein a respective temporary payment token is generated for each payment transaction which is initiated, the application server does not receive the credit card information, and the application server does not operate in a PCI (Payment Card Industry) region;

processing the payment request by deleting unnecessary user information and changing sender information and receiver information to information of the application server and the payment server, respectively; and

sending the temporary payment token in the processed payment request including the temporary payment token, to the payment server for the payment server to determine that the temporary payment token included in the processed payment request matches the stored temporary payment token in the table and locate, in the table, based on the corresponding relationship, the credit card information and the valid period and, if the valid period of the temporary payment token has not expired, process the processed payment request based on the credit card information, wherein the payment server operates in the PCI region.

9. The method of claim 8, wherein the payment server processes the processed payment request based on the credit card information by restructuring the processed payment request to replace the temporary payment token included in the processed payment request with the credit card information, for sending the restructured payment request to a bank side to complete the payment transaction.

10. The method of claim 8 or 9, wherein the temporary payment token comprises a combination of letters and/or numbers.

11. The method of any of claims 8 to 10, wherein the credit card information comprises a credit card security code.

12. The method of any of claims 8 to 11, wherein the temporary payment token is generated by the payment server based on the credit card information.

13. The method of any of claims 8 to 12, wherein the payment request is associated with an order received from the client.

14. A system for processing credit card payment, comprising:
one or more processors; and
one or more computer-readable memories coupled to the one or more processors and

having instructions stored thereon that are executable by the one or more processors to perform the method of any of claims 8 to 13.

15. A computer program product comprising program instructions operative to be executed by a processor to cause the processor to perform the method of any of claims 8 to 13.

16. A credit card payment processing method performed by a client, comprising:
obtaining credit card information input by a user for initiating a payment transaction;
sending the credit card information to a payment server, wherein the payment server operates in a PCI (Payment Card Industry) region;

obtaining, from the payment server, a temporary payment token generated by the payment server, the temporary payment token representing the credit card information for the payment transaction, wherein the payment token, a valid period of the temporary payment token and a corresponding relationship between the credit card information and the temporary payment token are stored in a table at the payment server, wherein a respective temporary payment token is generated for each payment transaction which is initiated;

submitting a payment request including the temporary payment token, via an application server, for the application server to process the payment request by deleting unnecessary user information and changing sender information and receiver information to information of the application server and payment server, respectively, to the payment server, for the payment server to determine that the temporary payment token included in the processed payment request matches the stored temporary payment token in the table and locate, in the table, based on the corresponding relationship the credit card information, and process the processed payment request based on the credit card information, wherein the application server does not receive the credit card information, and the application server does not operate in the PCI region.

17. The method of claim 16, wherein the payment server processes the processed payment request based on the credit card information by restructuring the processed payment request to replace the temporary payment token included in the processed payment request with the credit card information, for sending the restructured payment request to a bank side to complete the payment transaction.

18. The method of claim 16 or 17, wherein the temporary payment token comprises a combination of letters and/or numbers.

19. The method of any of claims 16 to 18, wherein the credit card information comprises a credit card security code.

20. The method of any of claims 16 to 19, wherein the sending the credit card information to a payment server comprises:

 sending the credit card information to the payment server via an API interface provided by the payment server to exchange for a temporary payment token, and

 the obtaining a temporary payment token representing the credit card information from the payment server comprises:

 obtaining, via the API interface, the temporary payment token representing the credit card information from the payment server.

21. A system for processing credit card payment, comprising:

 one or more processors; and

 one or more computer-readable memories coupled to the one or more processors and having instructions stored thereon that are executable by the one or more processors to perform the method of any of claims 16 to 20.

22. A computer program product comprising program instructions operative to be executed by a processor to cause the processor to perform the method of any of claims 16 to 20.