What in claimed is:

[Claim 1] A server for operating a blockchain financial system, the server comprising:

a memory configured to store instructions; and

a processor configured to execute the instructions to:

set a transaction input of a target transaction based on a first unspent transaction output (UTXO) list of a withdrawal wallet,

update the first UTXO list to a second UTXO list of the withdrawal wallet based on a transaction output of the target transaction for a deposit wallet and the transaction input,

generate, based on balance information of the withdrawal wallet according to the second UTXO list and transaction information of the target transaction, transaction tags for the target transaction, and

record the transaction tags on a blockchain distributed ledger together with the target transaction,

wherein the processor is configured to serialize the transaction input and the transaction output, tag the transaction tags to the serialized transaction input and the transaction output to generate a deduplication key, and record the target transaction on the blockchain distributed ledger based

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on the deduplication key.

[Claim 2] The server of claim 1, wherein each of the transaction tags includes a keyword of the target transaction, a value length, and a value describing the target transaction.

[Claim 3] The server of claim 1, wherein the transaction information includes payee information of the target transaction, payer information of the target transaction, a transaction type, and a transaction name, and

wherein the balance information includes a sum of UTXO balances included in the second UTXO list.

[Claim 4] The server of claim 1, wherein the processor is configured to use a sorting algorithm to check, based on the deduplication key, whether the target transaction is recorded redundantly on the blockchain distributed ledger, and perform deduplication on the target transaction that is recorded redundantly.

[Claim 5] The server of claim 1, wherein the processor is configured to perform encryption on the transaction tags to generate encrypted tags for

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information hiding, and wherein each time the encrypted tags are retrieved from the blockchain distributed ledger, the encrypted tags are decrypted.

[Claim 6] The server of claim 1, wherein the processor is configured to provide, based on the transaction tags recorded on the blockchain distributed ledger, transaction statistical data and transaction trend data for the transaction information of the target transaction.

[Claim 7] The server of claim 1, wherein the transaction tags include transaction policy information of a buyer associated with the withdrawal wallet or a seller associated with the deposit wallet, wherein the transaction policy information is disclosed via the blockchain distributed ledger, and wherein the transaction policy information includes a transaction condition, a transaction availability, and a fund usage.

[Claim 8] The server of claim 1, wherein the transaction tags include transaction policy information of a buyer associated with the withdrawal wallet or a seller associated with the deposit wallet, wherein the transaction policy information is disclosed via the blockchain distributed ledger, and wherein a number of the transaction tags recorded with the target

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transaction is determined based on a tag fee policy of the buyer or the seller.

[Claim 9] A method for operating a blockchain financial system, the method comprising:

setting a transaction input of a target transaction based on a first unspent transaction output (UTXO) list of a withdrawal wallet;

updating the first UTXO list to a second UTXO list of the withdrawal wallet based on a transaction output of the target transaction for a deposit wallet and the transaction input;

generating, based on balance information of the withdrawal wallet according to the second UTXO list and transaction information of the target transaction, transaction tags for the target transaction;

recording the transaction tags on a blockchain distributed ledger together with the target transaction;

serializing the transaction input and the transaction output, tag the transaction tags to the serialized transaction input and the transaction output to generate a deduplication key; and

recording the target transaction on the blockchain distributed ledger based on the deduplication key.

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