DATA SENDING METHOD AND APPARATUS

Claim of Priority

This application claims priority to Chinese Patent Application No. 201710102824.3 filed on February 24, 2017, the entire contents of which are hereby incorporated by reference.

Technical Field

The present application relates to the field of computer technologies, and in particular, to a data sending method and apparatus.

Background Art

With the development of information technology, the information technology has brought great convenience to people's work and life. In the field of information technology, information is stored and transmitted by using data as a carrier, and data can be stored as a binary number in a storage medium of a computing device. The data mentioned here may be text, symbol, video or audio, and all other elements that can be identified by the computing device.

Data, as a carrier of information, usually has certain value. Especially in the age of big data, each unit tends to accumulate a large amount of data in its operation or service process, and the data may have certain use value for carrying out some businesses. In order to make full use of the value of data, two parties holding data may exchange data with each other to take data required by themselves.

In order to make it convenient for both parties of the data exchange to find an appropriate data exchange object, a data exchange platform came into being. The data exchange platform can show data exchange information issued by a data holder, so that the information can be easily found by a data demander. At the same time in a data exchange process, the data exchange platform, as an intermediary, may receive data from a data holder, and then send the data to a data demander. In this way, it is possible that the data exchange platform uses the data exchanged between the both parties for other purposes, or changes the data without authorization before sending the data to a receiver, causing damages to the interests of the parties of the data exchange. That is, in an existing data exchange process, the data security is relatively low.

Summary of the Invention

The embodiments of the present application provide a data sending method for solving the problem of low data security in the existing data exchange process.

According to one aspect of the present application, a method for sending first data from a first terminal directly to a second terminal is provided, including:

writing and storing, by a data exchange platform, a data exchange agreement achieved between a first user and a second user into a block chain, wherein the data exchange agreement includes feature information of exchanged data, wherein the exchanged data includes the first data from the first user and to-be-exchanged data from the second user;

receiving, by the data exchange platform, a first key sent by the first terminal and used for decrypting encrypted first data, the first terminal being a terminal corresponding to the first user, wherein the first terminal encrypts the first data to obtain the encrypted first data according to a symmetric encryption technology, the first terminal sends the first key to the data exchange platform, and the first terminal directly sends the encrypted first data to the second terminal; and

when it is verified, by the data exchange platform, that third data received by the data exchange platform from the second terminal complies with the data exchange agreement, sending, by the data exchange platform, the first key to the second terminal, such that the second terminal, after receiving the encrypted first data sent by the first terminal, decrypts the received encrypted first data based on the first key to obtain the first data, the second terminal being a terminal corresponding to the second user, wherein the third data is the to-be-exchanged data from the second user for receiving the first data from the first user.

A data sending apparatus including a plurality of units configured to perform the above method is also provided in the present application.

The embodiments of the present application adopt the following technical solution:

A data sending method is provided, including:

writing, by a data exchange platform, a data exchange agreement achieved between a first user and a second user into a block chain and storing the agreement;

receiving, by the data exchange platform, a first key sent by a first terminal and used for decrypting encrypted first data, the first terminal being a terminal corresponding to the first user; and

sending, by the first terminal, the encrypted first data to a second terminal, the second terminal being a terminal corresponding to the second user;

sending, by the data exchange platform, the first key to the second terminal; and

decrypting, by the second terminal, the received encrypted first data based on the first key to obtain the first data.

The embodiments of the present application further provide a data sending method for solving the problem of low data security in the existing data exchange process.

The embodiments of the present application adopt the following technical solution:

A data sending method is provided, including:

writing, by a data exchange platform, a data exchange agreement achieved between a first user and a second user into a block chain and storing the agreement;

receiving, by the data exchange platform, a first key sent by a first terminal and used for decrypting encrypted first data, the first terminal being a terminal corresponding to the first user; and

CLAIMS

1. A method for sending first data from a first terminal directly to a second terminal, comprising:

writing and storing, by a data exchange platform, a data exchange agreement achieved between a first user and a second user into a block chain, wherein the data exchange agreement includes feature information of exchanged data, wherein the exchanged data includes the first data from the first user and to-be-exchanged data from the second user;

receiving, by the data exchange platform, a first key sent by the first terminal and used for decrypting encrypted first data, the first terminal being a terminal corresponding to the first user, wherein the first terminal encrypts the first data to obtain the encrypted first data according to a symmetric encryption technology, the first terminal sends the first key to the data exchange platform, and the first terminal directly sends the encrypted first data to the second terminal; and

when it is verified, by the data exchange platform, that third data received by the data exchange platform from the second terminal complies with the data exchange agreement, sending, by the data exchange platform, the first key to the second terminal, such that the second terminal, after receiving the encrypted first data sent by the first terminal, decrypts the received encrypted first data based on the first key to obtain the first data, the second terminal being a terminal corresponding to the second user, wherein the third data is the to-be-exchanged data from the second user for receiving the first data from the first user.

2. The method of claim 1, further comprising:

sending, by the data exchange platform, the third data to the first terminal when a data sending instruction sent by the second terminal is received, wherein the third data are to-be-exchanged data from the second user referred in the data exchange agreement, wherein the third data is exchanged through the data exchange platform to the first user.

3. The method of claim 1, further comprising:

decrypting, by the second terminal, the received encrypted first data using the first key to obtain the first data.

4. The method of claim 3, wherein before the step of writing and storing, by the data exchange platform, the data exchange agreement between the first user and the second user into the block chain, the method further comprises:

receiving, at the data exchange platform, data information issued by the first terminal and publishing the data information;

receiving, at the data exchange platform, an order placing request for the published data information by the second terminal, and sending the request to the first terminal; and

receiving, by the data exchange platform, confirmation information sent by the first terminal for the order placing request to achieve the data exchange agreement.

5. The method of claim 1, wherein before the step of sending the first key to the second terminal, the method further comprises:

receiving, by the data exchange platform, a second key sent by the second terminal and used for decrypting encrypted second data; and

after the step of sending, by the data exchange platform, the first key to the second terminal, the method further comprises sending, by the data exchange platform, the second key to the first terminal, such that the first terminal, after receiving the encrypted second data sent by the second terminal, decrypts the received encrypted second data based on the second key to obtain the second data.

6. The method of claim 5, wherein after the step of sending, by the data exchange platform, the first key to the second terminal and before the step of sending the second key to the first terminal, the method further comprises receiving, by the data exchange platform, confirmation information for the first data sent by the second terminal, the confirmation information for the first data indicating that the second user determines that the first data conforms to the description in the agreement.

7. The method of claim 6, wherein after the step of receiving, by the data exchange platform, confirmation information sent by the second terminal for the first data, the method further comprises receiving, by the data exchange platform,

confirmation information sent by the first terminal for the second data, the confirmation information for the second data indicating that the first user determines that the second data conforms to the description in the agreement.

8. The method of claim 7, wherein after the step of receiving, by the data exchange platform, confirmation information sent by the first terminal for the second data, the method further comprising writing and storing, by the data exchange platform, a record that the exchange is accomplished into a result of the data exchange agreement in the block chain.

9. The method of claim 1, wherein after sending, by the data exchange platform, the first key to the second terminal, the method further comprises sending, by the data exchange platform, the third data to the first user when it is determined that a preset condition is met.

10. The method of claim 9, wherein determining that the preset condition is met specifically comprises receiving, by the data exchange platform, a data sending instruction sent by the second terminal, the data sending instruction being an instruction for instructing the data exchange platform to send the third data to the first terminal.

11. The method of any one of claims 2-10, wherein:

the data exchange agreement comprises feature information of the first data;

the method further comprises obtaining, by the second terminal, the feature information, and determining, according to the feature information, whether the acquired first data conforms to the record in the agreement; and

the feature information of the first data comprises at least one of the following:

a message digest for verifying integrity of the first data; and

baseline information for summarizing specific content of the first data.

12. The method of any one of claims 2-10, wherein the encrypted first data is transmitted to the second terminal by the first terminal implementing a standard transmission interface, and the standard transmission interface comprises a universal interface defined by the data exchange platform and used for transmitting data between terminals.

13. The method of any of claims 1 to 11, wherein a transmission state of the first encrypted data is determined to include whether first encrypted data has been transmitted or has not been transmitted to the second terminal, wherein determining the transmission state of the first encrypted data includes receiving the transmission state of the first encrypted data actively reported by the first terminal and the second terminal.

14. The method of claim 1 to 4, wherein the third data is data represents money, and therein the first user is a data seller, and the second user is a data buyer.

15. A data sending apparatus comprising a plurality of units configured to perform the method of any one of claims 1-13.